JENOPTIK

MORE LIGHT

Annual Report 2018

Jenoptik at a glance

in million euros	Jan. – Dec. 2018	Jan. – Dec. 2017	Change in %
Revenue	834.6	747.9	11.6
Domestic	240.5	222.6	8.0
Foreign	594.1	525.3	13.1
EBITDA	127.5	106.9	19.3
EBITDA margin (EBITDA in % of revenue)	15.3	14.3	
EBIT	94.9	78.0	21.6
EBIT margin (EBIT in % of revenue)	11.4	10.4	
Earnings before tax	91.4	80.1	14.2
Earnings after tax	87.4	72.5	20.7
EPS (in euros)	1.53	1.27	21.0
Dividend (in euros)	0.35	0.30	16.7
Free cash flow (before income taxes)	108.3	72.2	49.9
Net debt	– 27.2	– 69.0	60.6
Equity ratio (equity in % of total equity and liabilities)	60.6	59.6	1.8
Order intake	873.7	802.9	8.8

in million euros	31/12/2018	31/12/2017	Change in %
Order backlog (in million euros)	521.5	453.5	15.0
Frame contracts (in million euros)	62.5	87.6	– 28.7
Employees	4,043	3,680	9.9

Key Figures of Jenoptik by Segment

in million euros		2018	2017	Change in %
Revenue	**million euros**	**834.6**	**747.9**	**11.6**
Optics & Life Science	million euros	290.0	259.4	11.8
Mobility	million euros	327.8	270.1	21.4
Defense & Civil Systems	million euros	218.6	219.3	– 0.3
Other [1]	million euros	– 1.8	– 0.8	– 114.5
EBITDA	**million euros**	**127.5**	**106.9**	**19.3**
Optics & Life Science	million euros	69.9	58.7	19.1
Mobility	million euros	40.5	27.9	45.4
Defense & Civil Systems	million euros	24.4	23.8	2.2
Other [1]	million euros	– 7.3	– 3.5	– 109.5
EBIT	**million euros**	**94.9**	**78.0**	**21.6**
Optics & Life Science	million euros	62.3	50.5	23.4
Mobility	million euros	27.7	18.5	49.4
Defense & Civil Systems	million euros	20.1	19.2	4.9
Other [1]	million euros	– 15.2	– 10.1	– 50.0
EBIT margin	**%**	**11.4**	**10.4**	
Optics & Life Science	%	21.5	19.5	
Mobility	%	8.4	6.9	
Defense & Civil Systems	%	9.2	8.7	
R+D output	**million euros**	**69.2**	**66.6**	**3.9**
Optics & Life Science	million euros	23.8	21.1	12.7
Mobility	million euros	26.8	30.0	– 10.7
Defense & Civil Systems	million euros	18.6	14.9	24.6
Other [1]	million euros	0.0	0.7	– 97.9
Order intake	**million euros**	**873.7**	**802.9**	**8.8**
Optics & Life Science	million euros	350.8	295.5	18.7
Mobility	million euros	319.3	303.7	5.2
Defense & Civil Systems	million euros	203.5	206.2	– 1.3
Other [1]	million euros	0.1	– 2.4	103.5
		31/12/2018	31/12/2017	Change in %
Order backlog	**million euros**	**521.5**	**453.5**	**15.0**
Optics & Life Science	million euros	165.0	109.1	51.2
Mobility	million euros	182.0	144.7	25.8
Defense & Civil Systems	million euros	175.4	202.6	– 13.4
Other [1]	million euros	– 0.9	– 2.9	67.8
Employees		**4,043**	**3,680**	**9.9**
Optics & Life Science		1,241	1,149	8.0
Mobility		1,527	1,326	15.2
Defense & Civil Systems		912	897	1.7
Other [1]		363	308	17.9

[1] including consolidation

More Light

Under this motto we announced our Strategy 2022. In future, we will concentrate on our core areas of expertise – light and optics – and will develop Jenoptik into a focused technology group, based on the three building blocks “More focus”, “More international”, and “More innovation”.

To ensure that our strategy will be successful, we have started a comprehensive cultural change in the Group. Numerous initiatives as well as our new corporate values should help to create a common spirit. Under the motto “More light” we do not only want to imbue Jenoptik with more color and motivation, but secure long-term sustainable growth.

The online report is available at:
www.jenoptik.com/annual-report


more focus

Igniting the spark

Back in February 2018 we announced our new “Strategy 2022” – and just ten months later, in January 2019, we have already implemented the first key topics. The launch of our “Jenoptik – More Light” campaign was the starting point for our three strategic building blocks of “More Focus”, “More Innovation”, and “More International”, which are to drive Jenoptik’s growth and transformation into a global, streamlined technology group by 2022.

We understand “More Focus” to mean concentrating on our core competencies in photonics, and thus also on the photonics growth markets. “More Focus”, however, also means that our actions are based on specific priorities. Our three key issues in 2018 were:

– establishing a new corporate structure for the overall Group,
– a new brand for our mechatronics business as well as
– reorganizing our Asian business.

For all three projects, we can safely say: mission accomplished.

The new organizational structure of the Jenoptik Group, which reflects this focus, took effect on January 1, 2019. In contrast to former structures, the divisions were formed not on the basis of technologies or markets, but on their underlying business models: The “Light & Optics” division consolidates our OEM business with optical and micro-optical systems. The “Light & Production” division delivers efficient production solutions to industrial customers. And the “Light & Safety” division combines products and services relating to all aspects of safety on our roads and in our cities – primarily for public sector clients. All divisions build on their shared expertise in optics, sensors, imaging, robotics, data analysis, and human-machine interfaces.

The fourth division, VINCORION, is responsible for our mechatronics business. The new VINCORION brand name for our mechatronics business was launched in September 2018. VINCORION stands for strength, confidence, trust, and competence.

„More Focus“ for us means to concentrate on our core competencies in photonics, as well as to act based on specific priorities.

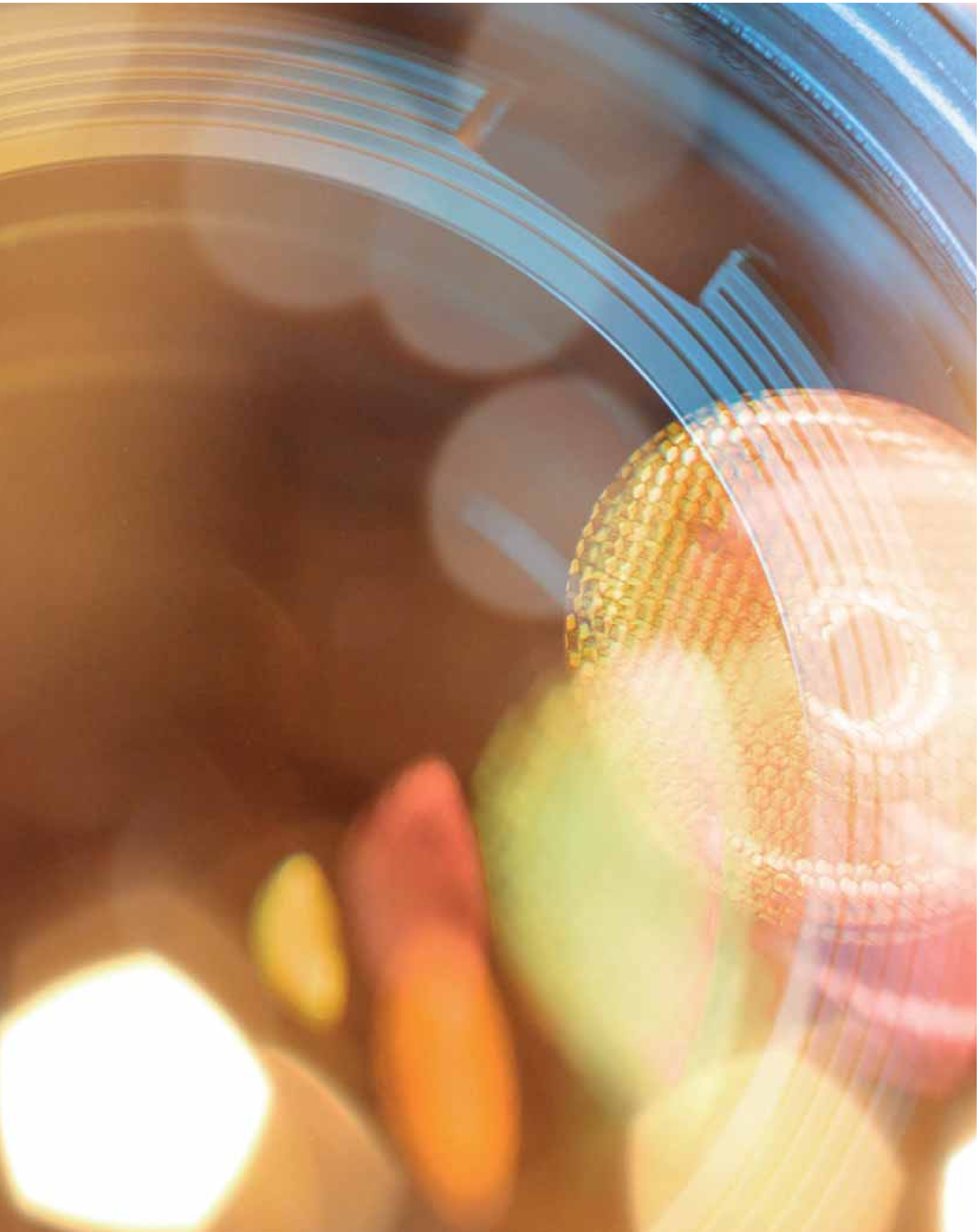
In Latin, “Vinco” means “I win”. “COR”, derived from “core”, is about focusing on the essence. And “ORION” symbolizes a great hunter in Greek mythology, for whom a constellation is also named.

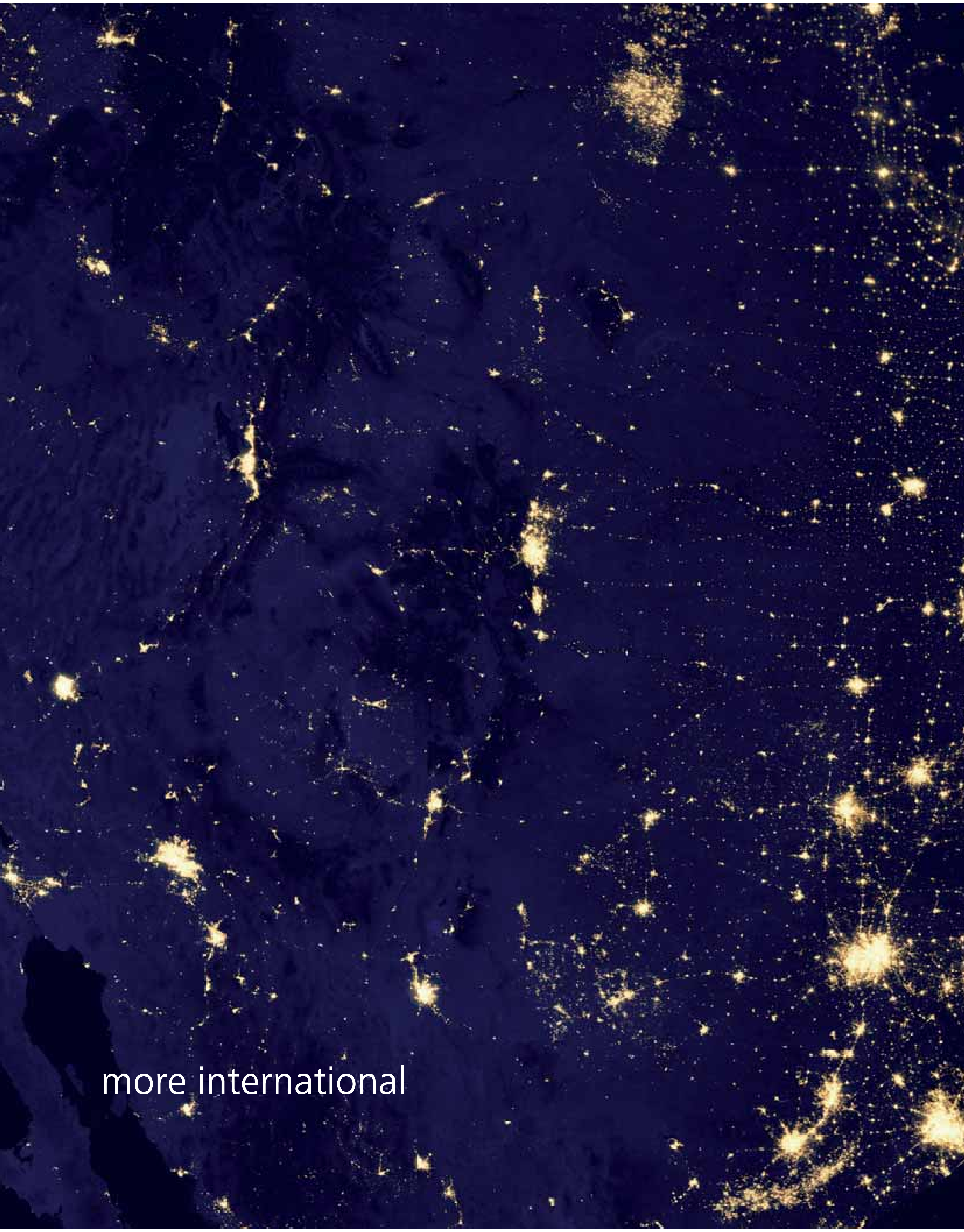
VINCORION offers custom technological solutions for demanding and strictly regulated markets in the security, defense, aviation, and rail industries. At the same time, this sharpens Jenoptik’s brand image, which since February 2019 has positioned the company as a leading supplier of photonic applications with the “More Light” slogan.

China is our focus in Asia. A new organizational structure will facilitate cooperation throughout the continent.

China is our focus in Asia. Jonathan Qu and Shelley Xiao make up the new leadership team that, together with local employees, will expand our business throughout the continent. A new Jenoptik company in the Shanghai Waigaoqiao Free Trade Zone will further boost our momentum. A new less complex organizational structure with clear responsibilities is set to simplify cooperation in Asia and around the world.

The key aims in the present fiscal year are to increase awareness of our brand and strengthen distribution in China. We continue to expand our activities throughout the value chain.




more international

Smart growth

Prodomax Automation Ltd., based in Canada, has been part of the Jenoptik Group since summer 2018. The acquisition was the largest that Jenoptik has made in recent years and ideally complements the technology portfolio of the Light & Production division. This enables us to offer our automotive customers increasingly integrated solutions.

Over the last years, Jenoptik has firmly established itself as a key supplier in the global automotive market with its state-of-the-art laser material processing technologies. Together with Prodomax we now expand our solutions portfolio step by step by complete production lines. More than 200 Prodomax employees design and manufacture automated production lines and implement them in the manufacturing environment of our customers. The projects include the complete system layout, simulation, hardware controls and software design, robotic handling systems as well as transfer devices.

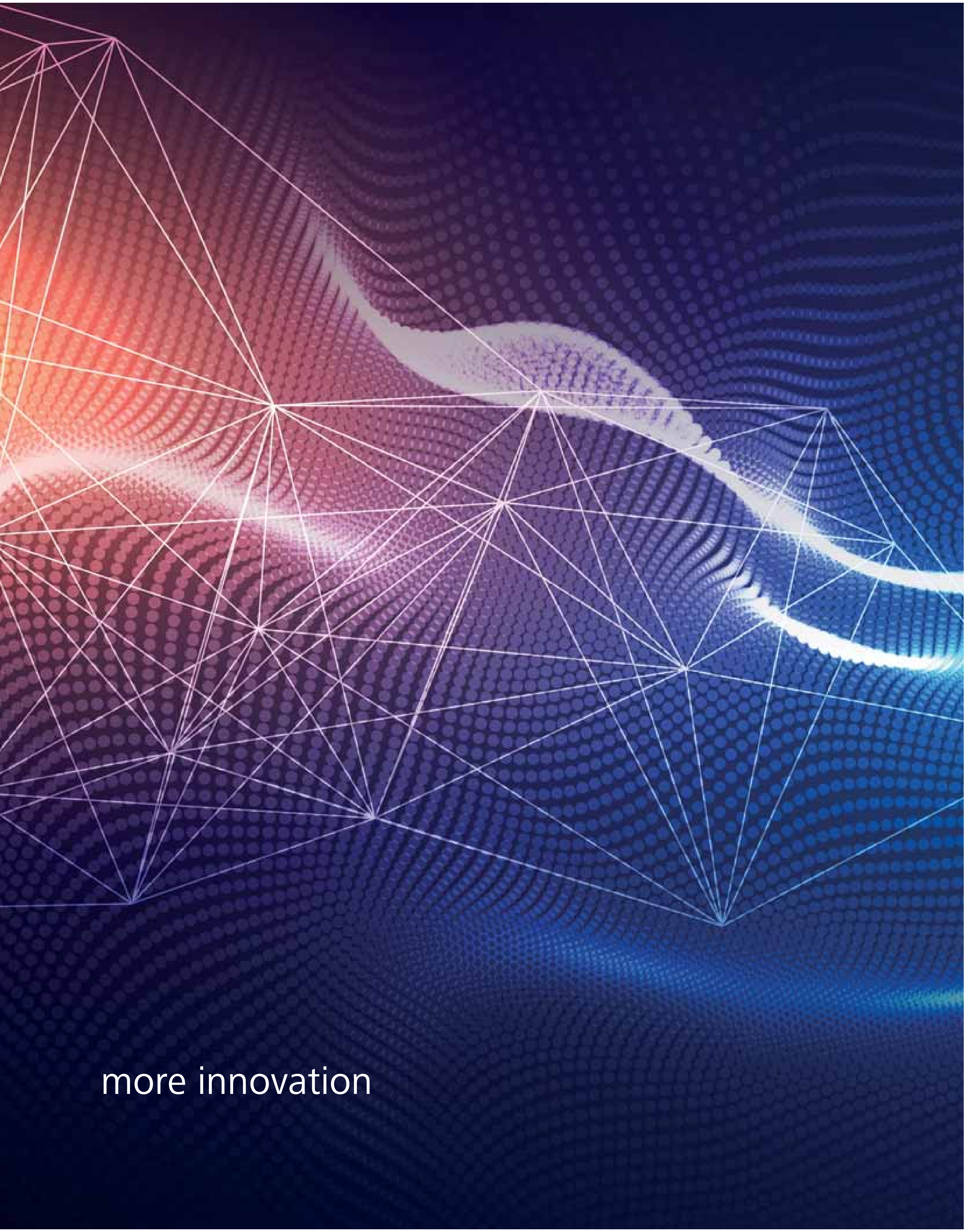
The know-how of Prodomax and of Five Lakes Automation, acquired in 2017, will be particularly important for our strategic development and sustainable growth of our North American automotive business. Moreover, we want to transfer our offering of integrated and flexible solutions for laser processing and process automation gradually to other strategic industries. Thanks to the worldwide Jenoptik network extending beyond North America, Don Leslie und Carolyn Garvey, Co-CEOs of Prodomax, will in future also address customers in Europe and Asia – and that will substantiate the corporate strategy for Jenoptik's further internationalization.

The distance between Prodomax in Barrie, Ontario, Canada, and the Jenoptik campus in Rochester Hills, Michigan, USA, our site for industrial metrology and the laser machine business, is around 430 kilometers – quite a short distance by American standards. Both sites are located in the heart of the North American automotive industry. Together, they can tap the potential of this industry even better.

The competencies of Prodomax enable new markets beyond the automotive industry.

Our sites in Barrie and Rochester Hills are located in the heart of the North American automotive industry.

With the acquisition of Prodomax, we have taken a huge step towards becoming an integrated provider of highly automated manufacturing environments. In addition, our range of metrology and applications for industrial image processing has been strengthened since September 2018 by the acquisition of the Jena-based OTTO Group with its 2D and 3D inspection systems. We are continuously taking further small and large steps to offer our global customers advanced manufacturing solutions.


more innovation

First listen, then act

In order to effect the necessary culture change in the company and create a common understanding of what Jenoptik is, the first thing we needed to do was listen and give a voice to the people who know the company best: our employees and customers.

We set our employees the task of imagining that Jenoptik is coming to a party. What kind of person entering the room is Jenoptik? And what will Jenoptik look like in five years? These were just two of many questions that more than 400 Jenoptik employees were asked to answer at numerous workshops in the spring of 2018. Over 500 customers and partners also gave their feedback in a quantitative survey and in-depth interviews.

The results were surprising and in part matched our expectations. Employees all around the world personified Jenoptik as it stands today in very similar ways: as a 50-year-old man named Helmut in a gray suit with a little extra fat around the waistline and a German compact car who isn't very easy to engage in conversation.

Respondents – from Shanghai to Jena to Florida – also had a very uniform idea of the person they see as Jenoptik in the future: a man named Alex who isn't so very different from Helmut. Alex is a little younger, may have a new tailor, and has seen the world. Our colleagues described the Jenoptik of tomorrow as dynamic, confident, inspiring, multicultural, and approachable.

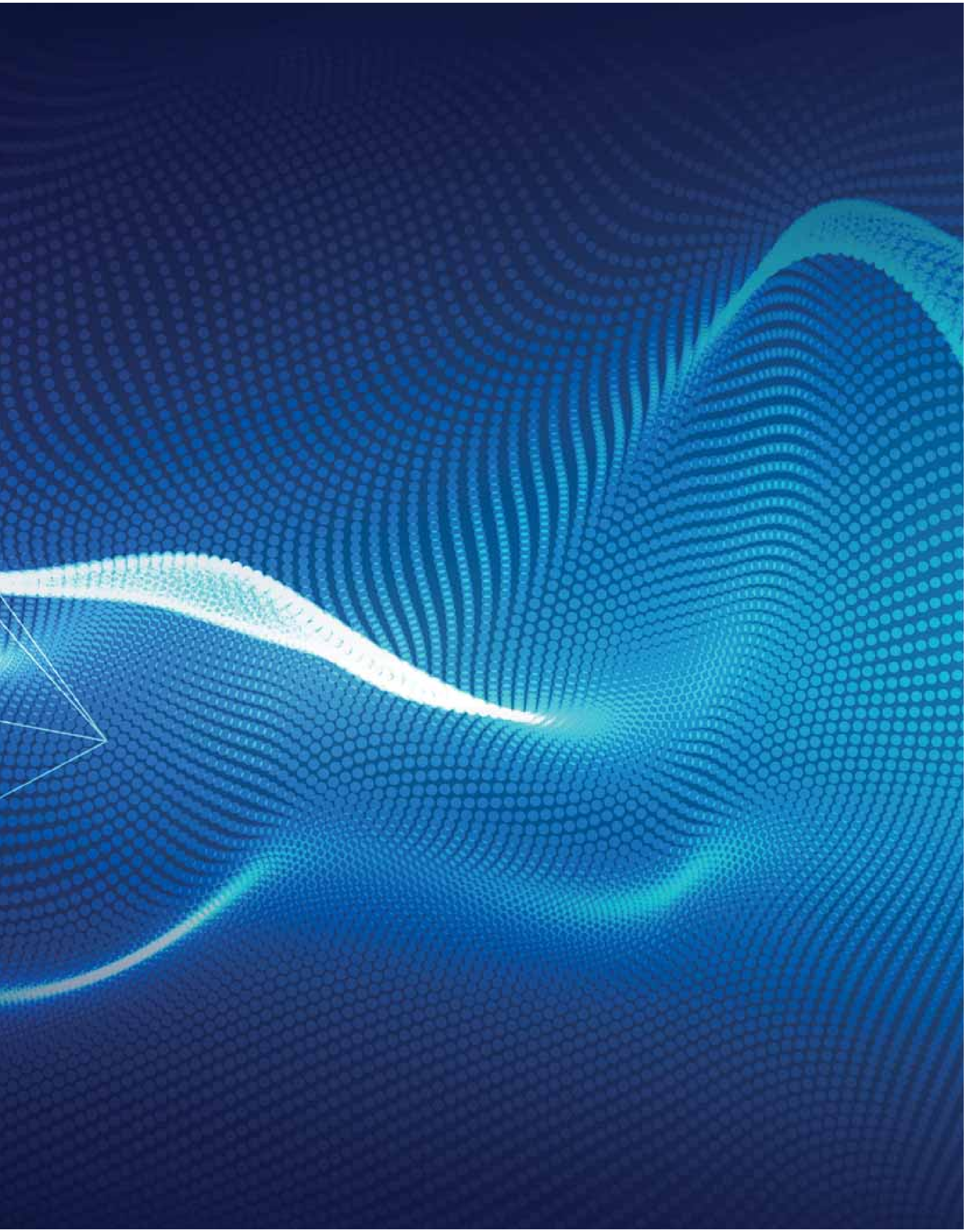
To achieve the necessary culture change, we needed to give a voice to the people who know the company best: our employees and customers.

The new look of the Jenoptik brand underscores the key changes and conveys the promise that something new and different can be expected from Jenoptik.

These and many more extremely revealing results from the analytical stage of our major corporate culture and brand project were brought together in a common brand house. Its elements are the Jenoptik values "open", "driving", and "confident", our unique selling points, our vision and mission, and the positioning of the Jenoptik brand.

At the same time, we worked on Jenoptik's brand identity, which visually embodies the topic of „More Light" and imbues the company with more color – six color rays that are both equal and diverse. We have been presenting, discussing, and sharpening our new common identity on a company-wide "More Light Tour" covering all major locations since January 2019.

The foundations of a common understanding of shared values and the effective and confident development of the brand, in which our employees take a proactive role, have now been successfully laid.



About Jenoptik

Jenoptik is a globally operating technology group, which is active in the three photonics-based divisions Light & Optics, Light & Production and Light & Safety since January 2019. In addition, the Group is providing mechatronics solutions under the brand VINCORION.

The Jenoptik Group is headquartered in Jena (Thuringia). In addition to several major sites in Germany, Jenoptik is represented in more than 80 countries worldwide, for example with production and assembly sites in the US, France, the United Kingdom, China, and Switzerland. Additionally, the Group has subsidiaries in Australia, Brazil, the Czech Republic, India, Japan, Malaysia, Mexico, the Netherlands, Singapore, and South Korea.

Optical technologies are the very basis of our business. Our customers are leading companies in industries such as semiconductor equipment, automotive and suppliers, mechanical engineering, medical technology, traffic, aviation as well as the security and defense technology.

Management

» In short «

The Executive Management Committee has been expanded to

11

members.

Below the Jenoptik Executive Board, the Executive Management Committee (EMC) is the extended management body of the Group. Jenoptik brought more global diversity to the EMC with the appointment of three new members. In addition to the two members of the Executive Board, the Committee comprises the heads of Human Resources, Group Controlling, Corporate Development and M&A, the heads of the divisions, and now also the heads of the North America and Asia regions.

Dr. Stefan Traeger
President & CEO

Dear shareholders,
dear clients, partners, and friends of our company,

2018 was an extremely successful year for Jenoptik. We have achieved all our targets, and actually exceeded our original financial targets for revenue, profit, order intake and free cash flow. With revenue of 834.6 million euros, we have grown by 11.6 percent in the past year. On the bottom line, EBITDA was significantly improved to around 127.8 million euros with a margin of 15.3 percent. All in all, an outstanding team performance by our more than 4,000 employees, who have made 2018 a new record year with record figures, thereby continuing the Jenoptik success story.

At the beginning of 2018 we launched our new "Strategy 2022" and began to implement it. The goal of our strategic development for the next five years is clear. We will concentrate on what we do best: In line with the motto "More Light", we want to transform Jenoptik into a modern high-tech group focused on photonics. Our aim is to provide the right technological responses to the rapidly changing markets and to the major issues of the future – digitization, mobility and security. To do this, Jenoptik must become faster and more efficient, flexible and courageous. But this is not the only reason why we have renewed our structures as well as changed our mindset and the way we approach things.

We have set very specific targets for 2022: Jenoptik is to grow at an accelerated rate of, on average, a mid- to high-single-digit percentage range per year. Profitability is also to increase further. Today, we are in an ideal position to lead Jenoptik into a new stage of development. In addition to the increased focus on photonic technologies, internationalization and innovation are the core of our planned business expansion. This means: Jenoptik's overall R + D output is to rise to around 10 percent of revenue by 2022. International diversity should shape Jenoptik more strongly than before, i. e. international teams and more decisions are taken abroad. There will be production and local R + D teams in all major regions and markets. And at least one division is to be headquartered abroad by 2022.

Based on our Strategy 2022, we identified and successfully implemented three priorities for the 2018 fiscal year: the reorganization of the corporate structure, the realignment of our Asian business, and the launch of a new brand for our mechatronics business.

With a new group structure in place since the beginning of January 2019, we have positioned our business so that it can better meet market needs. The reorganization of the corporate structure has resulted not only in new divisions, but existing companies will be merged too. More than that: We are able to reduce bureaucracy and significantly increase our attractiveness for all stakeholders.

The second priority for 2018 was Asia. Here we have established a new organizational structure where responsibilities are clearly defined. This helps to make the customer approach more effective and facilitates cooperation.

Thirdly, we achieved a strategic milestone in 2018 with our new VINCORION brand for the mechatronics business. We are firmly convinced that with the new flag and a simpler structure we can better serve the specific market requirements, and that we can prioritize future growth initiatives more clearly, leading them to success.

However: a strategy is only successful when the corporate culture supports the achievement of the set targets. Therefore, we also started an extensive cultural change at Jenoptik last year. Because we need more speed and agility, more emotions and not least a common understanding of ourselves and our company. By focusing on "More Light", we aim not only to imbue Jenoptik with more color and hopefully both pleasure and motivation, but are also pooling the activities and initiatives that will serve to create a common spirit. We are striving for long-term, sustainable growth and are also applying our new corporate values as a yardstick for our work.

The basis for our new corporate values, the positioning of our brand and further measures in the sense of modern personnel work was an intensive exchange with our employees and customers. In particular, we sought the answers to the questions “Who is Jenoptik?”, “What does Jenoptik stand for?” and “What must we change?”. To this end, we have conducted a large number of surveys, interviews and workshops worldwide in recent months. Just one result of our employee survey to begin with: more than two thirds of our employees would recommend Jenoptik as a good employer. This is a figure slightly above the global benchmark, but naturally we want to improve even further.

In 2018, we did not rely solely on the economic momentum in our markets. With Prodomax in Canada and the OTTO Group in Jena, we successfully acquired extremely interesting companies. The product ranges as well as the market and customer access are an ideal complement for Jenoptik. These acquisitions have enabled us to significantly strengthen our position as a turnkey supplier of automated production solutions, sophisticated measuring tasks and efficient production processes, especially for the automotive industry.

Another highlight of 2018 was the 20th anniversary of our share. On June 13, 2018, almost exactly 20 years to the day after its stock market launch, Jenoptik closed the day at a high of 39.48 euros. With a market capitalization of 2.26 billion euros, our company had never been worth more. Irrespective of this, we have further intensified communication with our shareholders over the course of the year, held more roadshows and participated in more capital market conferences than ever before. In 2018, Jenoptik’s share certificates were converted from bearer shares to registered shares in order to keep a firm focus on our shareholders and to communicate with them even more effectively in the future. It is very important to us that Jenoptik’s shareholders continue to benefit from the positive development of their company. Overall, we will distribute 20 million euros to our shareholders if approved by the Annual General Meeting.

At the beginning of 2019 there is general agreement that the global economic climate is becoming harsher. Nevertheless, we are in a positive mood due to the strength achieved by the Group and the excellent order situation. Therefore, we expect the Jenoptik success story to continue in the present fiscal year. In concrete figures, we are expecting revenue growth in the mid single-digit percentage range. We also anticipate a further improvement in the EBITDA margin. With a range of 15.5 to 16.0 percent, we are already focusing on the degree of profitability that we originally set ourselves as a target for 2022 as part of our medium-term planning. This also indicates our strength and proves that we remain on course.

Dear shareholders, customers, partners and friends of Jenoptik. We thank you for the trust you have placed in our company. We strongly believe that we still have many more successes ahead of us, both large and small. We cordially invite you to stay committed to Jenoptik and to accompany us on our journey. We look forward to sharing a successful future with you.

Dr. Stefan Traeger
President & CEO

Hans-Dieter Schumacher
Chief Financial Officer

Hans Dieter Schumacher
Chief Financial Officer

Supervisory Board Report

Honored Shareholders,

Following a very successful fiscal year, Jenoptik remains clearly on course for growth. All of our segments, as well as the entities we acquired in 2018 – Prodomax Automation Ltd. in Canada and the OTTO Group – contributed to this encouraging performance with record figures for revenue, earnings, and free cash flow. The Supervisory Board provided significant support to the Executive Board throughout the fiscal year. By consistently implementing our new strategy with a stronger focus on photonic technologies and further internationalization we were able to meet challenges together. This gives us cause to look forward with confidence to the present fiscal year.

In the 2018 fiscal year, the Supervisory Board diligently performed the duties imposed on it by law, by the Articles of Association, and by the rules of procedure, regularly provided advice on the management of the company to the Executive Board, and continuously monitored the latter's work. The Executive Board directly involved the Supervisory Board in all decisions of fundamental importance to Jenoptik and notified it regularly, in good time and in full, both verbally and in writing, of the current status of business, the course of business and the economic situation, the risk position, risk management, and issues relating to compliance, strategy, and corporate planning. The members of the Supervisory Board fully engaged with the reports submitted by the Executive Board at committee and Supervisory Board meetings. In the event that the business development deviated from the established plans and targets, the Executive Board notified the Supervisory Board of this, explaining the reasons in detail. It further maintained full compliance with the professional duties set out in § 90 of the Stock Corporation Act (AktG) and the German Corporate Governance Code ("Code").

The Supervisory Board agreed to business transactions requiring approval following due review and discussion. Over the course of the 2018 fiscal year, it met for five ordinary meetings and one extraordinary meeting, at which members of the Executive Board were also present. Individual agenda items relating to personnel matters on the Executive Board were addressed without the presence of the members of the Executive Board. In addition, resolutions were adopted by unanimous written consent. Over the past fiscal year, the Supervisory Board saw a consistently high participation rate: all members of the Supervisory Board attended considerably more than half of the meetings convened by the Board and the committees on which they sit. On average, attendance at Supervisory Board meetings was 97 percent. There were also five meetings of the Audit Committee (one by conference call), two meetings of the Personnel Committee (one by conference call), and two meetings of the new Investment Committee. Attendance at Audit Committee meetings was 95 percent, at the other committee meetings 100 percent.

The Executive Board and the Supervisory Board worked together in an atmosphere of mutual trust and understanding at all times. The Chairman of the Supervisory Board and the chairmen of the committees maintained ongoing contact with the Executive Board between the meetings of the Supervisory Board and the committees. Detailed monthly reports on the company's position were regularly sent to all members of the Supervisory Board between meetings.

Particular Subjects discussed by the Supervisory Board

At all its regular meetings, the Supervisory Board dealt with the detailed reports of the Executive Board on the business situation of JENOPTIK AG and the Group, in particular current revenue and earnings performance and the financial and asset position. This included a comprehensive examination and discussion of the monthly and quarterly reports. Recurring issues at several meetings further included in-depth explanations and discussions on a range of M & A transactions, in particular relating to the acquisition of Prodomax Automation Ltd. and the OTTO Group.

At an **extraordinary Supervisory Board meeting on January 26, 2018**, the Executive Board presented the Supervisory Board with its proposals for communicating the long-term strategic trajectory of the Jenoptik Group, which was first published at the New Year's Reception on February 6, 2018.

The members of the Supervisory Board adopted their report for the 2018 Annual General Meeting and approved the Corporate Governance Statement and the Corporate Governance Report for the 2017 Annual Report by **unanimous written consent in February 2018**. In addition, and in accordance with the recommendation in Point 5.4.1(5)(2) of the German Corporate Governance Code, the CVs of Supervisory Board members were compared against the competency profile adopted by the Supervisory Board, updated, and published on the JENOPTIK AG website.

At its **meeting on March 21, 2018**, the Supervisory Board discussed the audit of JENOPTIK AG's Annual Financial Statements, the Consolidated Financial Statements, the Combined Management Report, the Non-financial Report, and the appropriation of accumulated profits at length in the presence of the auditor. Following in-depth discussions, it approved the Executive Board's proposal for the appropriation of profits, providing for a 20 percent increase in the dividend, to 0.30 euros per no-par value share, and also approved the Annual Financial Statements of JENOPTIK AG and the Consolidated Financial Statements. The Annual Financial Statements were thus adopted. Another core issue was the approval of the agenda for the Annual General Meeting on June 5, 2018. The meeting also dealt with the settlement of the target agreements for the members of the Executive Board in the 2017 fiscal year, the resolution on a new target metric starting in 2018, and the conclusion of new target agreements for both members of the Executive Board in 2018. The Supervisory Board also considered a range of potential acquisition targets and approved the establishment of an Investment Committee, which was set up to deal with investments requiring approval under the Executive Board's rules of procedure, focusing in particular on the preparation and execution of M & A transactions. The Supervisory Board also adopted a comprehensive revision of the rules of procedure for the Executive Board.

In addition to the recurring topics, the Supervisory Board also used its **meeting on June 4, 2018** to discuss the company's current business and financial situation following the end of the first quarter and Group projects to adjust the organizational structures in two divisions and the corporate center. The Supervisory Board looked in detail at issues relating to the Annual General Meeting to be held on the following day and approved a planned investment at the Automotive division's location in Villingen-Schwenningen. Following further analysis and a full and frank discussion on the Supervisory Board, in combination with preparatory work carried out by the Investment Committee, the Supervisory Board approved the acquisition of all shares in the Canadian company Prodomax Automation Ltd.

The **meeting on September 12, 2018**, was held at the Wedel site of JENOPTIK Advanced Systems GmbH. After a tour of the premises, the Supervisory Board discussed the Group's current Risk and Opportunity Report with the Executive Board in addition to the regular submissions. Other items on the agenda again included information on current M & A issues. The Group's HR Manager presented projects and initiatives from the Human Resources department.

During the two-day **strategy meeting in November**, the Supervisory Board was joined by the Executive Board and other members of the Executive Management Committee to discuss the strategic positions of the separate divisions, which were developed as part of the new long-term corporate strategy presented at the beginning of the year, from the perspective of the market, the competition, and customers.

T01 Participation of the individual Supervisory Board members in meetings

	Astrid Biesterfeldt	Evert Dudok	Michael Ebenau	Elke Eckstein	Thomas Klippstein	Dörthe Knips
6 Supervisory Board Meetings	●●●●●●	●●●●●●	●●●●●●	●●●●●●	●●●●●●	●●●●●●
5 meetings of the Audit Committee (of which one by phone)	●●●● ○	–	–	–	●●●●●	–
2 meetings of the Personnel Committee (of which one by phone)	–	–	●●	–	●●	–
2 meetings of the Investment Committee (of which one by phone)	–	–	●● (since 22/3/2018)	●● (since 22/3/2018)	–	●● (since 22/3/2018)

● Participation ○ No participation

At the year's final **meeting on December 11, 2018**, the Supervisory Board dealt with the recurring topics and the financial statements for the third quarter, as well as with the medium-term planning and the corporate planning for the 2019 fiscal year, which it approved. After reviewing a corporate governance checklist, the Supervisory Board and the Executive Board approved the declaration of conformity in accordance with § 161 (1) of the Stock Corporation Act (AktG) for the 2018 fiscal year. The former also decided to have the separate Non-Financial Report in the Annual Report examined externally by means of an audit review, commissioning an auditing firm for this purpose, and delegated this task to the Audit Committee for the future. Finally, it was informed about changes to the D & O insurance for the Group.

Work in the Committees

The Supervisory Board has established four committees to help perform its tasks with greater efficiency. To the extent permissible by law, these committees make decisions in individual cases in place of the Supervisory Board and prepare topics that are then addressed by the Supervisory Board. The chairmen or their deputies on the committees provided in-depth information on the content and outcomes of each committee meeting at the following meetings of the Supervisory Board. Information on the individual members of each committee can be found in the Group Notes appended to the Annual Report, from page 202 on.

The Audit Committee headed by Mr. Heinrich Reimitz convened four meetings and one conference call in the period covered by the report. Both members of the Executive Board, the Head of Group Controlling, and the Head of Group Accounting and Taxes were present at all meetings; the heads of relevant departments attended as required for individual topics. In addition to the monthly, quarterly, and half-year financial statements, and the Annual and Consolidated Financial Statements, the Audit

Dieter Kröhn	Doreen Nowotne	Heinrich Reimitz	Stefan Schaumburg	Andreas Tünnermann	Matthias Wierlacher	Total attendence in percent
●●●●●●	●●●●●●●	●●●●●●	●●●● ○○	●●●●●●	●●●●●●	97 %
–	●●●●●	●●●●●	–	–	–	95 %
–	–	●●	●●	●●	●●	100 %
●● (since 22/3/2018)	●● (since 22/3/2018)	–	–	–	–	100 %

Committee paid particular attention to the effectiveness and ongoing development of the risk management, internal control, and compliance management systems. The Audit Committee also dealt regularly with current analyst assessments and the performance of the Jenoptik share.

During a **conference call in February 2018** prior to publication of the preliminary figures, the Audit Committee discussed together with the Executive Board the key indicators in the 2017 fiscal year as well as the progress made in preparing the Financial Statements and Consolidated Financial Statements.

In the presence of two of the auditor's representatives, the **balance sheet meeting in March** focused on the audit of the Combined Management Report, JENOPTIK AG's Annual Financial Statements, the Consolidated Financial Statements, and the Executive Board's proposal for the appropriation of profits. In addition, a representative of PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft ("PWC") was present to discuss the very first Non-Financial Report and the results of his audit review. The Chief Compliance & Risk Officer elucidated the current Group Risk and Opportunity Report. Another issue at the meeting was the recommendation by the Audit Committee to the Supervisory Board that Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart ("EY"), be proposed to the Annual General Meeting as the auditor for the 2018 fiscal year. EY confirmed that there are no circumstances that might compromise its independence as auditor.

At the **meeting in May**, the Audit Committee closely examined the financial statements for the first quarter of 2018 and was informed about audits completed by Internal Audit and the new accounting standard IFRS 16.

Alongside the half-year financial statements, the key matters **discussed in August** included the determination of the main points for audit, a review of the fee agreement, and the subsequent appointment of EY as auditor for the 2018 fiscal year. The committee also addressed the issue of monitoring the independence of the auditor. To this end, it reviewed the non-audit services provided in the past year and updated its approved catalog of permissible non-audit services. The Audit Committee was also informed that the targets for preparing the Non-financial Report had been specified.

At its last **meeting** of the year **in November**, the Audit Committee examined the financial statements for the third quarter. The Head of Internal Audit reported on scheduled changes to the audit process of Internal Audit and on audit plans through March 2020. At the end of the meeting, the Head of Investor Relations presented the process for monitoring the defined targets and actions within the reporting on sustainability issues in the Non-Financial Report.

The Personnel Committee headed by Matthias Wierlacher, the Chairman of the Supervisory Board, convened twice in the past fiscal year; one of the meetings took the form of a conference call. Topics at the meetings included settlement of the 2017 target agreement for Mr. Schumacher, recommendations regarding the target metric for the new remuneration system applicable to members of the Executive Board, and long-term succession planning for the Executive Board.

The new Investment Committee is also headed by the Chairman of the Supervisory Board, Matthias Wierlacher. It convened twice in the past fiscal year, dealing with a range of acquisition projects, in particular the acquisition of the Canadian company Prodomax Automation Ltd.

The Nomination Committee and the Mediation Committee did not meet in the past fiscal year. These two committees are also headed by Mr. Wierlacher.

Corporate Governance

Over the past fiscal year, the Supervisory Board engaged with corporate governance issues and, in particular at its meeting in June, was updated on current legislative proposals in this area. In December, following comprehensive examination of a corporate governance checklist, and in conjunction with the Executive Board, the Supervisory Board adopted the declaration of conformity according to § 161 (1) of the Stock Corporation Act (AktG). The current declaration of conformity, together with declarations from prior years, are permanently available to shareholders on the company’s website. The latest declaration of conformity can also be found on page 36 of the Annual Report.

Following the efficiency review carried out using a questionnaire and in-depth interviews with the help of an independent external expert in December 2017, the Supervisory Board undertook an internal self-assessment in December 2018. The review gave a positive picture of the work of the Supervisory Board and its committees. No efficiency shortcomings were identified. The next external efficiency review is scheduled to take place in 2020.

Individual members of the Supervisory Board of JENOPTIK AG exercise an executive role at companies with which Jenoptik has a business relationship. Jenoptik does not consider any of these business transactions to be of significance, especially as they are conducted under the same conditions as would have been maintained with third-party companies. Consequently, it is the belief of the Supervisory Board that they do not affect the independence of the members. Information on business transactions with related persons or companies can be found on page 198 f. in chapter 8.6 of the Notes.

In the past fiscal year, there were no conflicts of interest subject to reporting requirements which could have called the independence of the Supervisory Board members into question under the directives of the Corporate Governance Code.

Detailed information on corporate governance at Jenoptik can be found in the Corporate Governance Report beginning from page 36 on of the Annual Report and from page 45 on of the Remuneration Report.

Annual Financial Statements and Consolidated Financial Statements

In accordance with the decision of the Annual General Meeting, EY in Stuttgart was appointed to audit the Annual Financial Statements of JENOPTIK AG and the Consolidated Financial Statements for the third time in succession. The lead audit partner was Mr. Michael Blesch. EY audited the Annual Financial Statements prepared by the Executive Board according to the provisions of the German Commercial Code (HGB), the Consolidated Financial Statements prepared according to § 315e of the German Commercial Code and on the basis of International Financial Reporting Standards (IFRS), and the Combined Management Report, and issued its unqualified approval. The audit review of the Non-Financial Report was also issued with unqualified approval by PWC. Within the scope of its duties, the auditor also checked whether the Executive Board had adopted suitable measures to ensure that developments that may endanger the continued existence of the company are identified in good time. The auditor undertook its audit according to § 317 of the German Commercial Code (HGB), giving consideration to the generally accepted German audit principles defined by the Institute of Public Auditors in Germany (Institut der Wirtschaftsprüfer [IDW]). On completion, the audit reports, the Annual Financial Statements, the Consolidated Financial Statements, the Executive Board's proposal for the appropriation of profits, and the Combined Management Report including the Non-financial-Report were dispatched to all members without delay and, together with the documents submitted by the Executive Board, discussed in great detail by the Audit Committee and the Supervisory Board at their March meetings. Both also dealt extensively with the key audit matters. Representatives of auditor EY and of audit firm PWC, which was appointed by the Audit Committee to conduct an audit review of the Non-Financial Report, reported in person at the meetings on the key outcomes of their audits. They were also available to answer further questions and provide information. The auditor also provided information on services rendered in addition to the financial statement audit services. According to the auditor, there were no circumstances that gave rise to a concern of impartiality.

No major weaknesses in the risk early warning system or the accounting-related internal control system were reported. The Chairman of the Audit Committee also reported in detail on the audits of the Annual Financial Statements and the Consolidated Financial Statements made by the Audit Committee.

Following the final outcomes of the preliminary audit by the Audit Committee and its own review and discussion, the Supervisory Board raised no objections to the outcomes of the audit at its meeting on Wednesday, March 20, 2019 and approved the Annual Financial Statements and Consolidated Financial Statements prepared by the Executive Board. The Annual Financial Statements for 2018 are thus adopted according to § 172 (1) of the Stock Corporation Act (AktG). The Supervisory Board discussed in detail the Executive Board's resolution on the appropriation of profits, which provides for an increased dividend payment of 0.35 euros per no-par value share, and approved it following an internal review.

Changes in the Supervisory Board and the Executive Board

Over the past fiscal year, there were no personnel changes on the Executive Board or the Supervisory Board.

We extend our thanks to the members of the Executive Board and to all employees for their outstanding personal dedication, and to our shareholders for the trust they place in us.

Jena, March 2019
On behalf of the Supervisory Board

Matthias Wierlacher
Chairman

Jenoptik Highlights 2018

Metrology business expanded

With the acquisition of the Jena-based companies OTTO Vision Technology GmbH and OVITEC GmbH, Jenoptik is expanding its position as a systems supplier for production metrology and industrial imaging applications. The two companies specialize in optical 2D and 3D inspection systems for quality assurance and process optimization.

Increased production capacity

With an additional production area near the Rochester Hills location, Jenoptik has almost tripled its available footprint for automation projects in North America. Production is also being expanded with a new assembly building at the Jupiter, Florida, location to meet demand for optical systems.

New location on the western coast of the US

With a new site in Fremont, located in California's Silicon Valley, Jenoptik has had a direct presence near its customers in this region since early 2018 and is in a position to respond specifically to their needs, particularly in engineering and product development.

New brand for the mechatronics business

Jenoptik is now marketing its mechatronics business under the new, independent VINCORION brand, thus focusing its competencies in the aviation, security, defense, and railway markets. The new brand is publicly launched at Berlin's Inno-Trans trade fair in September 2018

Traffic safety technology for the Middle East

Several orders for Jenoptik products from the Middle East and North Africa confirm the need for greater traffic safety. Qatar, Algeria, and a further key customer in the MENA region each order over 100 radar installations for traffic monitoring.

Industry standard for optical shaft metrology

The new Opticline CS product line makes Jenoptik technology for quality control of turned parts competitive for standard industrial applications. The CS series is systematically designed for production-related use and specifically optimized for the manufacture and quality control of turned parts.

More international top management

With the appointment of three international members, Jenoptik is bringing more global diversity to its operative management body below the Group Executive Board. In addition to the head of the "Light & Safety" division from Great Britain, the regional managers for North America and Asia are now also represented on the Executive Management Committee.

Jenoptik acquires Canadian company

With the acquisition of Prodomax Automation Ltd., Jenoptik is tapping further potential for growth in the field of advanced manufacturing. The Canadian company specializes in machine integration and process automation for the automotive industry.

Investment in Berlin site

Jenoptik is ensuring its preparedness to meet rising demand for high-power laser diodes with technical modernization and an expansion of the workforce at the Berlin-Adlershof Technology Park.

Approvals for speed control systems

Jenoptik is the first company to receive an approval from the Physikalische-Technische Bundesanstalt (PTB) for average speed control systems in Germany. The technology is being used on a pilot project in Lower Saxony. In the Netherlands, Jenoptik's VECTOR P2P product is approved for use in monitoring average speeds.

300th laser machine delivered to China

The airbag safety solutions in many Chinese cars will continue to be produced using laser technology from Jenoptik in the future. The 300th JENOPTIK-VOTAN® A laser machine is delivered to a longstanding partner in China, as is the latest airbag perforation technology, JENOPTIK-VOTAN® A Scan.

New headquarters in Great Britain

Jenoptik Traffic Solutions UK has opened a new head office. The former two offices have been combined at the Camberley site in Surrey since October 2018.

Expertise in Lidar systems

At the end of the year, Jenoptik presents a broad range of components and basic technologies for complex Lidar systems at trade fairs for the first time. The company primarily possesses expertise in high-precision optics, coatings, semiconductor lasers, and modules for laser rangefinding.

New building for industrial metrology

Jenoptik launches a project to build a new company building at the Villingen-Schwenningen site. More than 13 million euros are being invested in state-of-the-art development, production, and office areas for the metrology business.

Focus on investors

In its 20th year as a publicly listed company, the Jenoptik share reaches a multi-year high. With a new strategy and targeted capital market communication, international investor relations activities are stepped up. At the same time, the Group converted its shares to registered shares.

The Jenoptik Share

Stock Markets

For the international capital markets 2018 was a turbulent year, impacted by political events. The mood at the beginning of the year was positive, with good economic data and an optimistic outlook initially continuing to bolster share prices across the board. Dwindling momentum in the global economy, international trade conflicts, rising inflation rates, tighter monetary policies, and the forthcoming Brexit were key issues over the course of the year, producing significant fluctuations on the capital markets as early as the second quarter of 2018. A sharp rise in global risk also impacted on previously good growth forecasts. Ultimately, 2018 ended with losses for many share indices.

For the latest information on the Jenoptik share and the development of the Jenoptik Group see www.jenoptik.com or on Twitter. Our financial reports can also be viewed using the "Jenoptik App for Corporate Publications".

The German Dax share index began the year at 12,871 points and reached its highest level of 13,560 on January 23. Germany's benchmark index recorded its lowest point of 10,382 on the penultimate day of trading in 2018: the Dax closed at 10,559 points on December 28, 2018, to end the year down approximately 18 percent. The German technology index performed somewhat better: the TecDax started the year with a closing quotation of 2,555 points. Following highly volatile and erratic performance, the index recorded its annual high of 3,039 points on August 28. The TecDax closed at 2,450 points on December 28, equating to a loss of some 4 percent since the start of the year.

Jenoptik Share Trends

In the first nine months, the Jenoptik share saw volatile, broadly positive, performance. Following initial fluctuation, its price rose toward the mid-year point, reaching its highest level of 39.48 euros on June 13. The share price then lost ground and initially moved sideways. In the final quarter of 2018, it then fell sharply due to a generally poor overall market situation and reduced growth expectations in a number of industries. By the end of trading on December 28, 2018, the share had fallen in value to 22.78 euros. The Jenoptik share thus ended the trading year down some 18 percent. Jenoptik's total shareholder return, i. e. taking into account the share price performance and the dividends paid in the fiscal year, came to minus 17.0 percent in 2018 (prior year: 65.8 percent).

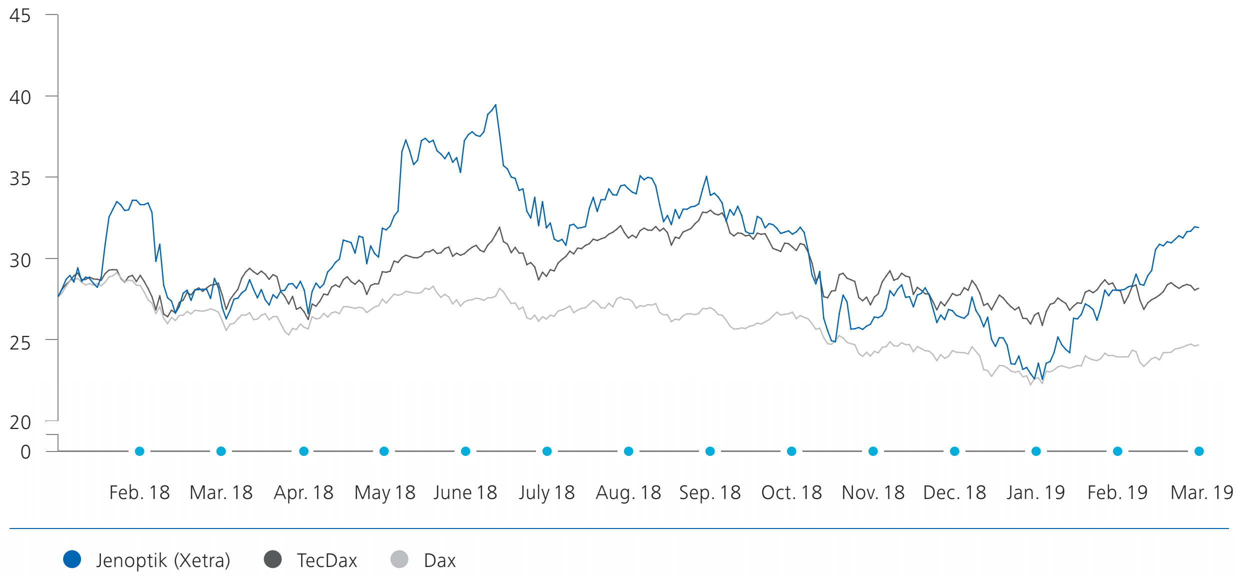
The mood on the international capital markets remained subdued into January and February 2019. Major uncertainties put a strain on prices, with investors around the world turning to alternative investment opportunities. The Jenoptik share was able to escape this trend. In the first two months of 2019 the share price rose to end trading at 32.02 euros on February 28. All figures are Xetra closing prices. G01 G02

In 2018, weakened share price performance resulted in a concomitant drop in market capitalization based on the 57,238,115 issued shares, which came to 1,303.9 million euros at the end of the year (prior year: 1,576.9 million euros). Through February 28, market capitalization recovered substantially to 1,832.8 million euros.

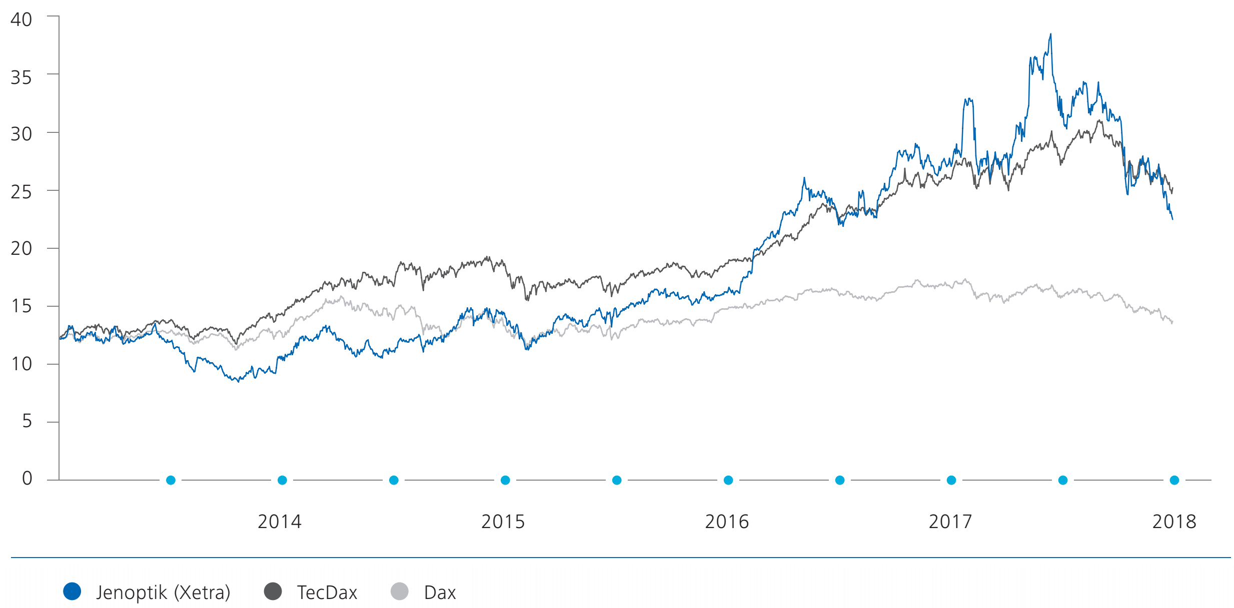
Compared to the prior year, trading activities of our investors saw a further upturn. The average number of Jenoptik shares traded per day on the Xetra, in floor trading, and on Tradegate in 2018 was 167,748 (prior year: 152,928). Trading volumes thus rose 9.7 percent.

In September 2018, Deutsche Börse introduced changes to its index methodology, eliminating the strict separation into classic and tech segments. From now on, Dax, MDax, or SDax companies that are in technology sectors can now also be included in the TecDax index. The number of stocks on the MDax rose from 50 to 60, the number of stocks on the SDax from 50 to 70. In part, the changes had a significant influence on company rankings measured by market capitalization and trading volumes in the respective indices. As a technology stock, Jenoptik remains in the TecDax and, following the rule changes, is also listed on the SDax. In the TecDax ranking compiled by Deutsche Börse, the Jenoptik share was 25th in terms of stock turnover (prior year: 19th). In terms of free float market capitalization, the company held 20th place (prior year: 15th). Of the 70 stocks on the SDax, JENOPTIK AG occupied 10th place in market capitalization and 19th in trading volume.

G01 Share performance January 2, 2018 through February 28, 2019 (indexed in euros)



G02 Share performance 2014 to 2018 (indexed in euros)



Shareholder Structure

For more information see the Notes in the Equity chapter and the Investors/Share/Voting rights announcements section at www.jenoptik.com.

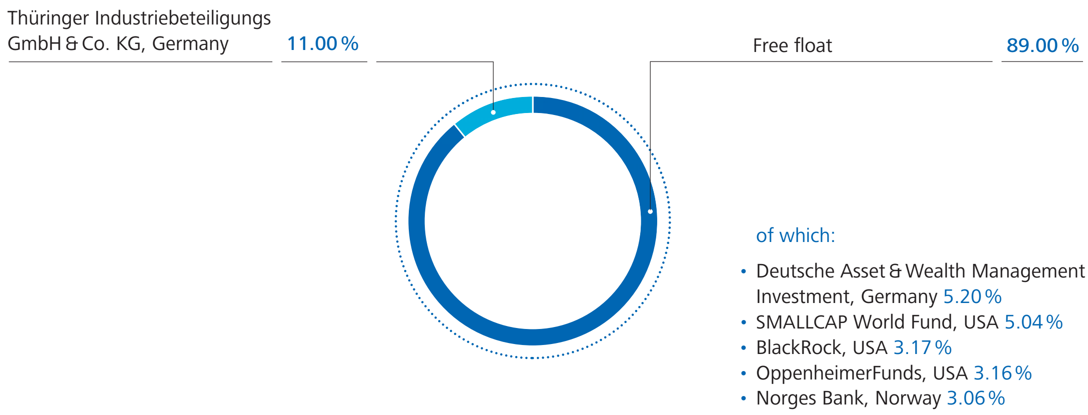
At the end of the fiscal year, the company's free float was unchanged at 89 percent.

Throughout 2018, we received several voting right notifications from institutional investors on the purchase or sale of larger stock positions, these were published by the company.

Dividend

The Jenoptik management aspires to a policy of dividend reliability and continuity in which shareholders – as in recent years – receive payment of a dividend in line with the company's success. At the same time, sufficient cash and cash equivalents to finance the operating business, a robust equity position, and the use of acquisition opportunities to secure the lasting growth of the company are also in the interests of the shareholders. The Executive and Supervisory Boards of JENOPTIK AG therefore review their dividend recommendation with considerable prudence every year. In the past fiscal year, Jenoptik paid a dividend of 0.30 euros per share (prior year 0.25 euros) to its shareholders for 2017. In the current year, too, the Executive Board and Supervisory Board will maintain their dividend policy. Particularly in view of very successful growth in 2018, the two boards will propose an increased payment of 0.35 euros per share to the 2019 Annual General Meeting. Subject to approval there, the payout ratio in relation to earnings attributable to shareholders will be 22.9 percent for a dividend payment of 20.0 million euros (prior year: 23.7 percent). Group earnings include a non-cash deferred tax income of 7.0 million euros, which had a correspondingly positive impact on earnings after tax and earnings per share.

G03 Shareholder structure (as of February 28, 2019)



Capital Market Communications

We are committed to making sure our communication with shareholders, analysts, and institutional investors is open, transparent, and reliable. We publish comprehensive and up-to-date information on the development of our business, while also seeking an active exchange with others. We believe it is important to increase transparency and boost trust in Jenoptik by engaging in ongoing dialog.

In its 20th year as a publicly traded company, the Jenoptik Group converted its share capital from bearer to registered shares on a 1:1 basis. This class of shares has been traded under a new international securities identification number (ISIN) DE000A2NB601 since September 2018. The Group thus has a better understanding of its shareholder structure and can identify changes in shareholdings earlier than before. Jenoptik now also has the opportunity to improve its direct, target-group-oriented communication with investors. As of the balance sheet date, the company had a total of 42,745 shareholders, of which 457 were institutional investors and 42,288 private investors. Institutional investors held 79.83 percent of the company's share capital, private investors 20.17 percent. On a regional level, 47 percent of the Jenoptik share capital is held in Germany. In the rest of

T02 Jenoptik share key figures

	2018	2017	2016	2015	2014
Closing price (Xetra end-year) in euros	22.78	27.55	16.43	14.39	10.37
Highest/lowest price (Xetra) in euros	39.48/22.78	29.68/16.11	16.65/11.14	15.01/10.22	13.61/8.26
Absolute performance in euros/relative in percent	−5.02/−18.1	10.78/64.28	1.84/12.6	3.79/35.8	−1.83/−15.0
Issued no-par value bearer shares (31/12) in millions	57.24	57.24	57.24	57.24	57.24
Market capitalization (Xetra end-year) in million euros	1,303.9	1,576.9	940.1	823.7	593.6
Average daily trading volume[1]	167,748	152,928	107,183	224,488	167,876
P/E ratio (based on highest price/based on lowest price)	25.8/14.9	23.4/12.7	16.7/11.1	17.3/11.8	18.6/11.3
Operating cash flow per share in euros	2.61	1.84	1.91	1.60	0.90
Group earnings per share in euros	1.53	1.27	1.00	0.87	0.73

[1] Source: Deutsche Börse; includes trading on the Xetra, in Frankfurt, Munich, Berlin, Düsseldorf, Hamburg, Hannover, Stuttgart and on Tradegate

T03 Dividend key figures

	2018	2017	2016	2015	2014
Dividend per share in euros	0.35	0.30	0.25	0.22	0.20
Payout amount in million euros	20.0	17.2	14.3	12.6	11.4
Dividend yield[1] in %	1.5	1.1	1.5	1.5	1.9
Payout ratio[2] in %	22.9	23.7	24.9	25.4	27.5
Total shareholder return in %	−17.0	65.8	14.1	37.6	−13.4

[1] based on year-end closing price
[2] based on earnings attributable to shareholders

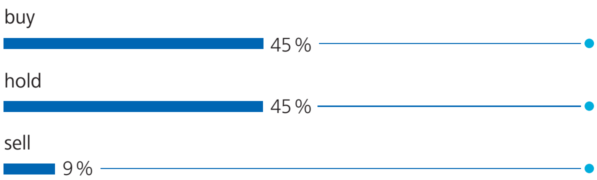
Europe, investors hold around 29 percent of Jenoptik's shares, with Great Britain accounting for some 15 percent. American investors own a stake of around 14 percent in Jenoptik.

Jenoptik was awarded a silver medal for its capital marketing communication in the TecDax index at the annual "Investors' Darling" competition run jointly by HHL Leipzig Graduate School of Management and the business journal "manager magazin". The company's explanation of its strategy, the quality of its digital investor relations activities, and its above-average share price performance were the key factors contributing to its strong ranking. As a result, Jenoptik moved up from fifth place in 2017 to second in the TecDax index.

The company again stepped up its investor relations activities in the 2018 fiscal year, particularly addressing investors outside Germany. The Group attended ten (prior year: nine) capital market conferences, a number of them at international financial centers such as Berlin, Frankfurt/Main, London, Lyon, New York, and Warsaw. Jenoptik also held 23 (prior year: 21) roadshows in Austria, Belgium, Finland, France, Germany, Great Britain, Italy, Luxembourg, Spain, Switzerland, and the US. Jenoptik held two analyst conferences in Frankfurt/Main to mark the reporting of its annual and half-year figures. During conference calls on the publication of the annual and quarterly financial statements and in numerous individual conversations, the Executive Board and the investor relations team explained the development of business, key figures and strategy to institutional investors, analysts and journalists. Investors also took the opportunity to tour Jenoptik's sites. In addition, we used our 6th Capital Market Day in Jena at the beginning of the year to set out our new strategy and the Group's medium-term objectives.

Over the course of 2018, 11 (prior year: 14) analysts published recommendations on the Jenoptik share: Baader Helvea, Bankhaus Lampe, Deutsche Bank, DZ Bank, Hauck & Aufhäuser, HSBC, Independent Research, Kepler Cheuvreux, LBBW, Bankhaus Metzler, and M. M. Warburg. On December 31, 2018, the average target price of the Jenoptik share as assessed by analysts was 31.91 euros (prior year: 24.43 euros). G04

G04 Analyst recommendations (as of February 28, 2019)



Corporate Governance

» In short «

Current Declaration of Conformity in accordance with

§161

Stock Corporation Act was issued jointly by the Executive Board and Supervisory Board in December 2018.

Information and Notes relating to Takeover Law and the Remuneration Report are part of the Combined Management Report.

Corporate Governance Report

In the following Corporate Governance Report, the Executive Board and Supervisory Board give their opinions in accordance with Point 3.10 of the German Corporate Governance Code ("Code") in its version dated February 7, 2017. We also consider the "Remuneration Report" (from page 45 on) to be a part of the Corporate Governance Report.

Corporate Governance

The Corporate Governance Statement as well as the current Declaration of Conformity, and those of previous years, are permanently accessible on our website at www.jenoptik.com/investors/corporate-governance.

The Executive Board and Supervisory Board of JENOPTIK AG affirm their commitment to responsible corporate management and control aimed at long-term value creation. They see good corporate governance as the foundation for a sustained increase in the company value. This also strengthens trust in Jenoptik on the part of shareholders, business partners, employees, and the general public.

The Executive and Supervisory Boards structure their policies to adhere to the recognized standards and support the recommendations of the "Government Commission on the German Corporate Governance Code" ("Code").

In the year covered by the report, the management and supervisory bodies of JENOPTIK AG have again dealt in depth with compliance with the requirements of the Code. The Executive and Supervisory Boards issued the current Declaration of Conformity in adherence with § 161 of the German Stock Corporation Act (AktG) in December 2018. It is permanently available to shareholders on the company's website. Jenoptik has also followed the suggestions contained in the Code – with one exception. If changes should arise in the future, the declaration of conformity will be updated during the year.

Declaration of Conformity by the Executive Board and Supervisory Board of JENOPTIK AG in the 2018 Fiscal Year

According to § 161, Para. 1, Sent. 1 of the German Stock Corporation Act (AktG) the Executive Board and the Supervisory Board of a listed company are required to declare annually that the recommendations of the "Governmental Commission on the German Corporate Governance Code" as published by the Federal Ministry of Justice in the official section of the Federal Gazette (Bundesanzeiger) have been and are being complied with or to indicate which recommendations have not been or are not being applied and why not.

The Executive Board and Supervisory Board of JENOPTIK AG support the recommendations of the "Governmental Commission on the German Corporate Governance Code" and state pursuant to § 161, Para. 1, Sent. 1 of the German Stock Corporation Act:

Since the last declaration of conformity as of December 2017, the recommendations of the "Governmental Commission on the German Corporate Governance Code" ("Code") in the version dated February 7, 2017 have been complied with and will be complied with in future with the following exception:

In accordance with Point 5.4.1 Para. 2 Sent. 2 of the Code the Supervisory Board shall specify a regular limit to the Supervisory Board members' term of office when naming concrete objectives regarding its composition.

This recommendation has not been complied with and will not be complied with in the future. The Supervisory Board has decided not to specify a regular limit regarding the Supervisory Board members' term of office. Such limit is not consistently compatible with the procedure for elections of employee representatives to the Supervisory Board as stipulated in the German Co-Determination Act.

December 11, 2018 | JENOPTIK AG

On behalf of the Executive Board	On behalf of the Supervisory Board
Dr. Stefan Traeger	Matthias Wierlacher

Shareholders and the Annual General Meeting

JENOPTIK AG shareholders exercise their rights at the Annual General Meeting which takes place at least once a year. Each JENOPTIK AG share is accorded one vote. There are no special voting rights. Since September 2018, the shares of JENOPTIK AG have been registered shares and no longer bearer shares. The holders of the shares must register their shares in the share register of JENOPTIK AG and disclose the information required by law and the Articles of Association. Only shareholders recorded in the share register are entitled to vote at the Annual General Meeting. They may either participate directly in the Annual General Meeting, or exercise their voting rights via a company-nominated proxy who is bound by the shareholder's instructions, via postal voting, or by authorizing a person of their choice. The shareholders are adequately supported by the company in this process. The reports as well as other documents and information required by law for the Annual General Meeting are available for inspection on our website www.jenoptik.com in the Investors/Annual General Meeting category or at the company's premises. Following the Annual General Meeting, the attendance figures, voting results and the speech by a representative of the Executive Board will also be published on the Internet.

Transparent Information

As part of our investor relations work, we report comprehensively on developments within the company. In doing so, we follow the principle of providing the participants in the capital market as well as the general public with equal, continual, prompt, and comprehensive information in order to guarantee as much transparency as possible. Together with the Executive Board, the investor relations team is in regular and intensive contact with participants in the capital market at roadshows, capital market conferences, and other events.

We use the annual and interim reports to provide extensive information about the Group's earnings, assets, and finances four times a year. In addition, important events and current developments are reported in press releases and, where necessary, ad-hoc announcements. These documents, the financial calendar, the Articles of Association and further information are also available in German and English on the Jenoptik website at www.jenoptik.com.

For further information on the investor relations activities see the section "The Jenoptik share".

In accordance with the statutory requirements of the Regulation on Market Abuse, inside information is published immediately insofar as JENOPTIK AG is not, in individual cases, exempt from this obligation. The use of electronic distribution channels ensures that the reports are published worldwide simultaneously in German and English.

Jenoptik immediately publishes major changes to its shareholder structure when it is informed that reportable voting rights targets have been reached, fallen below or exceeded. All publications are available on our website under the category Investors/Share/Voting rights announcements. Further information can also be found in the Notes in the section on Equity.

Directors' Dealings

In the 2018 fiscal year, none of the members of the Executive Board or the Supervisory Board or persons closely related to them disclosed any reportable securities transactions pursuant to Article 19 of the EU Market Abuse Regulation.

Directors' Dealings reports from prior years can be found at www.jenoptik.com under the category Investors/Corporate Governance/Directors' Dealings.

Executive Board and Supervisory Board Remuneration

As of December 31, 2018, as in prior years, the Jenoptik Group maintained securities-oriented incentive plans in the form of so-called performance shares for the members of the Executive Board and long-term incentives based on virtual shares for parts of senior management.

For further information on the remuneration system for the Executive Board and Supervisory Board see the Remuneration Report and Notes.

Accounting and Auditing

The Consolidated Financial Statements as well as all Consolidated Interim Financial Statements are compiled in accordance with the International Financial Reporting Standards (IFRS) and the additional requirements of commercial law according to § 315e (1) of the German Commercial Code (HGB), as they are to be used in the European Union. JENOPTIK AG's Financial Statements, which are decisive for the dividend payment, are compiled in accordance with the requirements of the German Commercial Code (HGB). The Consolidated Financial Statements and the Annual Financial Statements, including the Combined Management Report, are examined by the auditor. On June 5, 2018, the Annual General Meeting selected Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart ("EY") as the auditor for the 2018 fiscal year on the recommendation of the Supervisory Board. It was initially appointed in the 2016 fiscal year following an external tender. The position of responsible auditor for the auditing of the Consolidated Financial Statements and the Annual Financial Statements as well as the Combined Management Report was held by Michael Blesch (since the 2016 fiscal year).

For detailed information on opportunity and risk management and on internal audit see in Risk and Opportunity Report

The Supervisory Board has agreed with the auditor that he shall inform the Supervisory Board chairman of any grounds for bias or disqualification, as well as of all important events and findings that emerge during the audit. This includes occasions when inaccuracies are established during the audit in the declaration of conformity submitted by the Executive Board and Supervisory Board in accordance with § 161 of the German Stock Corporation Act (AktG).

Before submitting the proposal for the election of the firm to the Annual General Meeting, the Supervisory Board received a declaration of independence from the auditing firm, stating that there were no employment, financial, personal or other links between EY, its board members and audit managers on the one side and the company and its board members on the other, that could give rise to doubts about the independence of the auditor. EY also reported in its declaration on the degree to which non-audit services have been provided for Jenoptik over the past fiscal year or which have been contractually agreed for the current year. In the summer of 2018, the Audit Committee reviewed EY's non-audit services provided in the past year and updated the catalog of approved, predefined non-audit services.

Internal Audit

With the objective of improving business processes and thereby strengthening compliance and corporate governance within the company, Internal Audit at Jenoptik undertakes independent and objective auditing and consulting services for the Executive and Supervisory Boards. Internal Audit serves to safeguard operational practices and, in particular, monitors compliance with the principles of correctness and legality.

Risk and Opportunity Management

For Jenoptik, continuously and responsibly evaluating the opportunities and risks which may result from entrepreneurial activity is one of the principles of responsible corporate management. The goal of our risk and opportunity management is to support the formulation of the strategy and to define measures which create an optimum balance between growth and return targets on the one side and the associated risks on the other.

Compliance

For Jenoptik, responsible corporate management also includes compliance with statutory provisions and internal rules and regulations. Nationally and internationally recognized compliance requirements are therefore an integral part of our risk prevention and the processes of the compliance management system (CMS). The CMS is based on the Jenoptik values, the Code of Conduct for Jenoptik employees, and various guidelines, compliance with which is a fundamental requirement for maintaining the trust of our business partners, shareholders and the public in the performance and integrity of Jenoptik. For us, essential factors for responsible conduct with all stakeholders include respect, fairness, and openness. Dr. Traeger, President & CEO, is responsible for Compliance & Risk Management within the Executive Board. In order to even better meet the globally increasing requirements Jenoptik is expanding its current compliance organization. We will establish a competence center in Germany and strengthen our activities in the growth markets North America and Asia/Pacific.

Our Code of Conduct summarizes the most important principles of conduct and is equally binding on all employees of the Jenoptik Group. It sets out minimum standards and serves as an orientation framework to establish maximum integrity as well as ethical and legal standards in Jenoptik.

In the event of questions regarding the Code of Conduct or suspected illegal or unlawful matters, all Jenoptik employees may speak in confidence to the respective executive or the contact persons named in the Code. All employees may also use the reporting system on the Jenoptik intranet, by telephone or via email to report significant violations that must be handled confidentially.

With the corporate guidelines implemented for key business processes, the Jenoptik Group has a system of processes and controls to identify possible deficits in the company at an early stage and to be able to minimize or eliminate them with appropriate measures. The corporate guidelines are continuously being reexamined, expanded, updated, and made accessible to employees via the intranet.

In order to familiarize employees with these topics and to improve employee awareness, regular online training courses and classroom events on subjects relevant to compliance, such as anti-corruption, anti-trust law as well as data protection, are regularly held at both the German and foreign business units. The aim of this is to create company-wide uniform understanding of our compliance standards. In addition to the main training courses offered as part of onboarding training for new employees, employees are also required to participate in mandatory e-learning refresher courses. The aim is to provide the employees with the content of important compliance topics on a continuous basis, but at least once a year, and to then verify this with a test. In addition, employees can contact the central Compliance & Risk Management department with any questions relating to compliance or risk issues at Jenoptik as well as use a help desk on the intranet or an app on their smartphones.

Corporate Governance and Supervision

As a globally operating stock corporation with its registered office in Germany, JENOPTIK AG is subject to the German Stock Corporation Act. It therefore has a dual management system consisting of an Executive Board and a Supervisory Board. The Executive Board is responsible for running the business in the interests of the company and with the aim of achieving sound corporate development. It takes into account the concerns of all stakeholders, in particular shareholders and the Group's employees. The Supervisory Board orders, advises, and monitors the Executive Board in its leadership of the company. Information, including information on important methods of corporate governance as well as a description of the working methods of the Executive Board and Supervisory Board, can be found in the Corporate Governance Statement.

Corporate Governance Statement

The Corporate Governance Statement in accordance with §§ 289 f, 315 d of the German Commercial Code (HGB) is an unaudited part of the Combined Management Report. In addition to the methods of corporate governance mentioned above as well as the description of the function of the Executive Board and Supervisory Board, it contains the Declaration of Conformity in accordance with § 161 of the German Stock Corporation Act (AktG), a description of the structure and function of the committees of the Supervisory Board, the specification of the target figures for the proportion of women in the company as well as a description of the diversity concept followed for composition of the Executive and Supervisory Boards.

Objectives for the Composition and Skills Profile of the Supervisory Board

In accordance with Point 5.4.1 of the German Corporate Governance Code, the Supervisory Board of JENOPTIK AG is composed in such a way that, as a whole, its members are endowed with the knowledge, ability and experience necessary to carry out their tasks in an orderly manner. Taking into consideration the size and purpose of the company as well as the international orientation of the Jenoptik Group, the Supervisory Board has laid down objectives for its composition which take into consideration the idea of diversity. In addition, the Supervisory

The Corporate Governance Statement as well as the current Declaration of Conformity and those of previous years, are permanently accessible at www.jenoptik.com under the category Investors/Corporate Governance.

For further information on compliance and supplier management see the chapter "Non-financial Report".

For the Code of Conduct see www.jenoptik.com in the category Investors/Corporate Governance

Board has developed a requirements and skills profile. This is intended to ensure that the Supervisory Board has all the skills and experience deemed essential for the activities of the Jenoptik Group. In addition, members should have sufficient time to exercise their mandate. It is the opinion of the Supervisory Board that the required skills include, in particular:

- in-depth experience of supervising a stock-listed company,
- financial and business skills, personnel expertise, experience in distribution and sales as well as
- company-related competence in the following areas: digitalization, technology, strategy and growth/M & A, markets and internationality, entrepreneurship/management and capital markets,
- CEO experience, also in a stock-listed company.

It is the opinion of the Supervisory Board that the above-mentioned requirements are largely fulfilled by the abilities, experiences and skills that are for the most part available in the Supervisory Board. The skills, abilities and experiences of the individual members of the Supervisory Board can be found in the CVs, which are published on our website at www.jenoptik.com under the category Investors/Corporate Governance/Supervisory Board.

In accordance with its Diversity Statement, the Supervisory Board will ensure that at all times it comprises members who fulfill the criterion of internationality.

Furthermore, the Supervisory Board should include at least four women. Thus, the quota of at least 30 percent required by the German Stock Corporation Act is met.

More detailed information on the specification of target figures for the quota of women can be found at www.jenoptik.com in the Corporate Governance Statement in the category Investors/Corporate Governance.

With regard to the length of service, the Supervisory Board has decided not to specify a limit applicable to all members as it is not consistently compatible with the process provided by the Co-Determination Act for election of employee representatives to the Supervisory Board.

In addition, the members of the Supervisory Board will play neither an advisory nor an executive role with customers, suppliers, creditors or other business partners of JENOPTIK AG, if this leads to a significant and not merely temporary conflict of interest.

One of the objectives for the composition of the Supervisory Board is also that at least half of the shareholder representatives must be of independent status. No persons are to be considered for nominations who, at the time of election, have already reached the age of 70.

In its elections to the Supervisory Board, the Supervisory Board shall recommend to the Annual General Meeting the candidates it considers to be the most suitable for election, taking into account their expertise and personal integrity.

Further information on the Executive Board and the Supervisory Board, in particular on their working methods, including the work in the committees, participation in the meetings, on other mandates exercised by the members, on implementation of the objectives regarding composition of the Supervisory Board as well as on D & O liability insurance, can be found in the Report of the Supervisory Board and in the Group Notes to this Annual Report as well as the Corporate Governance Statement under www.jenoptik.com in the category Investors/Corporate Governance.

Information and Notes Relating to Takeover Law

Explanatory report in accordance with § 176 (1) (1) of the German Stock Corporation Act (AktG) and reporting on § 289 a and § 315 a of the German Commercial Code (HGB) in accordance with the Takeover Directive Implementation Act

This information is part of the Combined Management Report.

1. Composition of the share capital

As of the balance sheet date on December 31, 2018, the share capital totaled 148,819 thousand euros (prior year: 148,819 thousand euros). It is div≠ided into 57,238,115 no-par value registered shares (prior year: 57,238,115). Each share is therefore worth 2.60 euros of the nominal capital.

The same rights and obligations apply to all the shares of the company. Each share represents one vote in the Annual General Meeting and is the determining factor for the shareholders' proportion of company profits (§ 58 (4), § 60 of the German Stock Corporation Act). The shareholders' rights also include the subscription right to shares in the event of increases in capital (§ 186 of the German Stock Corporation Act). In addition, the shareholders are entitled to administrative rights, e. g. the right to participate in the Annual General Meeting and the authority to put forward questions and motions and to exercise their right to vote. The shareholders' additional rights and duties are defined in the German Stock Corporation Act, in particular in § 12, 53a et seq., § 118 et seq., and § 186. Under § 4 (3) of the Articles of Association, any claim by a shareholder to the securitization of his/her shares is excluded.

2. Restrictions relating to voting rights or the transfer of shares

In accordance with § 136 (1) of the German Stock Corporation Act, legal restrictions affecting voting rights exist with respect to votes for annual approval regarding shares which are held directly or indirectly by members of the Executive and/or Supervisory Boards. Violations of reporting obligations as specified in § 33 (1) or (2) and § 38 (1) or § 39 (1) of the German Securities Trading Act may nullify voting rights, at least temporarily, in accordance with § 44 of this Act.

Pursuant to § 67 (2) of the German Stock Corporation Act (AktG), only shareholders registered in the share register are deemed to be shareholders in relation to JENOPTIK AG. To be recorded in the share register, shareholders must provide JENOPTIK AG with the information required by law (name or company name, address, registered office if applicable, date of birth and number of shares they hold); email addresses and their changes are to be provided in accordance with the Articles of Association to facilitate communication. Also to be disclosed in accordance with the Articles of Association is the extent to which the shares belong to the person who is registered as the holder in the share register. Shareholders who do not comply with these disclosure obligations may not exercise their voting rights pursuant to § 67 (2) (2) and (3) of the German Stock Corporation Act.

3. Direct or indirect holdings of the capital exceeding 10 percent of the voting rights

Information on direct or indirect holdings in capital which exceed ten percent of the voting rights can be found in the Group Notes under item 5.16, "Equity", from page 176 on.

4. Holders of shares with special rights conferring controlling powers

There are no shares in JENOPTIK AG that entail special rights.

5. Form of controlling voting rights if employees own shares and do not directly exercise their control rights

There are no employee shareholdings and therefore no resultant control of voting rights.

6. Statutory regulations and provisions of the Articles of Association relating to the appointment and dismissal of Executive Board members and changes to the Articles of Association

The appointment and dismissal of Executive Board members is carried out exclusively in accordance with the statutory regulations of § 84 and § 85 of the Stock Corporation Act and § 31 of the Codetermination Act (MitbestG). In accordance with this, the Articles of Association stipulate in § 6 (2) that the appointment of members to the Executive Board, the revocation of their appointment and the conclusion, modification and termination of contracts for services with members of the Executive Board shall be carried out by the Supervisory Board. In accordance with § 31 (2) of the Codetermination Act, a majority of at least two thirds of the members of the Supervisory Board is required for the appointment of Executive Board members. Revocation of appointment as a member of the Executive Board is only possible for serious due cause (§ 84 (3) of the Stock Corporation Act).

§ 6 (1) (1) of the Articles of Association stipulates that the Executive Board of JENOPTIK AG must comprise at least two members. In the absence of a required Executive Board member, in urgent cases the court must appoint the member on the application of a party involved (§ 85 (1) (1) of the Stock Corporation Act). The Supervisory Board can appoint a Chairman or Spokesperson for the Executive Board (§ 84 (2) of the Stock Corporation Act, § 6 (2) (2) of the Articles of Association).

In accordance with § 119 (1) (5), § 179 (1) (1) of the Stock Corporation Act, changes to the content of the Articles of Association are passed by the Annual General Meeting. However, changes relating purely to the wording of the Articles of Association may be passed by the Supervisory Board in accordance with § 179 (1) (2) of the Stock Corporation Act in conjunction with § 13 (3) of the Articles of Association. This also includes the corresponding change to the Articles of Association following the utilization of the Authorized Capital 2015 and of the Conditional Capital 2017. According to § 24 (1) of the Articles of Association, resolutions by the Annual General Meeting require a simple majority of the votes cast unless stipulated otherwise by law. In those cases in which the law requires a majority of the nominal capital represented for a resolution to be passed, a simple majority of the nominal capital represented is sufficient, unless specified otherwise by the law.

7. Authority of the Executive Board to Issue and buy back shares

In accordance with § 4 (5) of the Articles of Association, the Executive Board is authorized until June 2, 2020, with the consent of the Supervisory Board, to increase the nominal capital of the company by up to 44.0 million euros through one or multiple issues of new, no-par value registered shares against cash and/or contribution in kind ("Authorized Capital 2015"). The Executive Board is authorized, with the approval of the Supervisory Board, to exclude the subscription rights of shareholders (a) for fractional amounts; (b) in the event of capital increases against contribution in kind, in particular also as part of corporate mergers or for the acquisition of companies, parts of companies or investments in companies (including an increase in existing investment holdings) or other depositable assets related to such an acquisition project, including receivables from the company; (c) in the event of capital increases in return for cash contributions, to the extent that the portion of the nominal capital attributable to the new shares, taking into account resolutions at the Annual General Meeting and/or the utilization of other authorizations to exclude the subscription right in direct or corresponding application of § 186 (3) (4) of the Stock Corporation Act since the date on which such authorization became effective, neither exceeds a total of ten percent of the nominal capital as of the date of registration for such authorized capital, nor exceeds a total of ten percent of the nominal capital in existence as of the date of issuance of the new shares and the issue price of new shares is not significantly below the stock exchange price; (d) for the issuance to employees of the company and in companies in which Jenoptik has a majority participation.

All aforementioned authorizations to exclude subscription rights are limited to a total of 20 percent of the nominal capital available at the time this authorization became effective – or, if this value is lower – to 20 percent of the nominal capital at the time this authorization is exercised. This limit of 20 percent includes shares that (i) are sold for the purpose of servicing option and/or convertible bonds that were or could still be issued during the period of validity of the authorized capital to the exclusion of subscription rights or (ii) are sold by the company as treasury shares during the period of validity of the authorized capital to the exclusion of subscription rights. Decisions on the details of the issuance of new shares, in particular their conditions and the content of rights of the new shares, are taken by the Executive Board, with the consent of the Supervisory Board.

A shareholder resolution passed at the Annual General Meeting on June 7, 2017 empowered the Executive Board, with the consent of the Supervisory Board, to issue option and/or convertible bonds with a maximum total nominal value of 250 million euros. In order to grant shares to the holders/creditors of such option and/or convertible bonds, the company's nominal capital is conditionally increased by up to 28.6 million euros through the issue of up to 11 million new shares ("Conditional Capital 2017") in accordance with § 4 (6) of the Articles of Association. The conditional capital increase will be implemented only to the extent that

- creditors or holders of option and/or conversion rights arising from option and/or convertible bonds issued by the entity, or by a domestic and/or foreign corporation in which the entity either directly or indirectly holds a majority interest, make use of their option or conversion rights by June 6, 2022 as resolved by the Annual General Meeting dated June 7, 2017, and/or

- the creditors of the issued convertible bonds obliged to exercise their conversion rights issued by the company or a domestic or foreign company in which the company has a direct or indirect majority stake, on the basis of the resolution of the Annual General Meeting on June 7, 2017, fulfill their conversion rights by June 6, 2022 and/or the shares are tendered

and neither treasury shares are used nor is payment made in cash. The new shares participate in profits from the start of the fiscal year for which, on the date of their issue, no resolution has yet been passed by the Annual General Meeting in respect of the appropriation of profits.

The Executive Board is authorized, with the consent of the Supervisory Board, to exclude the subscription rights of shareholders to the bonds under certain circumstances. Authorization to exclude subscription rights is, however, limited in the sense that the pro rata amount of nominal capital corresponding to those shares that must be issued after exercising conversion and/or option rights/obligations may not account for more than 20 percent of the nominal capital existing at the time this authorization takes effect or – if the figure is lower – at the time use is made of the authorization. This 20 percent limit also applies to the sale of treasury shares that are excluded from subscription rights during the period of this authorization, and to shares excluded from subscription rights that are issued under authorized capital during the period of this authorization.

The Executive Board is authorized to set out the further details relating to the increase in conditional capital (e.g. terms of the bonds, interest rate, form of interest, specific term, denomination, issue price, option/conversion price, option/conversion period) in the bond terms and conditions.

Further details regarding the resolved authorization can be found in agenda item 8 in the invitation to the 2017 Annual General Meeting, accessible on our website at www.jenoptik.com in the category Investors/Annual General Meeting.

According to a resolution passed by the Annual General Meeting on June 5, 2018, the Executive Board is authorized up to June 4, 2023 to purchase treasury no-par value shares not exceeding a proportion of ten percent of the nominal capital existing at the time the resolution is adopted or – if this amount is lower – at the time of exercising the resolution for purposes other than trading in its own shares. The purchased treasury shares together with treasury shares that the entity had already purchased and still holds (including the attributable shares in accordance with §§ 71a et seq. of the German Stock Corporation Act) may not exceed 10 percent of the share capital of the entity. The authorization may be exercised in whole or in part, on a one-off or repeat basis and for one or more authorized purposes. The purchase and sales of treasury shares may be exercised by the company or, for specific authorized purposes, by dependent companies, by companies in which the company holds a majority interest, or by third parties for its or their account. At the decision of the Executive Board, purchase is, subject to compliance with the principle of equal treatment (§ 53a of the Stock Corporation Act), by purchase via the stock exchange or by means of a public offering or a public invitation to the shareholders to submit an offer for sale. For the purpose of protecting shareholders against dilution of their shares, the proposed resolution expressly provides for a restriction of the use of acquired treasury shares in such a way that the total of the acquired shares together with shares issued or sold by the Company during the term of this authorization under another authorization to the exclusion of shareholders' subscription rights or which enable or oblige the subscription of shares is limited to a notional interest in the nominal capital of no more than a total of 20 percent of the nominal capital at the time the authorization becomes effective or – if the following value is lower – at the time this authorization is exercised.

Further details regarding the buyback of shares are described in the invitation to the Annual General Meeting 2018 in agenda item 9, accessible on our website at www.jenoptik.com in the category Investors/Annual General Meeting. As of December 31, 2018, the company had no treasury shares.

8. Key agreements in the event of a change of control resulting from a takeover bid

Clauses in contracts concluded by JENOPTIK AG, which apply in the event of a change in control within the ownership structure of JENOPTIK AG following a change of control, exist for various financing agreements with a total utilized volume of approximately 120.0 million euros (prior year: 122.7 million euros).

The conditions for accepting a change in control are formulated differently in each of the loan agreements. For the debenture loans with a total utilized volume of 103 million euros, a change in control gives the lenders the right to special termination of the loan in the amount corresponding to their share of the total volume and to demand the immediate repayment of this sum plus the interest accumulated up to the repayment date. A change of control applies if one or more persons acting in concert, with the exception of the existing main shareholders on the date the contract is concluded, acquire more than 50 percent of the outstanding nominal capital or more than 50 percent of the voting rights, directly or indirectly at any time.

Under the revolving syndicated loan arranged in 2015, any change in the current shareholder base of JENOPTIK AG, under which at least 50 percent of the shares or voting rights are held by one or several persons acting in concert as described in § 2 (5) of the Securities Acquisition and Takeover Act (WpÜG), results in the possibility of refusing further disbursements and immediately terminate loan commitments in full or in part within up to 15 banking days following notification of the change of control and any disbursements executed becoming due, in full or in part, with an execution period of 16 banking days, including subsidiary credit lines and accrued interest. The syndicated loan has a total volume of 230 million euros, of which 17.0 million euros had been utilized by December 31, 2018 (prior year: 8.7 million euros).

9. Compensation agreements by the Company with Executive Board members or employees in the event of a change of control

No right to give notice of termination in the event of a change of control, i. e. the acquisition of at least 30 percent of voting rights by a third party, has been agreed with the members of the Executive Board. In such cases, they also have no claim to any severance payment. If the premature termination of an Executive Board role is agreed with an Executive Board member due to a change of control, the amount of the agreed severance payment is limited to a maximum of three years' annual compensation. Under no circumstances, however, the severance payment may be higher than the compensation due for the remaining term of the service contract.

Remuneration Report

Remuneration for the Executive Board

The Remuneration Report below sets out the basic principles of the remuneration system for the members of the Executive Board and Supervisory Board and gives details of the total remuneration for the individual members. This information is part of the Combined Management Report.

Executive Board Remuneration System

Following preparation by the Personnel Committee, the Supervisory Board is responsible for defining the structure of the remuneration system and the composition of the remuneration for the individual Executive Board members. The criteria for defining the appropriateness of the remuneration for the Executive Board of Jenoptik are primarily the respective tasks and areas of responsibility of the members of the Executive Board, their personal performance, as well as the the economic situation, the success of the company and its future prospects. Standard practice within the comparative environment and in relation to established comparative groups within the company is another factor in the remuneration.

The remuneration for the Executive Board of Jenoptik consists of non-performance-related and performance-related components.

With the entry of Dr. Stefan Traeger with effect from May 1, 2017, and for Hans-Dieter Schumacher with effect from January 1, 2018, the system of performance-related remuneration of the Executive Board has been restructured by the Supervisory Board with the assistance of an independent external remuneration expert advisor and made identical for both members of the Executive Board.

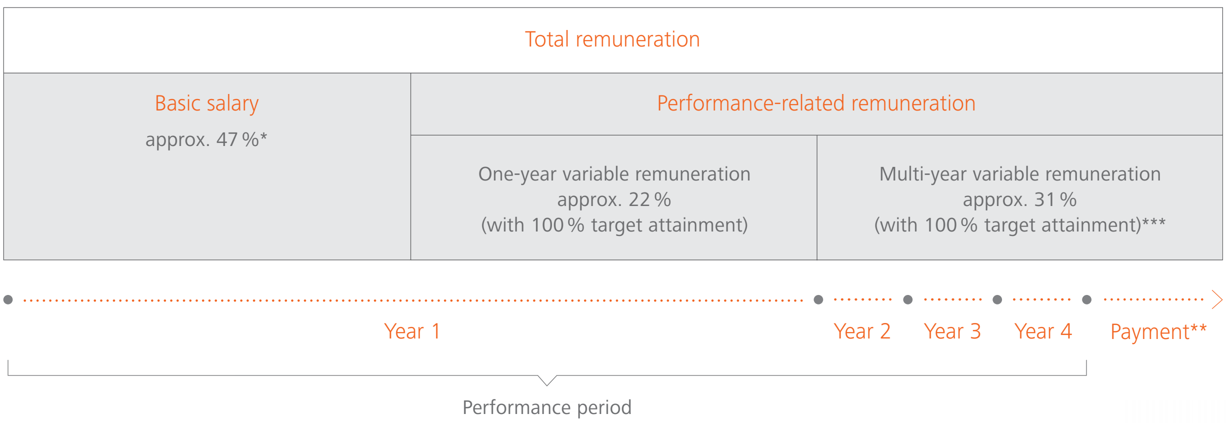
For Hans-Dieter Schumacher, the remuneration system applicable until 2017 will have consequences, as the virtual shares allocated to him from 2015 to 2017 will be paid out in the years 2020 to 2022. Further details can be found in the 2017 Annual Report from page 46 on.

In 2016, an agreement was concluded with the former Executive Board member Dr. Michael Mertin regarding the details of his departure. In accordance with this agreement, the company has paid bridging payments amounting to 80 percent of his annual salary and the pension contributions attributable to this period from July 2017 to June 2018. For details, refer to pages 49 f. of the 2017 Annual Report.

I. Non-performance-related remuneration

Fixed remuneration. The non-performance-related basic salary is paid on a pro rata basis each month. In 2018, it totaled 600 thousand euros for Dr. Stefan Traeger and 400 thousand euros p. a. for Hans-Dieter Schumacher until March 31, 2018 and 450 thousand euros p. a. since April 1, 2018.

G05 The new Remuneration System of the Executive Board Members



* without fringe benefits
** payment of multi-year variable remuneration
*** based on constant share price

Retirement benefits and fringe benefits. Agreements relating to occupational retirement benefits were concluded with the members of the Executive Board. The pension commitment is based on a pension fund reinsured by a life insurance policy. This is a defined contribution scheme within the framework of a provident fund. The annual and the long-term costs for Jenoptik are clearly defined.

On reaching retirement age, the payments will no longer affect Jenoptik – with the exception of a possible subsidiary liability. In 2018, the pension contributions amounted to 200 thousand euros for Dr. Stefan Traeger and 160 thousand euros for Hans-Dieter Schumacher.

There is accident insurance and third-party financial loss liability insurance for the members of the Executive Board. The latter comprises the contractual obligation to pay a deductible amounting to 10 percent of the loss per claim, however up to a maximum sum of 150 percent of the fixed remuneration of the Executive Board member in question. Executive Board members are also entitled to the private use of a company vehicle.

Non-competition clause. A post-contractual non-competition clause was agreed with Dr. Stefan Traeger for a period of one year following the end of his contract of employment. An amount equaling 50 percent of one annual salary is agreed as compensation for the non-competition clause. Prior to the termination of the employment relationship, Jenoptik may also waive the post-contractual non-competition clause by means of a written declaration.

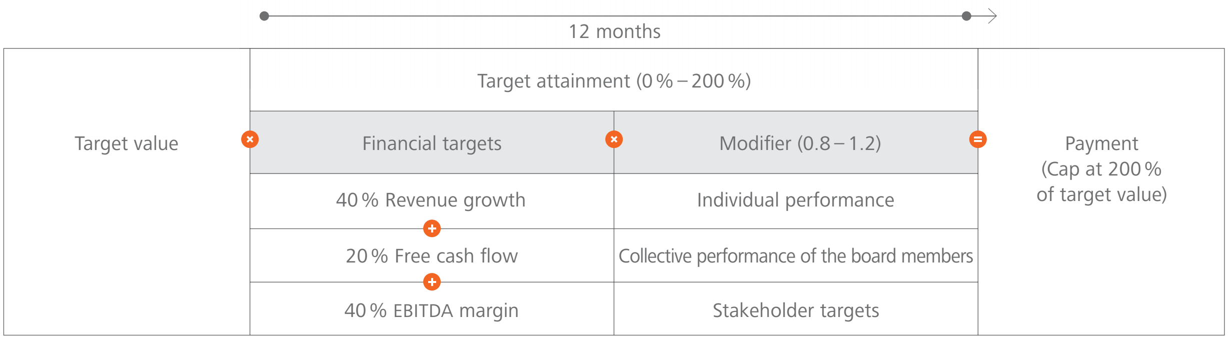
II. Performance-rated remuneration components

The variable remuneration of the Executive Board is based on personal target agreements concluded with the respective member of the Executive Board in the first quarter of each calendar year. The objectives are oriented towards the company's sustainable business development.

The performance-related variable remuneration comprises two components: The (one-year) bonus (approx. 40 percent of the variable remuneration) is based on the achievement of certain targets within a twelve-month period and is paid in cash in the subsequent year. The second part of the performance-related variable remuneration (approx. 60 percent of the variable remuneration) is based on the level of target attainment after the end of a four-year performance period. The allocation of so-called performance shares in the form of virtual shares takes place annually. For each installment of performance shares granted, the target attainment is determined at the end of the four-year performance period and the amount resulting from a predefined calculation method is paid out in cash.

The performance-related variable remuneration can be between 0 euros and a maximum of 1,400 thousand euros for Dr. Stefan Traeger and between 0 euros and a maximum of 1,000 thousand euros for Hans-Dieter Schumacher. The value is 0 euros when less than 50 percent of all targets are achieved. For the respective maximum amount, 200 percent of all targets must be achieved.

G06 One-year variable remuneration



Bonus. After the end of the fiscal year, the Supervisory Board determines the degree to which the financial targets for this component have been reached. The financial targets and their weighting are shown in chart G06. G06

The yardstick for determining the degree of target attainment need not be linear, i.e. a target attainment of 200 percent does not necessarily require a doubling of the initial value of the financial key indicator. In the same way, a 50 percent target attainment does not necessarily have to be achieved at half of the originally defined financial baseline for 100 percent. The precise calibration of the targets is based on historical experience and future expectations, as well as the adopted budget of the respective year.

In the event that less than 50 percent of target attainment is achieved, there is no entitlement to a bonus, so the bonus can also be completely eliminated. The financial targets agreed in 2018 are shown in chart T04. T04

To take account of non-financial aspects, the bonus amount for the respective Board member resulting from the target attainment is then multiplied by a performance factor, the so-called modifier. The value for this can be between 0.8 and 1.2. The modifier is determined on the basis of defined criteria for assessing the individual performance of the Executive Board member, the collective performance of the entire Executive Board, e.g. successfully executed acquisition projects, and certain stakeholder targets such as sustainability/corporate social responsibility, employee satisfaction or diversity. Even if the financial targets have been well achieved, the Supervisory Board can use this multiplier to reduce the variable remuneration in the sense of a malus regulation by up to 20 percent even if the financial targets are met or exceeded, if, for example, the behavior of the Executive Board member strongly warrants it, but is not serious enough to justify termination or liability due to breach of duty or if a reduction in remuneration in accordance with § 87 (2) of the German Stock Corporation Act (AktG) is not possible.

With 100 percent target attainment and a multiplier of 1.0, Dr. Stefan Traeger receives variable remuneration of 300 thousand euros and Hans-Dieter Schumacher 200 thousand euros. In each case, the bonus for Dr. Stefan Traeger is limited to a maximum of 600 thousand euros and for Hans-Dieter Schumacher to 400 thousand euros. This part of the performance-related variable remuneration is paid in cash after the target settlement and adoption of the annual financial statements.

T04 The financial targets agreed for 2018

	Target attainment in %		
Targets	100	50 (lower cap)	200 (upper cap)
Revenue growth in %	8.0	4.0	12.0
Free cash flow in million euros*	75.8	37.9	94.8
EBITDA margin in %	15.0	10.0	20.0

*Adjusted for contributions and costs in connection with the acquisitions that have an impact on free cash flow

On the basis of its assessment of the individual performance of the members of the Executive Board, the cooperation in the bodies and the implementation of various stakeholder targets for the 2018 fiscal year, the Personnel Committee of the Supervisory Board has decided to propose to the Supervisory Board that a multiplier of 1.1 be used for both members of the Executive Board. T05

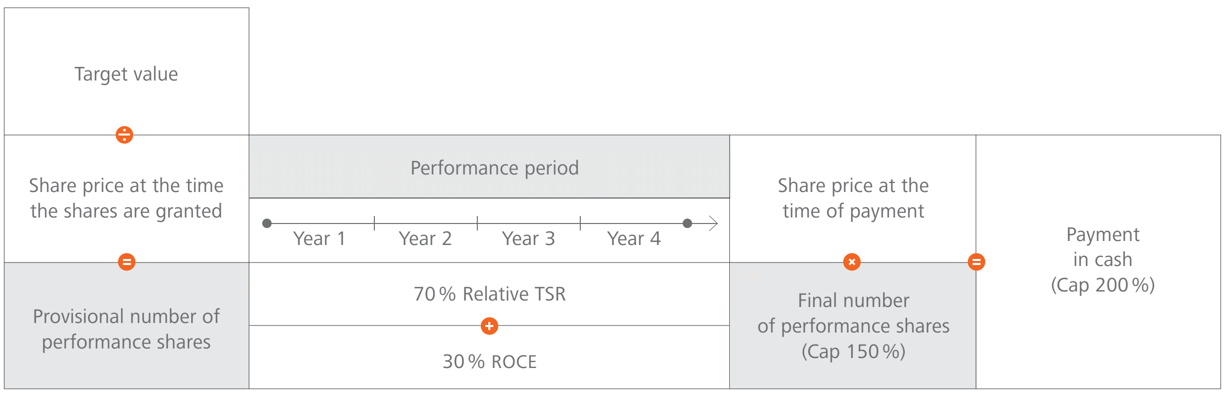
Performance Shares. Based on a value of 400 thousand euros for Dr. Stefan Traeger and 300 thousand euros for Hans-Dieter Schumacher, performance shares are to be allocated to the member of the Executive Board in the first quarter of each fiscal year. In order to calculate the provisional number of performance shares to be allocated, the initial value mentioned is divided by the volume-weighted average price (VWAP) of the Jenoptik share on the twenty trading days following the announcement of the preliminary annual figures. The VWAP for the specified 2018 period was 28,165 euros. Consequently, Dr. Stefan Traeger was provisionally allocated a total of 14,202 performance shares and Hans-Dieter Schumacher 10,652 (2018 installment). Long-term performance targets are agreed for each installment, the achievement of which is measured at the end of each four-year "performance period". For the performance shares provisionally allocated in 2018, the performance targets will be measured at the beginning of 2022. G07

T05 Actual target attainment of the one-year variable remuneration for 2018 and payment

Target value	Actually achieved in fiscal year 2018	Target attainment in %	Payment for Dr. Stefan Traeger	Payment for Hans-Dieter Schumacher
Revenue growth	11.6%	189.60%	227.52 thousand euros	151.68 thousand euros
Free cash flow*	104.2 million euros	200.00%	120.00 thousand euros	80.00 thousand euros
EBITDA margin	15.3%	105.60%	126.72 thousand euros	84.48 thousand euros
Multiplier	1.1		47.42 thousand euros	31.62 thousand euros
Sum			521.66 thousand euros	347.78 thousand euros

*Adjusted for contributions and costs in connection with the acquisitions that have an impact on free cash flow

G07 Multi-year variable remuneration



The ROCE and relative TSR are calculated using the method described in the glossary on page 220. Again, the yardstick for determining the degree of target attainment need not be linear here. T06

Depending on the level of target achievement, the number of performance shares to be finally allocated is determined at the end of the four-year performance period. Their quantity is limited to one and a half times the number of provisionally allocated performance shares ("allocation cap"). If the level of target attainment is less than 50 percent, the entitlement to final allocation of performance shares shall no longer apply.

The number of finally allocated performance shares is multiplied by the VWAP of the Jenoptik share on the twenty trading days following the announcement of the preliminary annual figures for the last fiscal year of the performance period. The resulting amount shall be paid in cash after the adoption of the annual financial statements. The payout amount is limited to a maximum of 200 percent of the initial value: Stefan Traeger to 800 thousand euros and Hans-Dieter Schumacher to 600 thousand euros ("Payout Cap").

The system of remuneration with performance shares is summarized as follows:

Year 1: Agreement of a performance target for the year 1 installment ("Installment 1") with the member of the Executive Board; provisional allocation of performance shares for Installment 1; calculation of the provisional number by dividing the initial value by a VWAP determined in year 1.

Years 1–4: Performance period for Installment 1.

Year 5: Measurement of target attainment, based on this determination of the number of final performance shares to be allocated for Installment 1, taking into account the allocation cap; multiplication of this final number by a VWAP determined in year 5. Payment of this amount to the member of the Executive Board, taking into account the payout cap.

In the event of termination of the Executive Board mandate, performance shares which have not yet been allocated finally, but only provisionally, shall not be prematurely finally allocated and paid out, but evaluated, allocated and then paid out in accordance with the regular procedure at the end of the respective performance period. Should JENOPTIK AG terminate the employment relationship for a good reason for which the member of the Executive Board is responsible, all provisionally allocated performance shares for which the performance period has not yet expired shall be forfeited without substitution or compensation.

Dr. Stefan Traeger and Hans-Dieter Schumacher are not entitled to payment of bridging payments following their departures. Nor was any right of termination agreed with them in the event of a change of control.

T06 Performance targets and their weighting for the 2018 installment:

Targets	100 % target attainment	50 % target attainment	150 % target attainment	Weighting
Return on Capital Employed – ROCE	16 % average over the performance period	11 % average over the performance period	21 % average over the performance period	30 %
Relative total shareholder return – TSR	Outperformance of the Jenoptik share against the TecDax 5 %	Underperformance of the Jenoptik share against the TecDax in the amount of 20 %	Outperformance of the Jenoptik share against the TecDax 30 %	70 %

T07 Remuneration of the Executive Board – Benefits granted

	Dr. Stefan Traeger President & CEO since 01/05/2017				
	2017	2018			
in euros		Actual	Minimum	100 %	Maximum
Fixed remuneration	400,000	600,000	600,000	600,000	600,000
Fringe benefits	9,784	14,956	14,956	14,956	14,956
Total	**409,784**	**614,956**	**614,956**	**614,956**	**614,956**
One-year variable remuneration	200,000	521,664	0	300,000	600,000
Multi-year variable remuneration*	266,667	324,274	0	400,000	800,000
Thereof LTI 2018/performance shares (term until 2023)*	0	324,274	0	400,000	800,000
LTI 2017/performance shares (term until 2022)*	266,667	0	0	0	0
For LTI dividends on LTI tranches outstanding	n. a.	n. a.	n. a.	n. a.	n. a.
Total	**876,451**	**1,460,894**	**614,956**	**1,314,956**	**2,014,956**
Pension contribution	116,667	200,000	200,000	200,000	200,000
Total remuneration	**1,009,784**	**1,660,894**	**814,956**	**1,514,956**	**2,214,956**

*for LTI plus performance of the newly granted LTI compared with the share price on which allocation was based

Total Remuneration for the Individual Members of the Executive Board

The tables T07 and T08 contain the remuneration components granted to the members of the Executive Board, Dr. Stefan Traeger and Hans-Dieter Schumacher, in the past fiscal year. The summaries differentiate between five components – fixed remuneration, fringe benefits, performance-related variable remuneration with one-year (bonus) and multi-year calculation base (performance shares) and pension contributions.

Based on the degree to which the target values for the bonus have been achieved (see table T05) and adopting the multiplier of 1.1 recommended by the Personnel Committee, the variable remuneration for the 2018 fiscal year for Dr. Stefan Traeger will be 521.66 thousand euros in cash and for Hans-Dieter Schumacher 347.78 thousand euros in cash, subject to the consent of the Supervisory Board. For the 2018 installment, Dr. Stefan Traeger and Hans-Dieter Schumacher were provisionally allocated 14,202 and 10,652 performance shares respectively. Whether and to what extent the provisionally allocated performance shares can be finally allocated and paid out in cash will be decided at the beginning of 2023, depending on the achievement of the multi-year targets agreed in 2019 (see chart G07).

Further details on the share-based remuneration in the form of performance shares/virtual shares can be found in section 5.21 in the Notes from page 184 on. We consider this to also be an integral part of this Remuneration Report.

T07 Remuneration of the Executive Board – Benefits granted

	Hans-Dieter Schumacher Member of the Executive Board				
	2017	2018			
in euros		Actual	Minimum	100 %	Maximum
Fixed remuneration	400,000	437,500	437,500	437,500	437,500
Fringe benefits	13,831	18,337	18,337	18,337	18,337
Total	413,831	455,837	455,837	455,837	455,837
One-year variable remuneration	235,330	347,776	0	200,000	400,000
Multi-year variable remuneration*	245,278	257,868	14,651	314,651	614,651
Thereof LTI 2018/performance shares (term until 2023)*	0	243,217	0	300,000	600,000
LTI 2017/performance shares (term until 2022)*	235,330	0	0	0	0
For LTI dividends on LTI tranches outstanding	9,948	14,651	14,651	14,651	14,651
Total	894,440	1,061,481	470,488	970,488	1,470,488
Pension contribution	160,000	160,000	160,000	160,000	160,000
Total remuneration	1,054,440	1,221,481	630,488	1,130,488	1,630,488

*for LTI plus performance of the newly granted LTI compared with the share price on which allocation was based

T08 Remuneration of the Executive Board – Inflow

	Dr. Stefan Traeger President & CEO since 01/05/2017		Hans-Dieter Schumacher Member of the Executive Board	
in euros	2017	2018	2017	2018
Fixed remuneration	400,000	600,000	400,000	437,500
Fringe benefits	9,784	14,956	13,831	18,337
Total	409,784	614,956	413,831	455,837
One-year variable remuneration	0	200,000	256,018	235,330
Multi-year variable remuneration	0	0	0	0
Thereof LTI 2017 (term until 2022)	0	0	0	0
Thereof LTI 2016 (term until 2021)	0	0	0	0
Thereof LTI 2015 (term until 2020)	0	0	0	0
Thereof LTI 2014 (term until 2019)	0	0	0	0
Thereof LTI 2013 (term until 2018)	0	0	0	0
Thereof LTI 2012 (term until 2017)	0	0	0	0
Total	409,784	814,956	669,849	691,167
Pension contribution	133,333	200,000	160,000	160,000
Total remuneration	543,117	1,014,956	829,849	851,167

Remuneration System for the Supervisory Board

Each member of the Supervisory Board receives a fixed annual remuneration of 40 thousand euros for their services. The Chairman of the Supervisory Board receives double and his deputy one-and-a-half times this amount.

In addition, each member of a committee receives an annual remuneration in the sum of 5 thousand euros per year. The Chairman of the committee receives double this amount. The annual remuneration for members of the Audit Committee, whose duties are particularly labor- and time-intensive, is 10 thousand euros. The Chairman of the Audit Committee receives double and their deputy one-and-a-half times this amount. Members of committees which have not met during the fiscal year receive no remuneration. Members of the Supervisory Board who have only served on the Supervisory Board or a committee for part of the fiscal year receive a pro rata temporis payment. All the aforementioned remuneration is payable on expiry of the fiscal year.

For information on the total remuneration for individual members of the Supervisory Board see the Group Notes on page 204.

The members of the Supervisory Board are paid a meeting allowance of 1 thousand euros for attending a meeting. Half of this amount is paid for participation in conference calls. The same applies from the second meeting on any day on which several meetings are convened. Verified expenses incurred in connection with a meeting are reimbursed in addition to the meeting allowance, but limited to an amount of 1 thousand euros for meetings held in Germany. JENOPTIK AG also reimburses the members of the Supervisory Board for any value added tax applicable to the payment of their expenses.

The members of the Supervisory Board are covered by third-party financial loss-liability insurance. This comprises the contractual obligation to pay a deductible amounting to 10 percent of the loss per claim, however up to a maximum sum of 150 percent of the fixed remuneration per year of the Executive Board member in question.

In the 2018 fiscal year, a sum of 657.3 thousand euros (net) was established as a provision for the fixed remuneration of the Supervisory Board and its committees to be paid in January 2019 and 5 thousand euros (net) for outstanding meeting allowances and expenses in 2018. Jenoptik did not pay any other remuneration or benefits to the members of the Supervisory Board for services rendered personally by them, in particular consulting and intermediary services.

Combined Non-financial Report

» In short «

In the past fiscal year
Jenoptik invested

2.5 million euros

in the training and HR development
of its employees.

The Combined Non-financial Report fulfils the requirements
of the CSR Directive Implementation Act.

Separate Combined Non-financial Report in Accordance with the CSR Directive Implementation Act

Position and Business Model

For more information on the business model and markets see page 72.

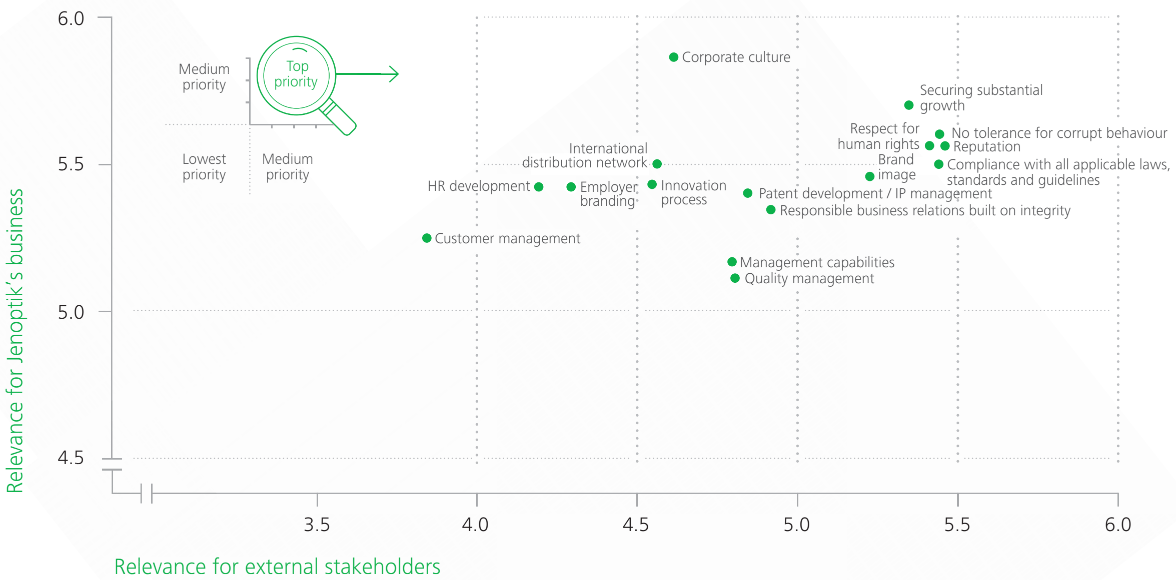
Jenoptik sees its entrepreneurial activity as more than purely the realization of commercial objectives; it is also something that brings with it an obligation to society and the environment. Together with our customers, we create forward-looking trends in the fields of energy efficiency, healthcare, the environment, mobility, and safety. As an international technology company, innovation is our driving force and the basis of our success in business. Our innovative products allow us to make significant contributions to overcoming the societal challenges we face as well as to the conservation and efficient use of resources.

In 2018, the Jenoptik Group operated in the three segments Optics & Life Science, Mobility as well as Defense & Civil Systems, and the majority of its products and services was provided for the photonics market. With our high-quality capital goods – from standard components to modules to complex solutions – we are primarily partners to industrial companies and public-sector clients. Since the beginning of 2019 Jenoptik has reported in its new organizational structure with the four divisions Light & Optics, Light & Production, Light & Safety as well as VINCORION.

Our Take on Sustainability

Our understanding of sustainability is based on the conviction that the best way to achieve our economic goals and lastingly profitable growth is to adopt a position of responsibility to the environment and society. To meet this requirement, the issue of sustainability (ESG – environment, social, governance) as well as CSR – social responsibility at Jenoptik is the responsibility of the President & CEO. A Sustainability Working Group, consisting of the heads of the Finance, Investor Relations, Communication & Marketing, HR, Environmental Management and Compliance & Risk Management departments, regularly reports to the Executive Board and the Supervisory Board on relevant issues.

G08 Materiality matrix



In this report, we provide information on sustainability issues that are important for better understanding the course of business as well as the future development of the company.

The Separate Combined Non-financial Report published here serves the purpose of fulfilling the requirements of the CSR Directive Implementation Act (CSR-RLUG) in accordance with § 315b, 315c in conjunction with 289b to 289e of the German Commercial Code (HGB). The report covers the key topics issues in the areas of employees, the environment, social commitment, human rights and anti-corruption for both our external target groups and the company in the 2018 fiscal year. The description of the approaches set out here is guided by Standard 103 of the Global Reporting Initiative (GRI). This means that Jenoptik describes components such as goals, existing guidelines, responsibilities, but also specific measures such as projects, programs and initiatives. The GRI standard was used as a guide to determine key figures but not for further detailing. This applies to information on the number of employees, employees on parental leave or the fluctuation rate. The materiality analysis and risk assessment were prepared in accordance with the requirements of CSR-RL-UG. In accordance with § 315b (1) (3) of the German Commercial Code, reference is occasionally made to other information available in the Group Management Report. The list below shows all the relevant passages in the Management Report that are relevant to the Separate Combined Non-financial Report.

- Business model page 72
- Strategy from page 75 on
- R+D/Innovation management from page 81 on
- Risk & opportunities from page 113 on
- Diversity policy see Corporate Governance Statement, www.jenoptik.com/investors/corporate governance

Materiality Analysis

Jenoptik maintains ongoing dialog with all of its stakeholders. As part of an analysis carried out in 2017, an independent assessment was made of all non-financial aspects for Jenoptik which are essential for sustainable business development both from Jenoptik's perspective and from the perspective of the respective external target groups (customers, business partners, employees, shareholders, suppliers and the general public). In doing so, we made assumptions about the significance and impact on the sustainability aspects mentioned on behalf of our external target groups. The results of the overall assessment are summarized in a materiality matrix and are also valid without restriction for 2018. Topics in the upper right quadrant are of major significance to the Group's business development from the perspective of both Jenoptik and its stakeholders. G08 T09

The following overview reveals where Jenoptik sees its priorities in the value chain.

Our new Strategy 2022 also goes hand in hand with a change in corporate culture towards a more open, agile and less complex company whose employees are expected to contribute to its success with commitment and motivation. In addition, we must compete for the best workers and create a trustworthy and attractive working environment in which the best performance is possible. For this reason, our corporate culture, the development of our employees as well as our brand and reputation were given top priority in the prior fiscal year. These topics as well as the non-financial targets defined for them in the Sustainability Working Group together with Human Resources (HR) and Jenoptik management are described in detail on the following

T09 Jenoptik's key topics

Employee Matters	Environmental Matters	Social Commitment	Human Rights	Anti-Corruption	Other Topics
Corporate culture	Environmental management	Commitment to science & education, art & culture as well as in social projects	Respect for human rights	No tolerance for corrupt behaviour	Brand & reputation
HR development	Waste management			Responsible business relations built on integrity	Quality management
	Processes to ensure compliance with regulations			Compliance with all applicable laws, standards and guidelines	Innovation & patent development
	Resource management				Corporate strategy

● Jenoptik's key topics ● Topics reported on a voluntary basis pages. In addition, we report on environmental matters and our corporate citizenship on a voluntary basis. Jenoptik pays particular attention also to topics such as innovation, quality management and compliance.

- Greater investment in research and development as well as the promotion of good framework conditions for more innovations ensure e. g. substantial growth and play a decisive role in our future performance. Innovation and IP management are thus indispensable to a technology company such as Jenoptik.
- Our future success also depends crucially on a deep understanding of customer and market requirements as well as a functioning sales network.
- We are equally as committed to law-abiding and compliant conduct with respect for human rights as we are to ensuring the above-average quality of our products and services.
- As a responsible and socially committed company, Jenoptik considers it its duty to play an active role in shaping its environment. Regional commitment is therefore another high priority.
- Our obligations to the environment are also close to our hearts, and environmental issues are of key concern to us in all our business decisions.

See R + D chapter from page 81 on.

For further information see the chapter Targets and Strategies from page 75 on.

All key topics are reflected in our new corporate strategy and act as value drivers in our various areas of business.

Our materiality matrix thus sets out the basis of all our long-term activities. These key topics are explained in detail in the sections below.

For detailed information on our risk management system and major risks, including in connection with non-financial factors, see the Risk and Opportunity Report from page 113 on.

For further information on the corporate strategy see the chapter Targets and Strategies and the Corporate Governance Statement.

Risks in Connection with Non-financial Aspects

Acting in conformity with rules and considering business risks and rewards – for Jenoptik, these are the principles of responsible corporate governance. The Group maintains a risk manual and a system of guidelines that document all relevant processes throughout the Group and represent a reliable reference framework for all employees. Twice a year, Compliance & Risk Management identifies all risks within the Group and discusses the top issues – set in net terms – with the Executive Board. Our risk assessment system takes account of both financial and all relevant non-financial factors, such as health and safety, environmental protection, compliance, marketing and sales, HR and quality management. The net analysis did not identify any risks that are very likely, now or in the future, to have a serious negative impact on the specified key non-financial factors.

Employee Matters

Our employees, with their experience and abilities, are our greatest asset and absolutely essential to the Jenoptik Group's business success. Structured HR work and a responsible approach to working conditions are some of our major tasks, as consistently excellent business performance is only possible with dedicated employees.

HR work at Jenoptik covers all employee-related operating and strategic measures to realize the Group's objectives and is thus an essential component of the overall leadership and management process. HR positions internally as a globally active Business Partner that supports the operating and strategic business in all Jenoptik units. In doing this, HR fulfills three different requirements. It delivers a local service for all employees and managers, supports division-specific projects and offers expert knowledge in the areas of recruiting, employer branding, HR development, labor law and remuneration. HR reports directly to the President & CEO, who is also HR Director, via the function Head of Global HR.

The first point of contact for all HR-related issues in day-to-day business concerning the Group's employees and managers are the HR Service Partners. Each division has a permanent HR Business Partner who is part of the management team. Working with the division management, the HR Business Partners develop and implement HR strategic topics. Group-wide guidelines govern all relevant processes, workflows, and rights of employees internally and to outside parties.

Alongside an appealing corporate culture, we see our employees' efforts, expertise, experience, and commitment to the company as key values. This was also confirmed by the results of the materiality analysis, which in Human Resources in particular point to topics such as corporate culture, HR development and employee satisfaction. Jenoptik will dedicate even more attention to these points in the future. In the past fiscal year, the Sustainability Working Group therefore defined non-financial targets for 2019 and subsequent years together with HR and Jenoptik management as part of the corporate strategy.

Based on the defined targets, our activities will focus on the topic of "Employee Matters" in 2019. For monitoring purposes, an internal reporting system has been developed for special non-financial performance indicators (KPIs); it provides the Executive Board with regular reports. In order to achieve the defined goals Jenoptik is working on specific measures which are described in the following sections. T10

Detailed information on gender equality and targets for the proportion of women on the Executive Board and the two management levels below the Executive Board can be found in the Corporate Governance Report and in the Corporate Governance Statement.

An attractive corporate culture provides guidance to not only for employees, but also to customers, suppliers, and potential applicants. With the implementation of the Group strategy published in February 2018, the focus is also on establishing a dialog-based corporate culture characterized by initiative, respect for diversity and equal opportunities. An intensive exchange with employees, customers and management representatives in the form of surveys, workshops and interviews formed the basis for the three newly defined Jenoptik values – open, driving, confident. We believe that committed and curious people always perform outstandingly. We value new ideas and develop them further in an open dialog. In order to achieve our targets, we encourage employees who drive things forward and who have the will to succeed. We have the courage, the conviction and the expertise to seize opportunities that present themselves and to be a leader in the field of photonics. At the beginning of 2019 we introduced the Jenoptik values company-wide with an information and workshop program.

In the future, Jenoptik's leadership culture will become even more modern and flexible. Key to this will be the promotion of respectful behavior in the workplace, balancing of career and family, flexible working hours, and a healthy work environment.

T10 Non-financial objectives and performance indicators:

Aspect	Objectives	Performance indicators	Target
Corporate culture	• We want to increase the satisfaction and commitment of the employees	• Fluctuation • Sick leave • Engagement Score • Net Promoter Score	< 5 percent < 5 percent > 68 percent > 67 percent
Recruiting	• We want to fill more internal vacancies with skilled workers who have received training from Jenoptik.	• Training ratio Germany • Number of trainees taken on	> 4 percent 100 percent
Brand & Reputation	• We want to increase the attractiveness of Jenoptik as an employer	• Fluctuation • Engagement Score	< 5 percent >68 percent

We measure the satisfaction and commitment of our employees through an annual employee survey. This has been conducted globally since 2018 in order to obtain a holistic picture. In the survey, employees evaluate the various facets of their work as well as the corporate and leadership culture. Also surveyed are the commitment of our employees (so-called Engagement Score) and the recommendation rate (so-called Net Promoter Score).

The results of the employee survey were communicated by our managers to their teams, who developed team-specific measures in a joint workshop. All measures are regularly presented to the EMC (Executive Management Committee). We have planned that all managers will start to implement the measures from their action plans in the first quarter of 2019. Our next employee survey is scheduled for May 2019, we will then analyze the effectiveness of the measures implemented. In the most recent employee survey, the top 3 topics rated as particularly important by all participants worldwide were as follows

- Career advancement and development opportunities,
- Support from their supervisors in identifying their areas of development, and
- Transparent communication between Jenoptik and its employees.

A total of 67 percent of our employees took part in the 2018 survey. The commitment of our employees, the so-called "Engagement Score" is 68 percent, i.e. 68 percent of our employees identify positively with their duties at Jenoptik and are actively involved. With a "Net Promoter Score" of 67 percent, two thirds percent of our employees would recommend Jenoptik as a good employer. This puts Jenoptik two percentage points above the benchmark of 65 percent determined by our service provider Qualtrics.

A survey of our trainees and new employees regarding the onboarding process at Jenoptik will be conducted for the first time in 2019. The aim is to further improve the quality of our training and the onboarding process.

Jenoptik is family-friendly and responds to the needs of its employees with flexible working hour models. Flexitime, part-time work, and flexible parental leave all make it easier for our employees to strike their own balance between family and working life. In 2018, 157 employees made use of parental leave (prior year: 156 employees). The number of part-time contracts fell to 6.7 percent in 2018 (prior year: 7.4 percent). One of the most important preconditions for balancing career and family is the availability of childcare. For several years, Jenoptik has been investing in daycare centers at the Jena, Wedel, and Monheim locations, as well as in flexible childcare models. This means that our employees are assured a specified number of places at the daycare centers. That our employees regard Jenoptik as an attractive employer, is reflected, among other things, in the staff fluctuation rate of 4.5 percent, which was determined on a group-wide level for the first time in 2018. In Germany, the fluctuation rate was 3.7 percent in the past fiscal year (prior year: 3.0 percent).

HR development is a key factor that determines the future viability of the company and the commitment of our employees. To help promote them in line with their potential and interests, the development needs are assessed in regular staff appraisals and implemented through appropriate training. Regular appraisals will be held at all locations in 2019. For the 2018 fiscal year, the reporting structure was changed and the costs for training and HR development were combined. The total amount is therefore correspondingly higher, since it includes both the costs for trainees and students at the Cooperative State Universities and the costs for further training for our employees. In 2018, Jenoptik invested around 2.5 million euros (prior year: 2.0 million euros) in the professional development of its employees. In the year covered by the report, 1,866 employees benefited from this as part of further training measures (prior year: 1,755 employees). In the future, learning at Jenoptik will be structured according to the 70:20:10 principle: as employees and their supervisors are the experts for their own further development, 70 percent of learning takes place in the workplace and 20 percent through learning from others. Classroom or online training makes up only 10 percent.

In the future, we will also follow this learning principle in the development of our managers: the existing Jenoptik Junior Leadership Program (J2LP) will be replaced by several target group-specific programs. Our managers continue to be key drivers of the leadership culture at Jenoptik and thus of our corporate success. They are responsible for motivating the employees and have a direct influence on their satisfaction. These new programs are aimed at potential employees as well as new and experienced managers, thus ensuring a uniform leadership culture and cross-division networking among the participants.

HR recruitment. Jenoptik's HR requirements are guided by the Group's international growth strategy, resulting in a greater need for recruitment in Asia and the US. However, experts and managers are also being sought in Germany. The audiences addressed by recruitment and thus also HR marketing are primarily specialists and skilled workers in the natural and engineering sciences
as well as experts with business management and legal backgrounds.

In order to fill more vacant positions with internal specialists trained at Jenoptik, the training ratio was increased, taking into account the retirement of employees in the context of succession planning. This means that significantly more trainees can be hired from 2019 onwards. In 2018, 38 young people began their training at Jenoptik, in total, 108 trainees were employed at Jenoptik. In 2019, the number of trainees is to be increased to a total of 137. Thus, 29 additional training positions are created. The trainee retention rate in 2018 was 90 percent. The trainees were taken on for an unlimited period by the company.

Specific support for school students, university students and graduates forms part of the Group's expertise strategy, ensuring early loyalty to the company and thus simplifying the recruitment process. A selection of targeted initiatives and cooperation arrangements is shown below. T11

Increasing attractiveness as an employer is the focus of employer branding at Jenoptik. Clear and distinctive positioning as an attractive employer should support recruitment and develop a positive and distinctive employer image as a future-oriented, innovative high-tech company in the photonics industry. The definition of the employer brand and the development of the employer value proposition were carried out in 2018 on the basis of the Jenoptik Strategy 2022 under the motto "More Light".

From 2019, Jenoptik will be using a uniform international applicant management system which replaces the previous country-specific systems.

Occupational health and safety are also key topics affecting the basic needs of our employees and their satisfaction in the workplace. They are firmly anchored in the Group's operating processes and aim to minimize risks arising in the work environment that may endanger employees. The Jenoptik companies are each responsible for applying the law on all aspects of occupational health and safety. The central Safety, Occupational and Environmental Protection (SEH) department reports directly to the

T11 Initiatives and coorperations (selection)

Jenoptik supports	• career guidance projects at schools, also offering their students the opportunity to complete an internship • young researchers in Thuringia as a longstanding state-level corporate sponsor of the "Jugend forscht" initiative • various industry organizations to promote professional development activities • students in the form of degree theses, internships, and scholarships
Jenoptik cooperates with	• selected universities around the world with regards to HR marketing and recruitment, for research purposes, and to foster the professional development of its employees • selected universities around the world via projects and sponsorship activities, and is active in a range of committees and networks in an advisory capacity

President & CEO and is available to advise all companies. It coordinates the relevant tasks and assists the Executive Board on enforcing necessary measures. There are health and safety committee meetings in all divisions each quarter. In addition, all employees are briefed on issues relating to health and safety at work at least once a year. At all of the German locations, around ten percent of the workforce are trained as first-aiders. In 2018, the number of reportable work and commute-related accidents came to 12.77 per 1,000 employees in Germany (prior year: 10.73 per 1,000 employees). Work accidents accounted for 7.45 and commute-related accidents for 5.32 of the total figure. Compared to the members of the ETEM trade association for the energy, textile, electronics and media product sectors, Jenoptik is thus significantly below the average figure of 22.5 in 2017. In the interests of our employees' health and performance, the Group offers regular medical examinations by a company physician, and in 2018 launched health days for employees at the Jena, Triptis and Berlin locations.

Environmental Matters

We see the efficient use of resources and energy at all our global locations as our corporate responsibility and here report voluntarily on key environmental matters in the Jenoptik Group. As many of our products contribute to the efficient and responsible use of resources, Jenoptik primarily makes an indirect contribution to conserving resources.

Environmental management is a key part of our business practices, but we also require our suppliers and contractual partners to comply with relevant laws to minimize environmental risks. As a manufacturing company, we set our focus on efficient resource management so as to reduce energy consumption and greenhouse gas emissions to the best of our ability, use commodities and materials in a safe and resource-saving manner and to largely avoid producing hazardous waste. Corresponding to their environmental relevance, selected Jenoptik companies are certified in accordance with the ISO 14001 environmental management system.

Environmental management lies within the remit of the Safety, Occupational and Environmental Protection department. The Jenoptik companies are each responsible for applying the law on all aspects of environmental protection. The central environmental protection officer is available to provide assistance where required and, as just one example, reviews all group investment projects with regard to their environmental relevance. The managers responsible for environmental issues at the German locations meet twice a year to share their experiences and ensure a standard approach to implementing environmental law requirements and processes. Waste officers take care of all matters relating to the production, recycling, and disposal of hazardous and non-hazardous waste.

Jenoptik continues to implement and in part exceed statutory requirements relating to nature conservation and environmental protection for new buildings, extensions and the modernization of production facilities. State-of-the-art technologies for saving resources and protecting the environment are applied when fitting out production facilities. The minimum standards for environmental protection introduced at Jenoptik were also fully implemented at the new building for the Light & Production division in France. For example, the new building was equipped with modern insulation, sensor-controlled LED lighting and energy-saving heating and air conditioning technology in 2018.

T12 CO_2 emission of major production sites (in tons)

	2017	2016
Germany	8,979	9,038
Europe	148	n.a.
Americas	4,151	n.a.
Asia / Pacific	192	n.a.
CO_2 emission (total)	**13,471**	**9,038**

As a technology company, Jenoptik generates only small amounts of emissions within its plants (scope1); the majority of its pollutant emissions are attributable to externally sourced energy (district heating or electricity). In order to meet our goal of recording energy consumption at all of the Group's main production sites, the major American production facilities in Rochester Hills, Jupiter and Huntsville as well as the Chinese production facility in Shanghai were included in our reports for the first time in 2017. In Europe, our production facilities in France and Great Britain were added. This will in future provide comparison values that allow for an assessment of the energy consumption levels as a ratio of revenue and consequently in relation to changing levels of energy efficiency in production. The media consumption (electricity, district heating, gas, heating oil, wood pellets) of all major Jenoptik sites was used to calculate the CO_2 emission. In 2017, CO_2 emissions amounted to 13,471 tons. T12 T13

In the course of our business also hazardous waste is produced, e. g. electronic waste, adhesive residues or solvents. In Germany, waste types are systematically recorded, categorized and their quantities calculated in all segments. The volume of hazardous waste disposed of in waste treatment / disposal plants in the 2018 reporting year fell marginally to 162 tons (prior year: 175 tons). In contrast, the quantity of non-hazardous waste rose to 1,022 tons (prior year: 871 tons), mainly caused by waste fractions such as paper, cardboard packaging materials as well as mixed packaging. In general, Jenoptik aims to recycle waste through certified waste management facilities. Through continuous waste separation and training of the employees on waste prevention, the amount of residual waste was further reduced. For example, by expanding the recycling of plastic materials in the recycling process, it is possible to conserve resources, avoid waste disposal costs and generate revenues at the Triptis site.

As a high-tech company, Jenoptik is dependent on a wide range of raw materials. In the face of an increasing scarcity of resources, Jenoptik is committed to making sparing use of the materials it requires. We comply with applicable regulations, for example the requirements of the European chemicals regulation REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) and the European RoHS directive (Restriction of certain Hazardous Substances), and are fully involved in associated committees. As Jenoptik does not require large quantities of water for its production processes, we do not see ourselves encountering any key risks in this area. In view of its business purpose, conservation regulations are also of only very minor significance to the Group. The objective of our purchasing processes is to meet all regulations relating to conflict minerals in compliance with the Dodd-Frank Act.

T13 Energy consumption by energy source in 2017 (in MWh)

	Electricity	Gas	Wood pellets	District heating	Heating oil	Energy consumption
Germany	34,546	16,027	1,080	9,223	637	61,513
Europe	645	57	0	0	281	983
Americas	5,686	2,129	0	0	0	7,814
Asia / Pacific	283	0	0	0	0	283
Total	**41,160**	**18,212**	**1,080**	**9,223**	**917**	**70,593**

Resource Management

Many of Jenoptik's innovative products and services make a contribution to the efficient and responsible use of resources. As a technology company, we are mostly involved in the areas where our customers' production processes and products can be made more efficient. The table below provides an overview of the contribution of selected Jenoptik products to resource conservation. T14

T14 Contribution of our products to resource conservation

Product	Contribution to resource conservation
Jenoptik diode lasers and laser machines for a wide range of applications, e.g. in medical technology or the automotive industry	• The most efficient light sources available with an efficiency of up to 70 percent • Resource-friendly alternative to traditional machining processes, especially when machining high-strength steel with a low weight
"JENOPTIK RayLance" – powerful and energy-efficient LED lighting system	• Approx. 40 percent higher light yield than prior generation while maintaining high energy efficiency • Wide-ranging use, particularly in industrial spaces such as warehouses, logistics buildings, and production facilities
Optical systems and components for information and data transmission as well as medical diagnostic procedures	• Ongoing development toward ever-smaller crystalline structures in semiconductor production opens up a growing number of new uses • Time-saving processes and more cost-effective production save resources
Metrology – systems and equipment to check shape and roughness, particularly in the automotive industry	• The results are more precise surfaces and tighter tolerances in engine components (downsizing) and thus entire vehicles that require less fuel and produce fewer emissions • More complex transmissions for electromobility demand the increasing use of metrology
Hybrid power generation systems to enable an efficient power supply to the Patriot missile defense system	• Use of battery technology reduces fuel consumption • Longer life cycles for customers, less service expenditure and thus product sustainability
Traffic monitoring systems check compliance with road traffic regulations **Toll monitoring systems** on federal highways	• Contribution to increasing road safety and reducing accidents • Reduction in pollutant and noise emissions • Installation at the side of the road limits interference in the environment (no installation of monitoring gantries)

Social Commitment/Corporate Citizenship

Supporting young people in their education and scientific activities, as well as in social projects – this is at the heart Jenoptik's corporate citizenship. The Group supports a whole range of non-profit projects, organizations and initiatives and is actively involved in the following three areas, primarily in Germany but increasingly also abroad:

- A commitment to the younger generation with projects in science, education, and in the social arena.
- Art and culture projects to lend an attractive design to our company locations and create good conditions for our employees' work/life balance.
- A commitment to integration and internationality to strengthen the foundations of business and society in the future.

As a responsible and socially committed company, Jenoptik considers it its duty to play an active role in shaping its business environment. As part of this process, our main concern is to achieve close, long-term partnerships, by providing not just financial but also ideal assistance. With our commitment to society, we want to strengthen the confidence placed in Jenoptik and boost our employees' sense of identification with the company. We also expect it to leave a positive mark on our brand image, reputation and our attractiveness as an employer. T15

Corporate Citizenship is the responsibility of Marketing & Communication. Group-wide guidelines govern the principles of a structured and standardized approach to defining "Jenoptik as a Corporate Citizen" and ensure a uniform method of handling donations and sponsorship queries, as well as carrying out sponsorship projects.

T15 Social commitment - examplary projects

Social	Jenoptik supports	• Easter charity concert by the International Young Orchestra Academy on behalf of the Elterninitiative für krebskranke Kinder Jena e. V. • Habitat for Humanity and Friends of Foster Children, Jupiter, Florida • Fundraising campaign on the occasion of the New Year's Eve reception on behalf of "KLEX Children and Youth Center", Jena • Summer camps for children of Jenoptik employees and children of recognized refugee families • Christmas campaigns on behalf of sick and needy children at the Jenoptik locations Jena, Jupiter and Toronto
Sience & Education	Jenoptik is a partner for...	• The Thuringian young researchers competition "Jugend forscht" (since 1991) • Photonics Award • Competition "Schüler experimentieren" (since 2012) • Workshop series "BEGEGNUNGEN Kultur Technik Wirtschaft" for students of the Ernst Abbe University of Applied Sciences Jena • MINT-Festival Jena • Lothar Späth Award for Outstanding Innovations in Science and Business • Authentic Career Experience in Rochester Hills, Michigan
Art & Culture	Jenoptik promotes young artists through its own series of "tangente" art exhibitions (since 1994):	• tangente: Werner Klotz "Colore Mobile Immensum" • tangente: Thomas H. Saunders "Art of Microscopy" • Oster & Koezle art exhibition as part of the 100th anniversary of Bauhaus 2019
	Jenoptik supports cultural projects with partners:	• Open-air Cultural Festival "Kulturarena" organized by the city of Jena • Summer theater spectacular by Theaterhaus Jena • Summer concert series at the Thalbürgel monastery church

Our dedication to our region is of particular relevance. Since 1996, the Group has acted as the patron of the Elterninitiative für krebskranke Kinder Jena e. V. (Parents' Initiative for Children with Cancer in Jena e. V.). Donations made both by Jenoptik and collected from partners, and the organization of various events, have helped to support children with cancer and their parents, for example, with the EkkStein clubhouse in Jena Lobeda, which was opened in 2018 and takes affected families from everyday hospital life into a whole other world. Particularly worthy of note is the Easter Charity Concert given by the International Youth Orchestra Academy, the proceeds of which are donated to the initiative. In the USA, employees at the Rochester Hills, Michigan site provide education and career guidance to young people from financially disadvantaged families. Jenoptik employees at the Jupiter, Florida site assist the "Habitat for Humanity" organization in championing affordable, decent housing, and help to build homes for families in need. Jenoptik in Jupiter has been working with Friends of Foster Children from Palm Beach County for the third time in a row, bringing holiday joy to two foster children. The employees fulfilled gift requests in the form of toys and cash donations to bring a smile to the children's faces during this time.

Since the company's earliest days, Jenoptik has been enriching life in Jena with art and cultural projects. The in-house "tangente" series of art exhibitions is a key part of this endeavor. Together with numerous partners, the Group is also active as a member of "Familienfreundliches Jena e. V." (Family-Friendly Jena) support group for projects conducted by the "Jenaer Bündnis für Familie" (Jena Family Alliance) to improve general underlying conditions, the work / life balance and equal opportunities in education. Jenoptik supports various models of family-friendly childcare, the "Saaleknirpse" in Jena, the "Wasserstrolche" in Wedel, and the "Talentschuppen" in Monheim. The highlight once again was the summer camp jointly organized for children of Jenoptik employees and children of recognized refugee families.

Human Rights and Anti-Corruption

In a globalized market environment, Jenoptik is fully committed to responsible corporate governance and law-abiding, compliant conduct. We make our business decisions with this in mind and always work to ensure that our actions are in accordance with regulations, laws and our values. The Compliance & Risk Management department therefore lies within the remit of the President & CEO and reports directly and regularly to him. The Chief Compliance & Risk Officer is in close contact with all employees throughout the organization. He organizes and manages the Group's risk and opportunity management system in close cooperation with the central departments and the divisions' risk officers.

Respect for human rights is a high priority for Jenoptik, especially in the supply chain. Jenoptik is committed to internationally recognized standards of human rights and does not tolerate any form of slavery, forced labor, child labor, human trafficking or exploitation in its own business operations or those of its supply chain. We expect our suppliers to comply with and respect internationally recognized human rights standards, e. g. the Slavery and Human Trafficking Statement. All our suppliers are contractually bound to adhere to the standards of the "Code of Conduct for Suppliers to the Jenoptik Group", and similarly to require their own suppliers to adhere to them. The compliance-relevant processes are continuously revised in order to identify violations and high-risk business partners in good time. In a two-step process, a supplier compliance declaration and an additional code of conduct for distributors first oblige all our business partners to adhere to the law. In the second step, a centralized high-risk business partner screening process is used to ensure that Jenoptik cooperates only with those business partners that meet all of its compliance requirements.

Anti-corruption: Jenoptik fights all forms of active and passive corruption and expects all its business partners to do the same. We also see it as our responsibility to ensure that our customers and suppliers act in compliance with the law. For detailed information on Jenoptik's compliance management system, the company guidelines and codes of conduct for employees, suppliers and sales partners, our online training, and our whistleblower system, we refer you to the Corporate Governance Report from page 38 on and the Risk and Opportunity Report from page 113 onward.

Quality Management and Brand Image

Quality management

The key to Jenoptik's success as a technology company primarily lies in the quality of its products and solutions. Longstanding collaborations with key customers, sometimes in the form of development partnerships, and the confidence placed in us by our partners are proof that our products and solutions are of outstanding quality. As a quality leader, we are committed to ensuring that the quality of our products and services is above average in many of our product areas. Quality management at Jenoptik is managed locally in the business units and falls within the responsibility of the division managers. Each division applies individual quality indicators. The following overview summarizes key KPIs for quality management in the Jenoptik Group. T16

One measure to ensure and further improve our quality is our quality initiative, the impact of which can be felt in all areas of the business – from the development of new products to quality planning and assurance and all the way to the quality of the finished product. In 2018, topics such as international quality and occupational health and safety as well as environmental protection programs were developed on the basis of the Jenoptik and divisional strategies. Within the automotive sector, for example, the Jenoptik subsidiary Five Lakes Automation was integrated into the division's international QM system and a new quality reporting and rollout plan was developed for upcoming certifications. The initiative will continue to run in 2019, now with an increased focus on internal customer and supplier relationships, i. e. a better understanding of all parties relating to processes.

In addition to certifications, further issues in quality management at Jenoptik include standardization, process controls, tests and continuous dialog with customers, e. g. analyses of customer satisfaction. Almost all the Group companies comply with the requirements of quality management standard ISO 9001; many of them also meet the requirements of the ISO 14001 environmental management system.

The table below shows a selection of Group certifications and actions undertaken in 2018. The Optical Systems division has again successfully passed the surveillance audit according to the international standards for quality and environmental management ISO 9001 and ISO 14001. The German sites in the Defense & Civil Systems division also received the re-certification

T16 KPIs for quality management

Criterion	Examples for KPIs
Quality from a customer perspective	• Customer satisfaction • Complaint cost ratio • Warranty costs
Quality as an internal business partner	• Internal audits • Measures in the continuous improvement process • Process and product quality - Good yield / quality grade - Rework costs - Reject costs
Quality from the supplier's perspective	• External supplier audits • Suitable suppliers • Supplier quality with delivery of defective parts

T17 Certification within the Group (selection)

Certification	Description	2018 actions
ISO 9001	Certification of quality management processes	• Recertification in the Optics & Life Science segment (JENOPTIK Optical Systems Inc.) as well as in the segment of Defense & Civil Systems (JENOPTIK Power Systems GmbH) • Surveillance audit in the Mobility as well as Defense & Civil Systems segments (JENOPTIK Advanced Systems GmbH) (JENOPTIK Automatisierungstechnik GmbH) (JENOPTIK Industrial Metrology GmbH at all European locations and in the US) • Certification of JENOPTIK Shanghai PIE Co. Ltd.
ISO 50001	Certification of the energy management system	Certification of Photonic Sence GmbH due to energy-intensive machining processes
EN 9100	Certification of quality management processes specific to the aerospace and defense industries	Surveillance audit in the Defense & Civil Systems segment (JENOPTIK Advanced Systems GmbH at the Wedel and Essen locations)
ISO 13485	Certification of comprehensive quality management systems for the design and manufacture of medical products	Re-certification in the Optics & Life Science segment (JENOPTIK Optical Systems GmbH) (JENOPTIK Polymer Systems GmbH)
ISO 14001	Certification of the environmental management system	Renewal of certification in the Optics & Life Science segment (JENOPTIK Polymer Systems GmbH) and in the Defense & Civil Systems segment (JENOPTIK Advanced Systems GmbH)
ISO/TS 16949	Certification for the automotive industry	Re-certification in the Optics & Life Science segment (JENOPTIK Polymer Systems GmbH)
EG 748/2012	Certification as a manufacturer for the civil aviation industry	
EG 2042/2003	Certification as a maintenance company for the civil aviation industry	
IRIS	International Railway Industry Standard	Re-certification in the Defense & Civil Systems segment (JENOPTIK Power Systems GmbH)
ILO-OSH-2001/ OHSAS 18001	Certification of occupational safety and health management	
AQAO 2110/2210	NATO quality assurance system	Renewal of certification in the Defense & Civil Systems segment (JENOPTIK Advanced Systems GmbH)

audits for the implementation of their quality and environmental management systems. Successfully audited were the implementation of the environmental management standard ISO 14001:2015 (in Wedel, Essen and Jena), compliance with the industry-specific standard EN 9100:2016 (in Wedel and Essen), compliance with the railway standard "International Railway Industry Standard" (IRIS Rules:2017, ISO/TS 22163:2017) and the general international standard for quality management ISO 9001:2015 in Altenstadt. The auditors certified a good system of integrated process analysis, a good risk/opportunity analysis and saw strengths in innovation management. In addition, they certified that the employees receive very high level of training. In June, the Automotive division's production area at the Shanghai site successfully passed an audit by Deutschen Gesellschaft zur Zertifizierung von Managementsystemen (DQS). For the first time, the plant was audited across the board with respect to the requirements of ISO 9001. Shop floor management in assembly received an especially good report. T17

Brand Image and Reputation

Jenoptik's brand image and reputation are of key importance in many respects – the trust placed in us by our stakeholders, our position in the competitive environment, our attractiveness as an employer, and our employees' sense of identification with the company. As an international photonics company, we work in many different markets and compete with numerous companies to be visible, understandable and attractive both to customers, as a supplier of high-quality capital goods, and to future employees. This is dependent on lasting and stable relationships with our customers and suppliers, shareholders and other stakeholders, which we consistently strengthen with transparent communication and trust. Internal and external communications are the task of the central Communication and Marketing department at Jenoptik, which reports directly to the President & CEO and ensures a consistent image for the overall Group and the Jenoptik brand. The aim is to ensure that the company's communications and public image are modern, distinct, ongoing and memorable, as well as aligned with the Executive Board's strategic targets. All topics relating to markets and products are managed locally by the division marketing managers in the operating areas. Group-wide guidelines, for example, govern the information channels for internal communications and central marketing. Communications to the capital market are the responsibility of Investor Relations, which also reports to the President & CEO and remains in close, regular contact with Corporate Communications.

Within the highly specialized photonics market, which is characterized by a multitude of smaller companies, the Jenoptik brand is perceived as synonymous with a major supplier – with an integrated brand image covering all products. We have been shaping the Jenoptik umbrella brand throughout the Group for over ten years. In February 2018 the Executive Board announced Jenoptik's Strategy 2022. The core of this strategy: Jenoptik is concentrating on what sets the company apart: Optics and photonics. A uniform corporate culture based on a common understanding, common values and a clearly positioned brand are indispensable for the implementation of the strategy. Answers to essential questions such as "What does Jenoptik stand for?", "Why do customers choose Jenoptik?" and "What does Jenoptik stand for in the market" were developed

For further information on strategy see the Strategy and Targets section from page 75 on.

in a comprehensive process in 2018. Employees, representatives of Jenoptik's management as well as customers and partners were intensively involved in the form of surveys, workshops and interviews. The first global online survey of all employees and a first global customer survey took place and more than 400 Jenoptik employees collaborated in workshops on the future of Jenoptik. As a result, the three Jenoptik values "open, driving and confident" and the positioning of the Jenoptik brand were defined. With a brand house and a new corporate design Jenoptik is positioning itself in the market and against the competition as a top photonics supplier from 2019. This was initially communicated to the employees by means of information events and workshops at various locations with the goal of actively working with the values and the brand in order to communicate the knowledge, acceptance and the new spirit throughout the company. Since February 2019, Jenoptik has been on the market with a new brand positioning and a new corporate design.

With the new strategy, the Group will concentrate on the core photonics areas of light and optics under the Jenoptik brand in the future. One of the priorities in the past fiscal year was the introduction of the independent VINCORION brand for the mechatronics business (previously part of the Defense & Civil Systems segment), which takes better account of specific market requirements.

The Jenoptik Group benefits from the reputation of our main location Jena, which is highly renowned by both scientists and customers as an "Optical Valley". Jenoptik is conscious of this reputation and is involved in various activities aimed at sustainably improving the location.

The audit report for the Separate Combined Non-financial Report can be found on page 216.

Combined Management Report

» in short «

In the fiscal year Jenoptik invested

42.5 million euros

in its future –
in particular in the expansion and modernization
of its locations around the world.

The Remuneration Report as well as the Information and Notes relating to Takeover Law
(see Corporate Governance Chapter)
are part of the Combined Management Report.

General Group Information

Group Structure

Legal and organizational structure

As the corporate center of the Group, JENOPTIK AG, based in Jena, performs top-level functions including strategic corporate development and innovation management as well as key tasks in controlling and finance, real estate, investor relations, mergers and acquisitions, human resources, accounting, legal, auditing, compliance & risk management, treasury, taxes, corporate communications, and corporate marketing. It further pools the central functions of IT, purchasing, safety, occupational health and safety, environmental protection, and real estate management.

For more information on the new Group structure see the "Strategy and targets" chapter from page 75 on

Jenoptik's operating business is geared toward growth markets and has been organized within three photonics divisions, Light & Optics (OEM business), Light & Production (industrial customer business), and Light & Safety (business with public sector clients), since January 1, 2019. These three divisions build on common core competencies in the field of photonics that cover a range of expertise relating to optics, sensors, imaging, robotics, data analysis, and human-machine interfaces. The activities of the former Defense & Civil Systems segment, which is based on mechatronic technologies, will be managed under a new, independent brand in the fourth-division, VINCORION. In future, these divisions will also corresponds to the segments in accordance with IFRS 8. G09

Within the streamlined group structure established in early 2019, Jenoptik has combined the former Optical Systems and Healthcare & Industry divisions, together with its photonics activities in the former Defense & Civil System division, in the new Light & Optics division. The Light & Production division corresponds to the former Automotive division, the Light & Safety division to the Traffic Solutions division. Structures are also to be simplified within the divisions and in the Corporate Center; among other things, two internal projects were launched for this purpose in 2018. The legal merger of the GmbHs in the Light & Optics division will take place step by step in 2019. The legal merger of JENOPTIK AG and JENOPTIK SSC GmbH is also planned for the current fiscal year.

In recent years, Jenoptik has continued to expand its international business and the structures associated with it. The US holding company at the Jupiter location in Florida is responsible for steering the overall strategy and coordinating financial activities for the American market. In June 2018, Jenoptik approved a new organizational structure for Asia, which helps to simplify complex corporate structures and more clearly define responsibilities. The administrative functions for Asia as a whole were relocated from Singapore, previously the region's Asia headquarters, to the Shanghai site last year. The operating business in Europe is coordinated at the main locations in Germany.

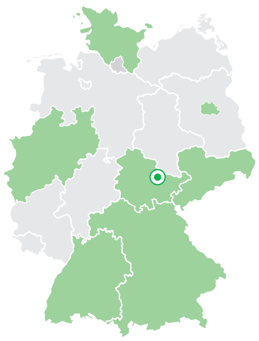
Key locations

Jenoptik is represented in over 80 countries worldwide, with a direct presence in 19 of them, e. g. through its own companies, investments, or affiliated firms. The majority of the Group's products are manufactured in Germany, followed by the US. The

G09 Structure of the Jenoptik Group

Photonics			Mechatronics
Light & Optics OEM business	Light & Production B2B business	Light & Safety B2G business	VINCORION
Optical products and key technologies for the markets of the digital world and healthcare	System solutions for more efficiency of products and production processes	Systems and services for safer roads and cities around the world	Mechatronic products and solutions for more security in the civil and military area

G10 Key locations of the Jenoptik Group



Germany

Altenstadt
Berlin
Dresden
Eisenach
Essen
Jena
Monheim am Rhein
Mühlhausen
Ratingen
Triptis
Villingen-Schwenningen
Wedel

Europe

France
Bayeux

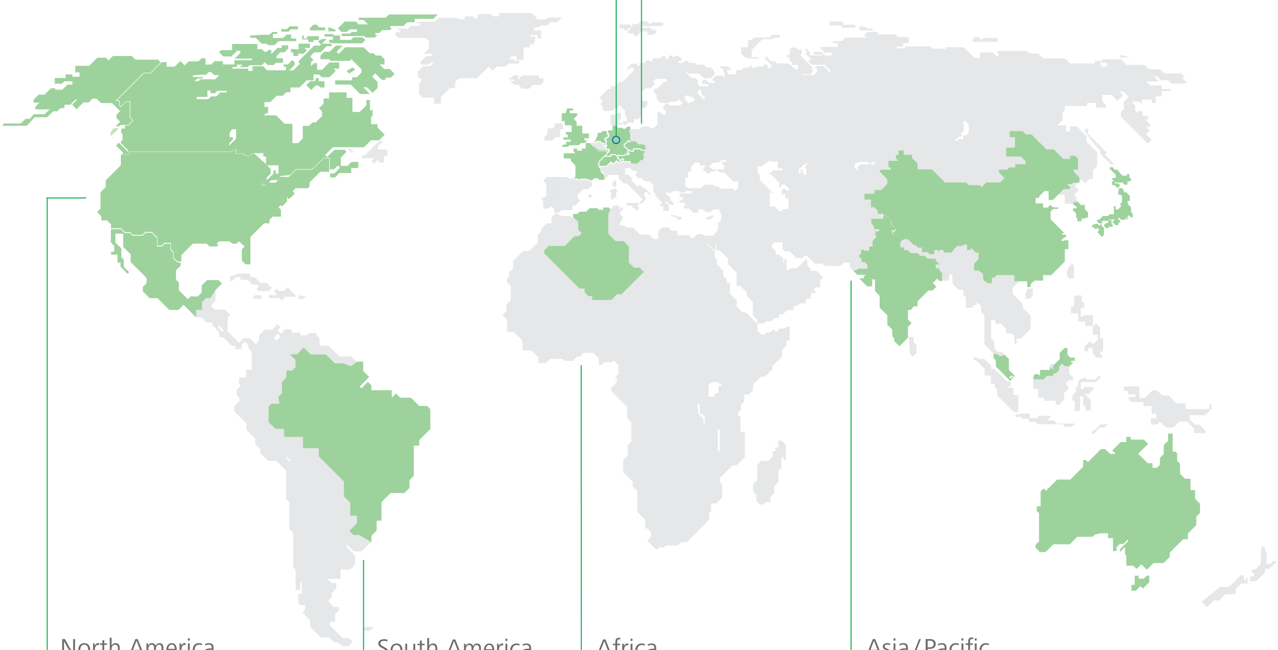
Great Britain
Camberley

Netherlands
Riel

Czech Republic
Teplice

Switzerland
Peseux
Uster

Austria
Vienna



North America

Canada
Barrie
Toronto

Mexico
Saltillo

US
El Paso (TX)
Fremont (CA)
Huntsville (AL)
Jupiter (FL)
Rochester Hills (MI)

South America

Brazil
São Bernardo do Campo

Africa

Algeria
Algiers

Asia / Pacific

Australia
Sydney

China
Shanghai

India
Bangalore

Japan
Yokohama

Malaysia
Kuala Lumpur

Singapore
Singapore

South Korea
Pyeongtaek

Last updated: December 2018

acquisition of the Canadian company Prodomax Automation Ltd. (Prodomax) has added a new location in Barrie, Ontario, Canada. The Group's Jena headquarters is primarily home to the photonic activities carried out in the Light & Optics as well as Light & Production divisions. Other major German sites are at Wedel near Hamburg, Essen and Altenstadt (VINCORION), Monheim near Düsseldorf (Light & Safety), Villingen-Schwenningen (Light & Production), Dresden, Berlin, and Triptis (Light & Optics).

See shareholdings of the Jenoptik Group, page 205 f.

Outside Germany, Jenoptik maintains sites in the US, France, Great Britain, China, Canada, and Switzerland. In addition, the Group is represented by subsidiaries and affiliated firms in Algeria, Australia, Brazil, the Czech Republic, India, Japan, Korea, Malaysia, Mexico, the Netherlands, and Singapore. G10

Business Model and Markets

Jenoptik is a globally operating photonics group that devotes the majority of its work to the photonics market. Photonics is understood as the basics and areas of use of optical methods and technologies that address the transmission, storage, and processing of information by light. In the process, they use the special physical properties of light quanta (photons) in place of electrons and also combine optics and electronics. Under the VINCORION brand name, the Group also offers customers mechatronic solutions.

As a supplier of premium, innovative capital goods, Jenoptik is primarily a partner to industrial companies. Our range of products comprises OEM or standard components, modules, and subsystems through to complex systems and production facilities for numerous sectors. It further includes total solutions and full-service operator models. Alongside industrial customers, the Light & Safety and the VINCORION divisions primarily serve public sector clients, in part indirectly through system integrators.

Our key markets primarily include the semiconductor equipment industry, the medical technology, automotive, mechanical engineering, traffic, aviation, and security and defense technology industries.

Jenoptik's product range competes with a wide range of internationally operating companies not uncommonly specializing in only one or a few of the product areas and markets listed above. Differing service ranges are only comparable to a limited extent and thus make it difficult to provide definite market share estimates.

Research and development occupy a key position in Jenoptik's activities. Cooperations arrangements and developments on behalf of customers are often the beginning of partnerships and business relationships along the value chain. Our technology-intensive products and systems are often created in close collaboration with customers. This requires confidence on both sides as well as knowledge of partner requirements. Consequently, lasting and successful cooperation arrangements with key customers are an important factor of our success.

The Jenoptik Divisions

Light & Optics

The Light & Optics division is a global OEM supplier of solutions and products based on photonic technologies. Jenoptik offers a wide range of products and services in the field, combining comprehensive expertise in optics, laser technology, digital imaging, optoelectronics, and sensor technology. Our systems, modules, and components help customers to tackle the challenges they face using photonic technologies. Customers include leading machine and equipment manufacturers, equipment manufacturers in areas such as semiconductor equipment, laser material processing, medical technology and life science, industrial automation, automotive and mobility, and security, as well as research institutions. Thanks to its strong market position as a high-tech photonics company, Jenoptik can assist its customers as an OEM partner offering a broad technology portfolio covering everything from development to volume production.

Jenoptik is a leading development and production partner for optical and micro-optical systems as well as precision components that satisfy the highest quality demands. This includes complete systems and modules, all the way to special optical components and custom solutions for wavelengths from the far infrared (FIR) to the deep ultraviolet (DUV) region. The Group possesses superb expertise and thus also an excellent market position in the development and manufacture of micro-optics for beam shaping, used, for example, in the semiconductor equipment industry. With its strengths in optical and micro-optical solutions, Jenoptik is also in a position to exploit further potential for growth in the field of digitization, for example in the market for information and communications technology. The company also targets the markets for laser material processing and security and defense technology.

In the field of biophotonics, the division is set to focus on applications for bio-imaging and laser-based therapy. Based on its core expertise in laser and LED-based beam sources, optical components and modules, sensors, digital imaging, and system integration, Jenoptik is a leader in the development of OEM solutions and products for the medical technology/life science industry. The technology platform for digital image processing and analysis that can be configured to customer needs is a new, innovative product concept for the diagnostics and analytics areas. It combines proven Jenoptik modules into a micro-imaging solution which offers the user highest quality of image data and can easily be integrated in the system architecture of medical and laboratory devices.

Jenoptik also holds a leading position in the field of diode and solid-state lasers for use in ophthalmology, dermatology, and surgery, and supplies both national and international medical technology companies. Jenoptik also develops and produces optical and optoelectronic systems, as well as microscope cameras, offering a broad range of applications for its customers.

For industry, Jenoptik supplies high-power optoelectronic components and modules as well as integrated solutions that intelligently combine optics, laser technology, sensors, and digital imaging as required. The company focuses on applications in the fields of industrial automation and automotive and mobility. In addition to complex components for head-up displays, innovative lenses for driver assistance systems, and polymer optics for machine vision or augmented reality applications, we also produce powerful and energy-efficient industrial LED lights.
In the field of industrial lasers for material processing, Jenoptik covers the entire laser value chain. Sensor products cover infrared camera systems and laser rangefinders, which are used in automation technology, security technology, and military reconnaissance.

Key sales regions in the division are in Europe and North America, and increasingly also in Asia/Pacific. The core markets are semiconductor equipment, medical technology/life science, information and communications technology, show and entertainment, automotive, and defense and security technology. Here Jenoptik serves several markets segments, where it occupies leading positions. Competitors frequently only specialize in individual product groups and niches. Thanks to an increasing focus on application-driven optical/micro-optical system solutions, the Jenoptik Group has managed to further expand its market position in the last few years. Competitors in the Light & Optics division include MKS/Newport, Qioptiq, Excelitas, and Berliner Glas.

Light & Production

The Light & Production division supports industrial customers in making their production processes more effective and efficient through the use of optical and photonic technologies. In this context, Jenoptik is a leading manufacturer of measurement

For detailed information on the course of business in the segments see the Segment Report; see the Forecast Report for information on future developments of the divisions.

technology and laser systems for production processes in the automotive industry.

The company's portfolio includes high-precision contact and non-contact production metrology for pneumatic, tactile, and optical inspection of roughness, contour, shape, and the determination of dimensions at every stage of the production process and in the inspection room. A wide range of services such as advice, training, service, and long-term maintenance agreements are also all provided. The acquisition of OTTO Vision Technology GmbH and OVITEC GmbH in September 2018 allowed the Jenoptik Group to boost its range of services for innovative metrology solutions and further expand its market position as a systems supplier for production metrology and industrial imaging applications.

In addition to this, Jenoptik develops 3D laser machines that are integrated into customer production lines as part of process optimization and automation. They are used to machine plastics, metals, and leather with maximum efficiency, precision, and safety. Jenoptik acquired the Canadian company Prodomax in the summer of 2018. In a similar way to Five Lakes Automation (FLA), which was acquired in 2017, Prodomax plans and designs automated production lines and integrates them in customer production environments. Services and products related to process engineering and implementation include plant layouts, simulation, machine control and software design, robot handling systems, and transport devices. However, while FLA focuses on small and medium-sized orders, Prodomax has the capacity and customer base to handle also larger orders. This acquisition has allowed Jenoptik to boost its position as a turnkey supplier of automated production solutions; the company can now offer not only stand-alone laser machines but also complete process solutions from a single source. The product portfolio is complemented by energy efficient and environmentally friendly waste gas cleaning systems for laser and other industrial machining processes.

The Light & Production division is active around the world and also operates production facilities in the US, Canada, France, and China, in addition to Germany. Its regional areas of focus are primarily determined by market requirements. These are the centers of the global automotive and automotive supplier industries in Europe, North America, and Asia. Companies such as Marposs, Mahr, and Vici Vision compete with Jenoptik`s metrology operations, Trumpf, Prima Power, and others with our laser machine business, and firms such as Legacy Automation and Centerline Automation with our automation business.

Light & Safety

In the Light & Safety division, Jenoptik develops, produces, and sells various components, systems, and services used to make the world's roads safer to public sector customers.

Its product portfolio includes comprehensive systems covering all aspects of road traffic, such as speed and red light monitoring systems and custom solutions for identifying other traffic violations. Further expertise relates to the measurement of average speeds (section control) and automatic number plate recognition (ANPR), including applications for the police. Jenoptik thus supplies integrated solutions for public safety and future "smart cities".

Jenoptik's traffic monitoring services cover the entire supporting process chain – from system development, construction, and installation of the monitoring structure, to capturing images of traffic violations and their automatic processing.

Jenoptik has contributed to the further technical development of toll monitoring systems in Germany. For these applications, the Group markets innovative toll monitoring pillars that combine various digital sensor technologies such as stereo image processing and axle number detection in a single system.

The Light & Safety division's regional areas of focus are also primarily determined by customers. Jenoptik is a leading provider of photographic monitoring equipment, with more than 30,000 devices in use around the world. Competitors here include Redflex, the Sensys Gatso Group, Safran, and Vitronic. The market served by the Traffic Safety business is increasingly characterized by major projects. Traffic safety systems in Germany are tested and certified by the Physikalisch-Technische Bundesanstalt (PTB) in Braunschweig. Foreign deliveries are subject to controls by national institutes, although various countries also partially or fully recognize the German PTB test certificate or licenses from other leading European licensing authorities. These procedures represent a considerable barrier to market entry for potential suppliers and demonstrate the measuring accuracy of the systems used.

VINCORION

VINCORION develops, produces, and sells mechatronic products for civil and military markets, in particular for security and defense technology, aviation, and the rail and transport industries. Its portfolio ranges from individual assemblies for customers to integrate in their systems, through to turnkey solutions and final products. The division specializes in energy systems, drive and stabilization systems, aviation systems, radomes, and composites. Efficient customer service ensures that customers receive support for the service life of the products, which in most cases is a very long time. Products include diesel-electric generating units, electrical machinery such as generators, electric motors, and converters, power electronics, heating and lift systems, rescue hoists, and radomes. They are used in drive, stabilization, and energy systems for military and civilian vehicle, rail, and aircraft equipment.

The division supplies equipment to major systems companies such as Krauss-Maffei Wegmann and Rheinmetall in Germany, Airbus (France/Germany), BAE Systems (Great Britain), and Raytheon (US); it also supplies governments directly. In the area of defense and security technology as well as aviation and rail equipment, VINCORION is a business partner to national and international customers, with end products frequently exported worldwide by the systems companies it supplies. Many of the components and subsystems are developed specially on behalf of clients. In the future, however, new in-house products with short delivery times, low customization costs, and clear unique selling points will also ensure growth. Business is predominantly geared toward the long term and is subject to exacting security, certification, and export control requirements. The platforms on which the systems are deployed often remain in use for many years and decades, increasing the importance of spare parts business and modernization projects. Competition with other companies is frequently limited to individual product groups. The division's competitors include Moog, UTC Aerospace Systems, and Meggitt.

Targets and Strategies

Strategic orientation of the Group

As explained in the chapter titled "Business Model and Markets", the Jenoptik Group offers the majority of its products for the photonics market. As so-called enabling technologies, the extremely precise, flexible methods and processes of photonics exert a great economic leverage effect and will thus enjoy an increasing share in industrial value creation in the future. At the same time, our solutions contribute to increased efficiency and precision of our customers' products as well as to improved environmental compatibility.

The Executive Board of JENOPTIK AG presented the new "Strategy 2022" at the beginning of 2018. In future, Jenoptik will concentrate on its core areas of expertise – light and optics. With a greater focus on photonics growth markets, we want to develop into a focused and globally positioned photonics company over the coming years. In addition to its increased focus on photonics, Jenoptik will concentrate primarily on internationalization and innovation when implementing the Strategy 2022. G11

In order to implement the growth strategy, we are

- focusing on our core competencies in the field of photonics,
- reorganizing and simplifying our corporate structure,
- actively managing our portfolio with a view to additional purchases as well as transformatory acquisitions and selective divestments,
- continuing to work on further internationalization in conjunction with greater vertical integration and customer proximity in our priority regions,
- investing more heavily in research and development, expanding our system and application expertise and stepping up our activities as a solutions provider,
- driving an active cultural change within the company and
- continuing to steadily strengthen our financial resources.

For further information on the development of the sectors and markets see the Group Management Report on page 72

Focus

Our activities in the market for photonic technologies focus on the fields of information processing, intelligent production processes, sensor technology, metrology, and biophotonics. For us, these are markets that are not only characterized by growth, but also by technological differentiation potential. Jenoptik continues to benefit from the global trends of the digital world, health, mobility & efficiency, infrastructure as well as security, and is increasingly establishing itself as a strategic systems partner for international customers, with whom it works to design forward-looking solutions.

With the new organizational structure that came into force in January 2019, we have further improved our market and customer orientation. Business operations within our previous segments were reorganized, and the relevant parts of the operating business have been clustered according to a common understanding of markets and customers based on the same business models. This helps us to bring our products and solutions closer to the customer and opens up improved growth opportunities. The three newly created photonics divisions Light & Optics, Light & Production and Light & Safety build on extensive expertise in optics, sensors, imaging, robotics, data analysis, and human-machine interfaces. In 2018, Jenoptik introduced an independent brand for its mechatronics business from the former Defense & Civil Systems segment. Under the VINCORION brand, customers from the aviation and defense industries can now be addressed in a much more focused manner than before on the basis of mechatronic products and solutions.

For us, focusing does not just mean emphasis on our core areas of expertise, but also simplifying structures and making the company more agile. For example, in 2019, the holding company and the Shared Service Center (SSC) will be organizationally merged. We have initiated all the measures required to reduce the number of legally independent companies in the Group. Decision-making processes and responsibilities have been further decentralized and increasingly relocated into the operating areas. This will enable us to prioritize initiatives for future growth more clearly, leading them to success.

For further information see "Research and Development" section, starting on page 81 ff

For further information on the Group structure see "Business Model and Markets" chapter

Innovation

As an innovative high-tech company, identifying customer needs and trends early on and aligning them with our strategic actions and business activities to determine appropriate technology and product developments is of critical importance to Jenoptik. That is why we want to increase our R + D investment, including customer-related projects to a total of approximately 10 percent of revenue by 2022 (2018: ~ 8.3 percent), in order to expand our position as one of the world's leading suppliers of photonics products and solutions. In addition, we will push ahead with the cross-segment expansion of our technology platforms in order to better utilize synergies. Our planned profitable growth will be further supported by efficiency measures and increasingly by the expansion of the systems and service businesses as well as economies of scale.

As a system partner, Jenoptik is constantly looking for new solutions together with our customers. Wherever possible, the customers are already involved in the very early stages of development processes. This enables us to strengthen our customer relationships and steadily boost value creation.

Internationalization

Due to the trend towards growing industrial production as well as demographic development, Jenoptik sees particularly great potential for future growth in the regions of the Americas and Asia/Pacific. In terms of internationalization, we are therefore focusing on these markets. In 2018, we began to realign our Asian business activities and have begun to reorganize our structures there. A new leadership team has been recruited for

G11 Strategy 2022 of the Jenoptik Group

Group strategy 2022

Strategic building blocks	More Focus	More Innovation	More International
Strategic targets	Quantitative long-term targets: Growth | Profitability | R + D ratio Strengthening financial power		Qualitative long-term targets: Cultural change | Employee satisfaction | Headquarters of the divisions | International value creation

Asia, which is now managing the business and structural development of the Group locally. Establishing a new trading company should also enable Jenoptik to benefit from the special conditions applicable to free trade zones in China in the future. In the 2019 fiscal year, the measures implemented will continue to play an important role in our strategic development. We aim to further expand value creation such as production, product developments, and research & development in this region. In this way, we will be able to offer local customers products and solutions together with service developed on site to meet their various needs. The plan is to establish local R+D teams as well as in-house production in all major growth markets by 2022. In this way, we can support our customers in their local markets in achieving their innovation goals. In addition, at least one division of the company should be headquartered outside Germany by 2022.

To further improve our market orientation and customer proximity, we are adapting our structures and developing products and solutions that are consistently geared to the trends and needs of our customers. In the future, Jenoptik will also continue to invest in the establishment of new and expansion of existing sales and service structures. We rely both on our own direct distribution channels and on existing dealer structures. The opening of new application centers, especially in Asia, is planned for the years ahead.

Through active portfolio management, we also want to continue to expand our organic growth in the future through acquisitions, and we are continuously investigating opportunities. By purchasing companies, we plan to expand our market and customer reach – not only in Europe, but particularly also in the regions of the Americas and Asia/Pacific – or complement our portfolio through forward integration and/or additional systems' expertise. Examples of this were the acquisitions of the Canadian Prodomax and the German OTTO Group, which were successfully completed in 2018. Each acquisition must fit strategically and culturally, offer opportunities for growth and a sound business case, thereby fulfilling the criteria for increasing corporate value as well as integrability. The discontinuation of already existing business activities or the sale of shares in companies is also continuously reviewed against the backdrop of the intended focus on photonic core competencies and is not ruled out for the future within the scope of active portfolio management.

In order to maintain lasting profitable growth, we must attract highly qualified and capable employees and ensure their long-term retention in the company. Structured HR planning is necessary to achieve this in an environment which is becoming increasingly demanding from the demographic aspect. Now and in the future, Jenoptik is positioning itself as an attractive employer by utilizing targeted HR marketing activities. Personnel development measures as well as improved framework conditions and a modern, open corporate culture should further help to strengthen employees' loyalty to the company in the future. The new values introduced at the beginning of 2019 – open, driving and confident – form the basis for our corporate culture and help to boost Jenoptik's growth across different cultural and legal systems. As part of our personnel work, the active support of corporate values is therefore a further focal point in the realization of our strategic objectives.

The "Jenoptik" brand is also to be strengthened as part of the group-wide "More Light" campaign launched in 2018, and awareness and acceptance, especially internationally, are to be further increased.

For further information on employees and the brand see chapter "Non-financial Report"

As part of the Strategy 2022, the Executive Board of JENOPTIK AG had set out the following priorities for the past fiscal year:

- establishing a new corporate structure,
- realigning the Asian business, and
- launching a new brand for our mechatronics business.

The Executive Board and employees of Jenoptik worked intensively on the realization and implementation of these defined strategic milestones in 2018. The past fiscal year was also dominated by the development of the individual division strategies which are based on the objectives of the group strategy. Implementation of the newly defined division strategies will begin this year.

For 2019, the management of the Jenoptik Group has defined new priorities as part of the implementation of Strategy 2022:

- Growth in Asia
- Operative excellence in our production processes
- Promotion of innovation

Strategic orientation of the operating business

The divisions of the Group created as a result of the new business structure are connected with each other in many ways. In particular, technologies and expertise can be transferred between the divisions. Infrastructures and cross-section functions are used jointly more and more, for example for global procurement or in the expansion of the international sales network. Joint locations and the shared use of infrastructure facilitate market entry, enable the company to achieve critical mass more quickly in key regions around the world, and help to optimize the cost base through the leverage of synergies. Cost benefits are realized and currency risks minimized through global sourcing and production.

In the Light & Optics division, we are continuing to focus our OEM business with optical systems on the “Digital World” megatrend. On the basis of our strengths in optical and micro-optical solutions, we aim to access further digital world markets such as advanced manufacturing or industrial solutions in addition to the semiconductor equipment sector. Jenoptik is already positioning itself in the market for optical information and communication technology. Ongoing internationalization, the expansion of the systems business, and a focus on key customers form the basis for sustainable profitable growth, to which the use of economies of scale and both customer and technology synergies will additionally contribute.

In the market for biophotonics, we are also focusing on the “health” megatrend. Based on beam sources that use lasers and LEDs, optical precision components, digital imaging, and platform technologies, we want to increasingly position ourselves as one of the leading, profitably growing partners for the development of system solutions and products for diagnostics, analysis, screening, and therapy in the healthcare and life science industries. However, we are also participating in the trend for more mobility and efficiency with innovative industrial applications. One business focus is on expanding volume business with optoelectronic and polymer optical high-performance components and modules. In addition, we are continuing to pursue promising growth options for innovative applications centered on our core areas of expertise, such as driver assistance systems or technologies for autonomous driving (LiDAR). In these fields, too, we want to become an internationally operating supplier.

As a reliable supplier of products, systems, engineering solutions and services for industrial customers (B2B), we are primarily addressing the trend towards greater stability and efficiency in production processes in the new Light & Production division. We will use our high-performance smart manufacturing applications to support the manufacture of efficient and sustainable products in various sectors such as the automotive industry. Jenoptik’s use of optical inspection and production metrology enables it to focus on trends such as reducing fuel consumption and CO_2 emissions. The aim of this is to expand our position as a leading company in the area of optical 2D and 3D metrology for modern drive systems and in electronic production. A concentration on automated plastic and metal processing will support further growth in the field of laser machines. The acquisition of Prodomax and the OTTO Group has also contributed to this development. Jenoptik is now able to offer everything from a single source for efficient production environments, from its own products and systems to automated system concepts and complete process solutions. At the same time, we also intend to expand our business into other markets beyond the automotive industry. At regional level, we intend to grow our business primarily in Asia and North America.

In the Light & Safety division, we are pursuing two further future trends with a focus on infrastructure and public safety. As one of the world’s leading suppliers of speed and red light monitoring systems, our Traffic Solutions business remains committed to supporting our customers – primarily public-sector customers (B2G) – in achieving their targets to improve traffic safety with complete solutions. With the global trends toward increasing mobility, urbanization and security, particularly in newly industrialized countries, Jenoptik is also tapping into new sales regions. A trend can be seen toward major projects in the global traffic safety technology market with a combination of the equipment business and services, known as Traffic Service Provision. That is why Jenoptik is focusing on strengthening this profitable service business. Following successful entry into a new market with a major order for toll monitoring systems, Jenoptik plans to develop this business further in the future. Alongside the traffic safety sector, the market for public safety is also gaining in importance. Based on the existing systems and software applications, the division aims to evolve into an integrated solutions provider for public safety and future smart cities. Our growing reach into international markets, select cooperation arrangements, and a focus on innovative and competitive products are aimed at securing future growth and boosting our position as a leading supplier.

Jenoptik's mechatronics business was consolidated under the VINCORION brand in the division of the same name and will continue to position itself as a partner for systems companies and customers who have a need for individual solutions that meet the stringent requirements of heavily regulated markets such as those of aviation and defense technology. We see opportunities for further growth in global trends such as the growing need for security, mobility, and efficiency as well as the increasing electrification in military and civilian sectors. For this reason, the future focus will be on such high-growth business areas as energy systems. Beyond this, the aim is to increase the share of systems used in civilian fields such as railway engineering and aviation. Customer relations with OEMs and end customers will be stepped up around the world. The division is also seeking to expand its service business and international sales and service structures, especially in North America and Asia.

Strategy development and processes

Jenoptik's Corporate Development department reports directly to the President & CEO and ensures the future optimum strategic alignment of our Group with its segments and foreign locations.

Comprehensive knowledge of the position and skills of our company in the market environment is indispensable. To underpin the group and individual strategies, on the one hand, there is close cooperation between Corporate Development and the divisions in the area of market intelligence – this concerns information about global target markets, trends and customer requirements, disruptive developments, opportunities and risks, as well as competitors and other framework conditions. On the other hand, it is important to bundle and expand our own technological expertise and unique selling points, including by means of suitable patents, strategic road maps, and structural adaptations. Here the operational business units are also supported in terms of process and content. This ultimately secures Jenoptik's targeted market position.

For further information on the segments see the Segment Report and the "Business Model and Markets" chapter

The central Corporate Development department also supports the operating units in planning and implementing their strategic projects and in designing business models and structures – all with the target of securing sustained profitable growth within the Group. This target can also be supported through company acquisitions.

Control System

The company control system is geared toward the long-term corporate strategy. It is also consistently aligned with the Group's short to medium-term objectives. The Executive Board is responsible for overall planning and thus for achieving the stated objectives as part of the strategic corporate development.

As part of a strategy process, the Executive Board and the Executive Management Committee (EMC) steer the development of the business units and monitor the implementation of defined measures. On the basis of global trends, growth paths are defined, opportunities and risks are evaluated, portfolio decisions are made, and the focuses of in-house research and development are determined using technology roadmaps at annual strategy meetings. Strategy and planning meetings provide a basis in terms of market and competition for the group planning for the following year and the medium term.

A planning forecast for the coming year and a five-year period is created annually on the basis of the long-term corporate strategy, In the course of a fiscal year, the planning for that year is updated in several forecast cycles. Planning is carried out using the "counter flow method" (bottom up – top down), based on the market-driven strategic planning in the divisions.

The business intelligence environment launched in 2017 also enabled further improvements in the analysis of business performance, reporting, and planning processes in 2018. Monthly results meetings as part of the EMC meetings are used for operational control: the division heads/regional managers report to the Executive Board on the economic situation, the development of customer relationships, the competitive situation, and any special business events. They employ standardized reporting methods largely involving performance indicators, information parameters, and qualitative assessments, which can then be used to define further operating and strategic measures to achieve the objectives in the event of planning deviations. The internal reports for the monthly Executive Board meetings provide financial information aggregated by division, which is used as a basis to manage the Group on a global level, allocate resources in a targeted manner, and pass resolutions on the Executive Board. In the 2018 fiscal year, the indicators were identified and communicated on the basis of the prior segment structure.

The indicator system used in internal reports and to manage the business units in 2018 comprises high-priority performance indicators ("key performance indicators") and other financial

G12 Performance indicators for corporate management

	Financial indicators		Non-financial indicators	
Key performance indicators	Growth	Revenue, order intake, capital expenditure		
	Liquidity	Free cash flow		
	Return	EBITDA margin		
		EBIT margin (information parameter since 1/1/2019)		
Information parameters	Growth	Order backlog, frame contracts	Growth	Number of employees
	Return	ROCE	HR management	Training, fluctuation, sick days
	Liquidity	Net debt, working capital	Process control	Throughput times, reject quotas, and indicators for quality management

and non-financial information parameters. All the indicators chiefly focus on shareholder value, the requirements of the capital market, and the strategy of the company. The key indicators are shown in the chart on page 80. In addition to the key performance indicators at group level, there are also indicators used only within the business units, e.g. order backlog or number of employees. In addition to the forecasts, a rolling three-month forecast for revenue and order intake is used to manage the company's development. G12

The control system underwent further development and the indicator base was adjusted at the beginning of the 2018 fiscal year in order to better foreground the performance indicators relevant to the company control system. Newly added top control parameters were the EBITDA margin and capital expenditure, while earnings before tax, net debt, and ROCE were removed. Since the beginning of the 2019 fiscal year the EBIT margin has no longer been classified as a key performance indicator but is now an information parameter. In the current fiscal year, too, the Jenoptik Group is committed to the continuous improvement of its processes. One key aspect of this remains the implementation of an SAP business warehouse, which will allow us to better reflect the markets' dynamic growth and thus obtain important control information both faster and more efficiently.

Research and Development

As a technology group, research and development (R+D) is of key importance to Jenoptik. Innovative products and services give us competitive advantages that determine our performance and thus our economic success. One of our key strategic aims is therefore to expand our ability to innovate, especially in the photonics growth markets. We also develop market-conforming products and platforms with unique selling points, protecting them, if possible, by means of industrial property rights. Our solutions help to increase the efficiency of our customers, consequently improving their earnings capacity.

For more information on the non-financial information parameters, see the Non-financial Report from page 54 on

Innovation management is an important tool used by Jenoptik to systematically identify and implement promising ideas. With the networked processes, the primary intention is to generate capital from knowledge by objectively uniting market and company viewpoints. Our innovation management has a uniform group-wide structure that is individually adapted to the respective business model. It sets framework conditions for advancing developments in order to make a positive value contribution for the entire Group. Innovation management at Jenoptik lies within the remit of the President & CEO. The innovation managers from the central Strategy department manage all research and development projects group-wide. They therefore link up closely with various areas of the company, such as controlling and investment management, and are intensively involved in the rolling strategy and planning processes.

For information on planned development of the key performance indicators, see the Forecast chapter, page 130

Innovation process

Innovation is also one of the three building blocks of the Strategy 2022. Developments directly on behalf of customers continue to play an important role in our innovations. In the future, however, it will be necessary to focus even more on our own developments and spend more resources on pure research activities. The first stage of the Jenoptik innovation process involves a strategic analysis of global trends and the requirements of our customers to identify opportunities for growth. These are the basis for innovation projects aligned with our core areas of expertise which are often realized in direct cooperation with key customers.

The Jenoptik Group's innovation process is multi-stage and follows the procedural guidelines set by the central innovation management. Strategic development projects are planned in R+D road maps and monitored on the basis of corresponding milestones. This applies to product, technology and process innovations. In addition to selected photonics markets, above all the expansion of our applications expertise as well as new digital business models based on our existing technologies and skills act as an enormous driver for growth and are at the center of our research and development work.

To further increase our innovative power, we must not only develop technologies and products. At the Innovation Days 2018, for example, the focus was on Jenoptik's new "Design Thinking" concept which consistently places the customer and their needs at the center of the innovation process. The overall winner of the Jenoptik Innovation Awards 2018 was the Jenoptik Traffic Solutions UK team for the introduction of deep learning methods. Thanks to so-called artificial intelligence or computer-based algorithms, the recognition rate for car license plates using ANPR cameras (Automated Number Plate Recognition) can be significantly increased to up to 98 percent. Four more out of a total of nine projects submitted also received an Innovation Award.

Employees in research and development

The experience and expertise of our employees are essential to the success of our research and development work, and the qualification standards we expect of them are correspondingly demanding. Their knowledge is used both for specific tasks and across all segments in corresponding development projects. T18

T18 Employees in R+D

	2018	2017
Number of employees in R+D area	506	461
Percentage of overall workforce in %	12.5	12.7

Key cooperation arrangements and memberships in associations

Jenoptik procures additional external expertise with the help of targeted cooperation arrangements. The objectives of research cooperation arrangements range from the market-driven realization of joint projects to reductions in development time frames through to the successful development of specialist expertise. Jenoptik works with both universities and non-university research institutions as well as with industrial partners and key customers. The Scientific Advisory Council is a committee of experts available to Jenoptik which supports the Group in the monitoring and evaluation of long-term technology trends. The cooperation with the advisory council, which corresponds in its structure to the future technological and market-related orientation of the company, was further intensified and promising ideas and concepts transferred to cooperation projects, some of which are cross-segment. The cooperation arrangements named below are just some of those in which Jenoptik has been active over the past year:

Compared with traditional optics, freeform optics offer fundamental advantages such as miniaturization, simplification and stability, but their manufacture is much more costly. This is why, in cooperation with nine partners from industry and science, Jenoptik is working in the "Wachstumskern+ fo+" project to develop a technology platform for the volume production of freeform optical systems for the spectral broadband UV-VIS-IR range. The results of the project will then be converted into specific new products, enabling a large number of existing products and solutions to be significantly improved.

The consortium from the preceding project "Wachstumskern fo+", in which Jenoptik was also actively involved, was awarded the "Forschung im Verbund" science prize by the Stifterverband für die Deutsche Wissenschaft on May 15, 2018. Among the factors which the jury honored with the award were the economic implications as well as the novelty of the scientific-methodological approach and the advancement of knowledge.

The "Vision Zero" initiative aims to significantly reduce the number of people seriously injured and killed on the roads at both national and international level. A particular focus here is the protection of pedestrians and cyclists as so-called "weak road users". At present, for example, there are still around 2,000 fatal accidents involving cyclists each year within the EU, many of them at crossroads. In the XCYCLE project carried out by Jenoptik in cooperation with nine European partners, sensor safety solutions for the detection of cyclists and pedestrians were developed, among other things, in order to significantly reduce these accident figures. Project results are currently being tested at the research intersection in Braunschweig, which is managed by the German Aerospace Center, and these will subsequently be converted into actual products.

Jenoptik is also active in numerous industry and technology-oriented associations. Examples of this are the Optonet Photonics Network at regional level, the German Hightech Industry Association (SPECTARIS) at national level, and the European Photonics Industry Consortium (EPIC) at European level. Here, the Group is committed to creating an innovation-friendly environment and promoting the image of photonic technologies.

Development output

The R+D output of the Jenoptik Group, including developments on behalf of customers, increased to 69.2 million euros in 2018 (prior year: 66.6 million euros). The reason for this, despite the lower costs for developments on behalf of customers, were the increased expenses for in-house development activities. The costs for developments on behalf of customers fell to 20.2 million euros in 2018 and are apportioned to the cost of sales. In the prior year, significantly higher expenses were incurred here, primarily due to the toll project (prior year: 22.2 million euros). T19

As shown in the table, R+D costs are distributed among the segments. T20

R+D output in the Optics & Life Science segment includes expenses arising from developments on behalf of customers in the amount of 7.5 million euros (prior year: 6.8 million euros). R+D costs in 2018 totaled 15.7 million euros (prior year: 13.4 million euros).

The R+D output of the Mobility segment included developments on behalf of customers of 9.2 million euros (prior year: 13.5 million euros). The high figure for the prior year is mainly attributable to the toll project in the area of traffic solutions. The segment's R+D costs came to 17.5 million euros (prior year: 16.4 million euros).

In 2018, developments directly on behalf of customers in the Defense & Civil Systems segment came to 3.5 million euros (prior year: 1.8 million euros). The segment is also a long-term partner for large systems companies and develops platform technologies in conjunction with its customers. The R+D costs rose to 14.2 million euros (prior year: 12.6 million euros), especially due to development projects in the aviation segment.

Patents

Our R+D capital expenditure is protected via central IP management in close cooperation with the operating areas. We accord particular importance to patent applications in dynamic growth markets such as China, and the US. In 2018, a total of 44 patents

T20 R+D output per segment (in million euros)

	2018	2017	Change in %
Group	69.2	66.6	3.7
Optics & Life Science	23.8	21.1	12.7
Mobility	26.8	30.0	−10.7
Defense & Civil Systems	18.6	14.9	24.6
Other, incl. consolidation	0.0	0.7	−97.9

T19 R+D output (in million euros)

	2018	2017	2016	2015	2014
R+D expenses	47.4	43.1	42.3	41.8	39.4
Capitalized development costs including patents	1.5	1.4	0.1	0.4	0.5
Developments on behalf of customers	20.2	22.2	15.0	10.9	10.5
R+D output	69.2	66.6	57.4	53.1	50.4
R+D ratio 1 (R+D output/revenue) in %	8.3	8.9	8.4	7.9	8.5
R+D ratio 2 (R+D expenses/revenue) in %	5.7	5.8	6.2	6.2	6.7

were filed by Jenoptik subsidiary companies (prior year: 52 patents), more than half of which were in the field of Optical Components and Optical Modules. As part of our Strategy 2022, patent applications were increasingly filed by foreign companies (UK and USA) last year as a result of the intensification of our international R+D activities.

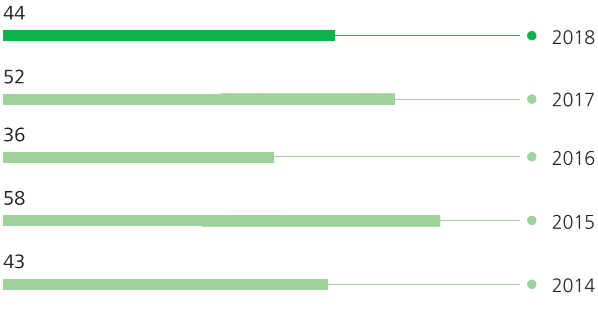
The number of patents does not include registered designs, utility models or brand registrations. For competition reasons, Jenoptik does not publish information on the receipt and issue of licenses. G13

Key projects and results

Our aim is to offer our customers the very best solutions. We do this by combining our all-round expertise with a broad wealth of experience in managing innovation in photonic technologies to the benefit of our customers. The following solutions are some of those developed and brought to the market by Jenoptik in 2018:

For example, the development of a new generation of high-precision micro-optical sensors for the semiconductor equipment market was begun to support future technologies and to optimize costs. Innovative materials are being combined with extremely efficient production technologies for microstructuring. In the course of increasing requirements in semiconductor production, we have also begun to optimize existing sensor generations. The ability to continuously develop and adapt existing manufacturing technologies to meet production requirements that increase in ever shorter cycles is a decisive success factor here. The existing product portfolio of encapsulated transmission gratings of the highest efficiency, which are used in ultrashort pulse lasers and for beam combination,

G13 Number of patent registrations



was also completed in the short wavelength range during the fiscal year. The quality and performance of these gratings have now become world leading.

The market for information and communication technology (ICT) experienced several developments and the corresponding product portfolio was further expanded. One such development was the successful testing of a novel approach for parallel electrical and optical testing of photonic integrated circuits (PIC) at wafer level within the framework of a functional model development. These PICs are particularly used in optoelectronic transceivers, millions of which are used today in data centers for conversion between electrical and optical signals and for which significant growth is expected in the next few years. So-called TOSA microlenses for use in 100Gb/s and 400Gb/s transceivers have also been further developed and standardized.

In the area of ultra-precise beam-shaping elements, which are used in laser material processing, systems for maskless lithography in display manufacture were transferred into series production in 2018 and preparations were made for the manufacture of large quantities. They facilitate the high-resolution structuring of displays with the greatest possible flexibility. As part of the technology road map, a new process for system correction was developed, which is now being implemented throughout the entire supply chain. In 2018, Jenoptik was also able to expand its catalog range of F-Theta lenses and beam expander optics. Our developments in the field of high-performance laser applications for micro material processing are characterized by unique precision and thermal stability. These products are targeted, for example, at the growth markets of automotive and mechanical engineering as well as medical technology.

For our customers in the medical technology and life science industry, the focus was on the further development of the digital micro-imaging platform “SYIONS”, for fluorescence microscopy among other things. A novel imaging method for low-contrast living cells was implemented in 2018 and put into practice in the first projects with OEM customers. With “SYIONS”, Jenoptik expanded its comprehensive problem-solving expertise in the field of diagnostics and analytics with a customer-specific, configurable platform for digital image acquisition, processing, and analysis. The new solution enables all kinds of image data in in vitro diagnostic devices to be generated quickly and efficiently for scientific and clinical use. Applications in the areas of live cell imaging, flow cytometry, and molecular diagnostics can be realized quickly and inexpensively with the help of the modular system. Thanks to this, taking samples for analysis is now a thing of the past, thus facilitating the customer’s work flow.

In order to be able to offer powerful and innovative system solutions for imaging techniques and diagnostic applications in the healthcare market, Jenoptik has expanded the technology portfolio in the past fiscal year to include next-generation laser beam sources and image processing systems. For the growing market in aesthetic laser treatments, the Group will in the future be able to offer integrated solutions and application-specific components, which will enable more efficient treatment. The depth resolution required for innovative ophthalmology applications paves the way for low-artifact, high-resolution 3D images of eye structures. In addition to ophthalmology, the new technology can also be used in other medical fields (cancer diagnosis and dermatology).

The Group also developed numerous new products for the automotive industry in 2018 and initiated the first strategic projects in the field of electric mobility. Our R+D team has also intensively examined the effects of Industry 4.0 and digitization so that these can be incorporated into the specifications for the future developments. Automation, flexibility, and shortening of measurement times to improve process efficiency for customers are already the focus of current developments.

The product family of laser perforation machines was further developed in order to be able to offer processing of particularly sensitive materials such as leather and thin films. This enables our customers to use new materials, e.g. in the design of vehicle interiors. Thanks to a specially developed image processing system, our automated cutting solutions for processing hydroformed tubes for e-mobility applications will contribute to increased process flexibility and quality in the future.

As a leading supplier of photonic solutions, Jenoptik is active in the future-oriented LiDAR field (light detection and ranging). We have a great deal of expertise and many years of experience in all the basic technologies required for high-performance LiDAR systems. These include precision optical components, micro-optics and diffractive optical elements (DOE), optoelectronic systems made from glass and polymer, laser diodes as well as laser modules for distance measurement with light. Our customers use these products, for example, in the automotive, mobility and automation technology sectors.

2018 saw further development of a shaft measuring system from the Opticline series for efficient process automation: the efficient Opticline C305 shaft measuring system was combined with a new handling robot with workpiece storage. The combination of optical shaft measuring technology and automated robot loading enables numerous test characteristics to be inspected in a matter of seconds. This also relieves important employee resources and possible negative effects by the workforce are avoided. As a result, the customer can focus more strongly on quality and process control. By increasing the inspection intervals, one hundred percent inspection can be carried out and product safety in manufacture can be significantly increased. Process costs are optimized and reliability as a qualified supplier is therefore noticeably increased.

In order to meet the customer requirements for flexible, fast and precise measuring processes, Jenoptik has further developed the new generation of roughness and contour measurement instruments in the Waveline product range. The measuring stations have a modular design and can be expanded at any time. The W800 model series is particularly suitable for the many different measuring tasks in the measuring room with typically manual or semi-automated measuring processes. The new Visionline IPS B5 surface inspection system now also makes it possible to inspect small bores (from 5 mm diameter). Thanks to innovative camera and lighting technology, adaptive dynamic masking and a high resolution, automated inspection of plane surfaces is possible within the specified cycle time. The measuring system facilitates rapid inspection of entire interior bore surfaces, the inspection and measurement of inner contours as well as the evaluation of defect sites. The 360° optics of the sensors create an image of the entire bore surface. The fast and robust sensor thus fulfills all requirements for a 100 percent inspection of the product quality in a production line.

The traffic solutions unit restructured the development department in 2018. A team of developers in the UK and Germany is now working together across different sites. In 2018, for example, Jenoptik strengthened its expertise in the field of artificial intelligence. In addition, the introduction of Deep Learning in the area of automatic number plate recognition has significantly increased the recognition rate using ANPR cameras.

In the market for truck toll monitoring systems, Jenoptik successfully delivered 600 systems it had developed for the recording and classification of trucks on federal highways over the past fiscal year. The new systems were connected across Germany to the top-level control system of the toll company Toll Collect and have modern sensor technology with stereo image processing, side camera, and radar. This facilitates axle detection of the trucks combined with recording of the dimensions. The communication between the on-board unit and the back office was as much a component of the development work as the documentation in the event of a violation. The toll monitoring systems are installed on the side of federal highways and, thanks to their innovative technology, they eliminate the need for nationwide installation of monitoring gantries, considerably reducing the impact on the environment.

In the market for security and defense technology, the Energy & Drive business unit completed the product portfolio with its new air-cooled SAM 600 A generator, focusing in doing so on an innovative and modular platform concept. Electric generators from Jenoptik generate reliable, efficient and on-demand electricity for the on-board networks of various military vehicles, ensuring mobility and operational readiness. The 28-V generator is characterized by a high proportion of standardized components and is optimized for a small footprint and high degree of efficiency. A battery management system has also been developed that reliably detects the charge status of new and already used vehicle batteries in a cellular network within a short period of time.

In the aviation segment, a heating system for the door areas on the Airbus A330 was developed, existing heating elements modified and the product portfolio expanded. The heating system is extremely reliable and robust. It can neither overheat nor burn out and provides more comfort and safety in civil aviation. The first delivery of the innovative heated floor panels is scheduled for the first half of 2019 for the A330 and the end of 2019 for the A350. The development team also worked on the new “SkyHoist 800” electric helicopter rescue hoist, which, thanks to its innovative product features, exceeds the standard market parameters with a dead weight of less than 50 kg, tensile loads of up to 350 kg and a lifting speed of up to 2 m per second. Its modular concept also reduces maintenance-related downtime and thus operating costs.

Employees

Development of employee numbers

As of December 31, 2018, with 4,043 employees (incl. trainees), Jenoptik recorded growth in its workforce of 9.9 percent (31/12/2017: 3,680 employees). As a result of the acquisitions and first-time consolidations, the number of Jenoptik employees abroad increased by 22.3 percent to 981 employees (31/12/2017: 802). Consequently, the proportion of employees abroad increased to a total of 24.3 percent (31/12/2017: 21.8 percent), thereby contributing to the internationalization strategy. T21 T22

T21 Employees as of December 31 by segment (incl. trainees and academy students)

	2018	2017	Change in %	Absolute change
Group	4,043	3,680	9.9	363
Optics & Life Science	1,241	1,149	8.0	92
Mobility	1,527	1,326	15.2	201
Defense & Civil Systems	912	897	1.7	15
Other	363	308	17.9	55

T22 Employees as of December 31 by region (incl. trainees and academy students)

	2018	2017	Change in %	Absolute change
Germany	3,062	2,878	6.4	184
Germany in %	75.7	78,2		
Abroad	981	802	22.3	179
Abroad in %	24.3	21.8		
Europe (excl. Germany)	220	198	11.1	22
Americas	568	346	64.2	222
Asia / Pacific	193	258	−25.2	−65

Temporary workers were also employed in the past fiscal year to cover production peaks and for major projects. They were employed mainly in the operating areas and the number fluctuated during the year. On the reporting date of December 31, 2018, 107 temporary workers were employed in the Group (31/12/2017: 114).

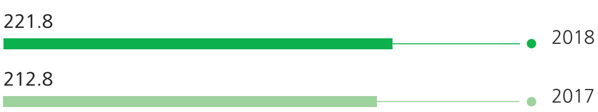
At 278.3 million euros, personnel expenses in 2018 (wages, salaries, social security deductions, costs for retirement provision) were up 7.7 percent compared with the prior year's figure of 258.3 million euros. The growth is attributable both to the increased number of employees in the Group and to wage and salary increases.

The revenue per employee also developed positively due to strong revenue growth and increased by 4.2 percent to 221.8 thousand euros (prior year: 212.8 thousand euros). G14

The employee age distribution, as can be seen in the table below, is balanced. The figures are largely unchanged compared with the prior year. T23

As of December 31, 2018, the proportion of women in the Group (in Germany and abroad) was 26.3 percent, therefore remaining almost unchanged (31/12/2017: 26.9 percent).

G14 Revenue per employee (in thousand euros)



Change 2018 4.2 %

At 5.3 percent, the absenteeism rate among Jenoptik employees in Germany in 2018 also remained at almost the level of the prior year (prior year: 5.5 percent). The employee turnover rate was calculated group-wide for the first time in 2018 and was 4.5 percent. It is calculated from the number of employees leaving the company in the entire month, excluding temporary workers and trainees, divided by the number of employees on the reporting date at the end of the month. The employee turnover rate in Germany rose slightly, from 3.0 percent in 2017 to 3.7 percent in 2018.

Training & HR development

As of December 31, 2018, 117 trainees and students of the Cooperative State University were employed by the Group (31/12/2017: 109). Of these, 38 were new employees. At the same time, 26 trainees and academy students of the Cooperative State University successfully completed their training in the year covered by the report, and took up positions within the Group.

At the Wedel, Villingen-Schwenningen, Jena and Triptis sites, the new trainees receive job-specific training for optical, precision engineering, electronic, and commercial occupations in training centers. Jenaer Bildungszentrum gGmbH – Schott, Zeiss, Jenoptik – in which Jenoptik is a partner, has also established itself as a training center for optics and photonics at a national level.

In the 2018 fiscal year, we combined the costs for training and HR development for the first time. The total amount is therefore correspondingly higher, since it includes both the expenses for trainees and students at the Cooperative State Universities as well as the costs for the further training for our employees. In 2018, Jenoptik invested around 2.5 million euros in the professional development of its employees (prior year: 2.0 million euros). In the year covered by the report, 1,866 employees (prior year: 1,755 employees) benefited from further training measures. The development needs are assessed in regular staff appraisals and implemented through appropriate measures.

For further information on this see the Non-financial Report from page 56

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T23 Employee age distribution (in percent)

	Under 30	30–39	40–49	50–59	60–65	More than 65
2018	14.75	25.87	22.78	25.29	10.26	1.05
2017	13.01	26.30	22.81	25.29	11.32	0.97

Economic Report

Macro-economic and Sectoral Developments

According to the International Monetary Fund (IMF), growth in the global economy slowed significantly more in 2018 than was predicted at the beginning of the year. In its World Economic Outlook of January 2019, the IMF predicted growth of just 3.5 percent in 2018 compared with the previous year. The global economy was burdened not only by slower growth in China, but also by increasing trade conflicts and geopolitical uncertainties, for example in Argentina, Saudi Arabia, and Turkey. The probably forthcoming Brexit also dampened the investment climate, not least in Europe.

According to Eurostat, growth in the euro zone slowed from 2.4 percent in 2017 to 1.8 percent in 2018. In Italy, the economy was burdened by the debt crisis, in France by the protests of the so-called Yellow Vest movement in the final quarter of the year. At the beginning of July, the EU concluded a new free trade agreement (JEFTA) with Japan, which comes into force in 2019, while in North America a new trade agreement was concluded between Canada, the USA, and Mexico.

Economic growth in the US was boosted by, among other things, strong private consumption, government spending, exports and the tax reform. According to the US Department of Commerce US gross domestic product rose by 2.9 percent in 2018 compared with the prior year.

In China, economic growth fell to a historic low in 2018: The gross domestic product grew by only 6.6 percent compared with the prior year. However, exports increased by 10 percent and imports by almost 16 percent. The trade dispute with the USA led Chinese direct investment in Europe and North America to fall by almost three quarters.

The economic momentum also weakened in Germany in the second half of the year, due among other things to the introduction of a new exhaust gas test procedure and the associated production cutbacks in the automotive industry, as well as low foreign demand. At 1.5 percent, overall economic growth was lower than at any time in five years. After a decline in the third quarter, there was a slight recovery in the final quarter, enabling a recession to be avoided. International crises and the economic downturn had a noticeable impact on exports. Although exports rose for the fifth year in succession by 3.0 percent to more than 1.3 trillion euros, growth slowed significantly, according to the German Federal Statistical Office. Investments in equipment, structures, and other installations rose, as did private consumer and government spending. T24

The Spectaris industry association delivered a positive assessment for the German photonics industry at the beginning of 2019: After revenue of 34.8 billion euros the prior year, the association calculated an increase of 6 to 8 percent to 38.0 billion euros for 2018 based on preliminary estimates. The driving force behind this good performance is foreign business, as almost 70 percent is exported. Around 47 percent of exports are to Member States of the European Union, almost 25 percent to Asia, and around 13 percent to North America. This background makes the industry concerned about the increasing trend towards more protectionism.

According to provisional calculations by SPECTARIS, in the previous year, the German medical technology manufacturers exceeded the 30 billion euro mark in revenue for the first time, having achieved 29.9 billion euros in 2017. This was reported by the association at the beginning of 2019. More than half of the exports were to European countries, otherwise mainly to the USA and China.

The international laser market once again exceeded the record year of 2017: according to the annual report for the laser industry, published in the magazine "Laser Focus World", global revenue increased by 5.3 percent to 13.7 billion US dollars in 2018. Once again, lasers for material processing and lithography made up the largest segment, followed by lasers for communications and optical storage technology. The market continued to show signs of consolidation, for example in the

T24 Change in Gross Domestic Product (in percent)

	2018	2017
World	3.1	3.7
USA	1.6	2.3
Euro zone	1.7	2.4
Germany	1.7	2.5
China	6.7	6.8
India	6.6	6.7
Emerging countries	4.1	4.7

Source: International Monetary Fund, World Economic Outlook, January 2018

DNA sequencing segment or the VCSEL expertise required for 3D sensor technology in smartphones.

After two extraordinarily strong years,it was feared that 2018 would see a slump in the semiconductor industry, but this did not materialize. According to IT market research company Gartner, global revenue rose by 13.4 percent to 476.7 billion US dollars, which is significantly more than predicted by market observers in spring 2018. The Semiconductor Industry Association (SIA) also reported record revenue for the industry of 468.8 billion US dollars, 13.7 percent up on 2017. Nevertheless, the uncertainty remained: in view of the lower demand in all branches of industry, chip prices fell globally, especially for memory chips. Smartphone business stagnated in 2018 and the trade conflict between the USA and China had a negative impact on the investment climate.

After 2018 began with, to some extent, above-average results in the semiconductor equipment industry, there were signs of a slight downturn from the third quarter onwards, when revenue fell 5 percent below the prior year's level according to the Semiconductor Equipment and Materials International (SEMI) trade association. Nevertheless, the industry achieved another record revenue in 2018: globally 62.1 billion dollars were generated (prior year: 56.6 billion US dollars), 9.7 percent more than in the prior year, according to preliminary calculations by SEMI. On a regional basis, 2017 saw South Korea become the largest semiconductor equipment market, followed for the first time by China.

In the first half-year of 2018, the German machinery and plant engineering industry remained on course for growth. Germany's export-oriented machinery engineering industry suffered a setback from the third quarter onwards, when protectionist tendencies became noticeable in the USA and China. According to the German Engineering Federation (VDMA), the end of the year in particular was worse than expected: order intake was lower than in the prior year, while production was weaker due to capacity bottlenecks, material shortages and a lack of skilled workers. For the year as a whole, the order intake rose by 5 percent compared with the prior year. In contrast, production expanded by only 2 percent: as a result, the industry fell short of its production target of 5 percent. According to provisional data, revenue totaled 228 billion euros.

The VDMA trade association calculated revenue growth of 9 percent to 15.8 billion euros for the robotics and automation in Germany in 2018. The global trend toward digitization and automation in production is creating growth momentum, primarily in the automotive and automotive supplier industries. More and more factories and production lines are becoming automated, which also benefits machinery manufacturers from Germany, according to the VDMA Electrical Automation trade association. For the year as a whole, the trade association anticipates revenue growth of 6 percent. The International Federation of Robots (IFR) attributes a key role for progress in the manufacturing industry to industrial robots. Worldwide sales of industrial robots doubled between 2013 and 2017, according to the IFR in October 2018.

The German Association of the Automotive Industry (VDA) delivered a robust annual balance sheet for the major automotive markets: while Europe, the USA and Japan stagnated, the markets in Russia, Brazil and India recovered. In contrast, car sales in China fell for the first time in two decades, due not only to the trade conflict but also to domestic factors such as high levels of debt and driving restrictions in major cities. The British trade association also sounded the alarm: car production declined by 9 percent in 2018 and investment by almost 50 percent. In total, the VDA expects the global car market to reach 85 million vehicles in 2018; this corresponds to the prior year's level.

Particularly from the third quarter, car manufacturers and suppliers in Europe reported significant burdens on their balance sheets and operating businesses, in part due to the effects of the diesel scandal, retrofit and warranty claims, and the trade conflict between the US and China. This resulted in several profit warnings. Almost the entire industry criticized the introduction of the new fuel consumption and emissions test, known as WLTP, in summer 2017. Approvals under the new standard have slowed, producing increased competitive pressure in the industry and causing some manufacturers to scale back their production. Due to high levels of nitrogen oxide pollution, several German cities, among them Hamburg and Berlin, have introduced driving bans on certain streets. According to the German government, there are 14 particularly polluted cities that required action to be taken.

In the traffic safety sector, the German Federal Statistical Office's preliminary accident statistics indicate that the number of road deaths in Germany in 2018 rose in comparison with the prior year, by 2.7 percent to 3,265 people. According to the US National Safety Council, more than 40,000 people died on the roads in 2018 for the third time in succession in the US, one percent less than in the prior year.

In Germany, the truck toll system was expanded to cover the 39,000 kilometers of federal highways on July 1, 2018. The toll monitoring system uses pillars manufactured by Jenoptik. With a Jenoptik system for section control, the first so-called section radar was put into operation in Germany at the beginning of 2019. The system monitors the average speed on a certain section of the B6 federal highway south of Hanover. This "Section Control" method has already proven itself in other European countries. In Germany, additional data protection requirements have been set in place for implementation.

In the German rail industry, the "Zukunftsbündnis Schiene" (Future Rail Alliance) was launched in the fall of 2018. This expert commission focuses, among other things, on strengthening competitiveness, electromobility, digitization, automation, and innovation in the rail sector. Siemens and the French manufacturer Alstom wanted to merge as a means of responding to the competition in the rail industry, primarily from China. The merger was blocked by the EU Commission in February 2019 because of competition concerns.

Within the aviation industry, the major aircraft manufacturers Airbus and Boeing boosted their duopoly in 2018. Airbus has taken over the C-Series airliner program made by Canadian company Bombardier, while Boeing has established a joint venture for passenger airplanes with Brazilian manufacturer Embraer. Their respective alliances give Airbus and Boeing access to new markets for regional aircraft with around 100 seats, which in the past were primarily manufactured by Bombardier and Embraer. In February 2019, Airbus announced that it would discontinue production of the A380 as of 2021. In terms of balance sheets, Boeing was once again ahead of Airbus in terms of orders and deliveries, although the latter set a new record for deliveries of its own at the beginning of the year despite significant supplier problems.

The German Ministry for Economic Affairs and Energy announced the 2018 armaments exports in the German Bundestag for the German security and defense technology industry. At 4.82 billion euros, the total value of the individual export licenses was down almost a quarter on the prior year's figure of 6.24 billion euros. This also includes exports to Saudi Arabia and Turkey. Following the death of a Saudi Arabian journalist, the German government has imposed a ban on the export of armaments to Saudi Arabia. Originally limited to two months, the ban was extended until March 2019 and also applies to exports which have already been approved. In the area of missile defense, a deal was finalized in March 2018 to install the Patriot system in Poland: Delivery is scheduled from 2022. In January 2019, the United States introduced a new defense strategy that makes provisions for new missile defense systems. At the beginning of 2019, the US and Russia both announced their intention to withdraw from the so-called INF Treaty banning intermediate-range nuclear missiles.

Legal Framework Conditions

The legal framework conditions governing business operations essentially remained constant in 2018 and therefore had no significant impact on the business development of the Jenoptik Group.

Earnings, Financial and Asset Position

Comparison of actual and forecast course of business

Following the release of the preliminary results in February 2018, Jenoptik's management predicted revenue between 790 and 810 million euros and an EBIT margin between 10.5 and 11.0 percent. In March, with publication of the 2017 annual financial statements, this outlook was confirmed with a projected EBITDA margin of 14.5 to 15.0 percent.

With the announcement of the purchase of Canadian company Prodomax and due to the continued good demand in the Jenoptik business, the Executive Board raised its revenue forecast range to 805 though 820 million euros in July 2018. This expected revenue was confirmed with the publication of the results of the first half-year 2018 at the beginning of August. As the profitability of the current business had also developed better than expected, primarily due to a more positive product mix, the Executive Board raised its earnings targets for 2018. The EBITDA margin was expected to be around 15 percent and the EBIT margin at approximately 11 percent.

As a result of the continuing good business performance as well as the positive development of Prodomax and the OTTO Group, the Executive Board raised its revenue forecast once again at the beginning of November, on publication of the nine-months figures, to a new range of 820 to 830 million euros. Despite significant effects from purchase price allocation in connection with the acquisitions and the acquisition costs, the margins for the 2018 fiscal year are to remain unchanged at the values raised in the summer of around 15 percent (EBITDA) and approximately 11 percent (EBIT).

In the year covered by the report, the Jenoptik Group generated revenue of 834.6 million euros, which slightly exceeded the predicted amount when including the acquisitions.

At 15.3 percent, the EBITDA margin exceeded the predicted 15 percent. The EBIT margin increased to 11.4 percent, thereby also exceeding the value announced in August. Profitability therefore improved significantly in comparison with the prior year (prior year: 14.3 percent EBITDA or 10.4 percent EBIT).

The development of revenue and EBITDA for the segments is shown in the following table.

The order intake grew by 8.8 percent. At the beginning of 2018, management had assumed a stable development here, as 2017 included positive one-off operational impacts in order intake.

The free cash flow also developed better than predicted in the spring of 2018; at 108.3 million euros it did not just slightly exceed the previous year's figure, as originally expected, but did so very significantly.

Capital expenditure was forecast to be more than 40 million euros and fell within the expected range at 42.5 million euros.

Earnings position

The tables in the Management Report, which show a breakdown of the key indicators by segment, include the Corporate Center, the Shared Service Center, real estate and consolidation effects under "Other".

In the 2018 fiscal year, the Jenoptik Group generated new record revenue of 834.6 million euros (prior year: 747.9 million euros), which exceeded the prior year's value by 11.6 percent. At 241.2 million euros, the fourth quarter of 2018 generated the most revenue in both the past fiscal year and the years before (prior year: 221.1 million euros). The growth in 2018 came from

T25 Actual and forecast course of business (in million euros / or as specified)

Indicator	Year-end 2017	Forecast 2018		Year-end 2018	Change in %
Revenue	747.9	February: July: November:	Between 790 and 810 million euros Between 805 and 820 million euros Between 820 and 830 million euros	834.6	11.6
Optics & Life Science	259.4	March:	Growth in the mid double-digit percentage range	290.0	11.8
Mobility	270.1	March:	Growth in the low double-digit percentage range	327.8	21.4
Defense & Civil Systems	219.3	March:	Stable	218.6	−0.3
EBIT/EBITDA margin	106.9 / 14.3 %	March August:	Between 14.5 and 15.0% Around 15%	127.5 / 15.3 %	19.3
Optics & Life Science	58.7	March:	Stable at high level	69.9	19.1
Mobility	27.9	March:	Marked rise	40.5	45.4
Defense & Civil Systems	23.8	March:	Stable	24.4	2.2
EBIT/EBIT margin	78.0 / 10.4 %	February: August:	Between 10.5 and 11.0% Approx. 11%	94.9 / 11.4 %	21.6
Order intake	802.9	March:	Stable (2017 includes operational one-off effect)	873.7	8.8
Free cash flow	72.2	March:	Slightly above 2017 figure	108.3	49.9
Capital expenditure [1]	37.9	March:	Over 40 million euros	42.5	12.2

[1] without capital expenditure on financial investments

the two segments Mobility and Optics & Life Science. Overall good business performance was facilitated by strong demand from the semiconductor equipment industry, and also the traffic solutions business provided considerable support for the growth. In addition, the acquisitions in the Automotive area, in particular that of Prodomax Automation Ltd., made a key contribution to revenue in the amount of 37.0 million euros. T26

For more information on the development of revenue in the segments see the Segment Report

On a regional level, growth stimulus came from Germany and abroad. Outside Germany, Europe remained the region with the highest revenue, followed by the Americas. Revenue in Germany increased to 240.5 million euros, in particular due to deliveries of toll monitoring systems in the Mobility segment. In Europe, the share of group revenue was expanded to 29.3 percent as a result of the good demand from the semiconductor equipment industry (prior year: 28.4 percent). Revenue in the Americas also rose significantly by 19.7 percent in comparison with the prior year due to the acquisition but also to greater demand for optical systems and laser processing machines for the automotive industry. Revenue in the Asia/Pacific region fell to 100.8 million euros (prior year: 111.3 million euros). This reduction was due mainly to the termination of a traffic safety project in Australia. In the Middle East/Africa, revenue increased to 40.8 million euros, well above the prior year's level (prior year: 28.1 million euros). At 594.1 million euros, Jenoptik generated 71.2 percent of revenue abroad in the past fiscal year (prior year: 525.3 million euros or 70.2 percent). T27

In 2018, Jenoptik again generated its greatest share of revenue of 33.7 percent in the automotive/mechanical engineering target market (prior year: 30.4 percent). The share of revenue in the security and defense technology sector fell slightly to 18.9 percent (prior year: 20.8 percent). Revenue generated by the semiconductor equipment industry increased due to the industry boom, business in the aviation & traffic market as well as the medical technology market. In 2018, 18.0 percent of the group revenue was attributable to the top 3 customers (prior year: 18.3 percent). T29

The cost of sales rose by 11.9 percent to 541.5 million euros and thus at a slightly stronger rate than the revenue (prior year: 484.0 million euros). The main cause for this was increased

T26 Revenue by segment (in million euros)

	2018	2017	Change in %
Group	834.6	747.9	11.6
Optics & Life Science	290.0	259.4	11.8
Mobility	327.8	270.1	21.4
Defense & Civil Systems	218.6	219.3	−0.3
Other	−1.8	−0.8	−114.5

T27 Revenue by region (in million euros and as percent of total revenue)

	2018	2017	Change in %
Group	834.6	747.9	11.6
Germany	240.5	222.6	8.0
Europe	244.7	212.3	15.3
Americas	207.7	173.6	19.7
Asia/Pacific	100.8	111.3	−9.4
Middle East/Africa	40.8	28.1	45.2

material and personnel costs. The cost of sales includes expenses arising from developments on behalf of customers, which totaled 20.2 million euros (prior year: 22.2 million euros), which were offset by corresponding revenues. T28

The gross profit increased to 291.3 million euros (prior year: 263.9 million euros). At 35.1 percent, the gross margin was slightly below that of the prior year (prior year: 35.3 percent), due to a changed product mix, which in part requires a higher use of materials, as is the case with Prodomax, as well as impacts arising from the purchase price allocation.

Key factors in the Group's future performance and competitiveness are research and development. As part of Strategy 2022, we intend to invest more in the expansion of our system and application expertise in the future. Research and development expenses increased to 47.4 million euros in 2018 (prior year: 43.1 million euros). The share of R+D expenses as a proportion of revenue was 5.7 percent, the same level as the prior year (prior year: 5.8 percent).

Internationalization in conjunction with greater vertical integration and customer proximity in our priority regions are also key components of Strategy 2022. In the course of expanding international activities, the selling expenses increased by 8.4 percent to 87.0 million euros in 2018, due in part to depreciation/amortization in connection with the Prodomax acquisition. The selling expenses ratio at 10.4 percent was slightly down on the prior year (prior year: 10.7 percent).

In spite of first time consolidations, administrative expenses remained almost stable, at 56.1 million euros, compared with the prior year (prior year: 55.8 million euros). The prior year was characterized, among other things, by an increased valuation of share-based payments for the Executive Board and some members of the top management. At 6.7 percent, the administrative expenses ratio was less than the prior year's figure of 7.5 percent.

Other operating income increased to 20.9 million euros (prior year: 15.7 million), in particular due to positive currency effects totaling 9.7 million euros (prior year: 8.2 million euros) and income arising from the reversal of impairments on receivables.

Other operating expenses came to 28.4 million euros (prior year: 22.6 million euros). They included expenses for group projects such as preparations for the latest cloud-based business warehouse technology and additional process optimizations as well as costs relating to the acquisitions. Currency losses of 8.8 million euros were lower than in the prior year (prior year: 11.8 million euros), while impairment losses and depreciation/amortization arising from the purchase price allocation recorded an increase.

For more detailed information on research and development in the Jenoptik Group see from page 81

For detailed information on the composition of the other operating income and expenses, as well as total other comprehensive income, see the Notes

T28 Key items in the Statement of Comprehensive Income (in million euros)

	2018	2017	Change in %
Cost of sales	541.5	484.0	11.9
R+D expenses	47.4	43.1	10.1
Selling expenses	87.0	80.3	8.4
Administrative expenses	56.1	55.8	0.6
Other operating income	20.9	15.7	32.5
Other operating expenses	28.4	22.6	25.9

T29 Revenue by target market (in million euros and as percent of total revenue)

	2018		2017	
Automotive & mechanical engineering	281.3	33.7%	227.0	30.4%
Security & defense technology	157.7	18.9%	155.8	20.8%
Aviation & traffic	162.5	19.5%	153.0	20.5%
Semiconductor equipment industry	150.0	18.0%	127.8	17.1%
Medical technology	44.6	5.3%	43.4	5.8%
Other	38.7	4.6%	41.0	5.5%
Total	**834.6**	**100%**	**747.9**	**100%**

Strong revenue growth and a relatively low increase in functional costs led to a significant improvement in the operating result by 21.6 percent (prior year: 78.0 million euros). With a total of 94.9 million euros, Jenoptik thus achieved a new record in operating result (EBIT). Group EBIT includes the operating result of the acquired companies in the amount of minus 0.5 million euros including effects arising from the purchase price allocation of minus 10.5 million euros. The acquisitions costs amounted to 1.9 million euros. Despite the above-mentioned negative impacts, the Group's EBIT margin climbed to 11.4 percent (prior year: 10.4 percent), thereby exceeding the target of around 11 per cent set for 2018. The clear rise in earnings in the Optics & Life Science and Mobility segments has contributed significantly to this. T32

For information on the segment EBIT see the Segment Report from page 103 on

The earnings before interest, taxes, depreciation and amortization (EBITDA) including impairment losses and reversals followed this positive development and also increased overall at a faster rate than revenue, by 19.3 percent to a total of 127.5 million euros (prior year: 106.9 million euros). The EBITDA margin accordingly increased to 15.3 percent (prior year: 14.3 percent). Included in the EBITDA are impacts of minus 7.0 million euros arising from the purchase price allocation and acquisition costs of 1.9 million euros. T31

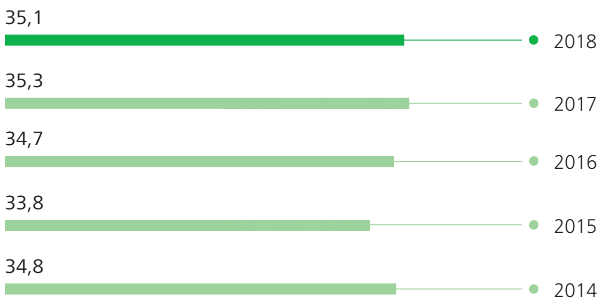
As of December 31, 2018, due to the increase in earnings, the Group's ROCE (Return on Capital Employed) also improved to 20.2 percent (prior year: 18.2 percent). Jenoptik shows this indicator inclusive of goodwill and before taxes. The calculation of the ROCE is explained in the glossary on page 220 and shown in the following table. The average tied capital is calculated as the average of the month end values in the reporting period. T30

The financial result fell to a total of minus 3.5 million euros (prior year: 2.0 million euros). One of the main reasons for this was significantly lower investment result, as profit generated from the disposal of a minority holding abroad had a strongly positive impact in 2017. Earnings were boosted by positive currency effects totaling 1.0 million euros (prior year: minus 1.0 million euros), while lower interest income in the amount of 0.3 million euros (prior year: 0.7 million euros) as well as increased interest expenses of minus 4.9 million euros (prior year: minus 4.4 million euros) had a negative effect on earnings.

T30 ROCE (in million euros)

	2018	2017
Long-term non-interest bearing assets	327.6	284.0
Short-term non-interest bearing assets	332.7	316.0
Non-interest bearing borrowings	−190.7	−171.4
Average tied capital	469.6	428.6
EBIT	94.9	78.0
ROCE (in percent)	20.2	18.2

G15 Development of the gross margin (in percent)



T31 EBITDA (in million euros)

	2018	2017	Change in %
Group	127.5	106.9	19.3
Optics & Life Science	69.9	58.7	19.1
Mobility	40.5	27.9	45.4
Defense & Civil Systems	24.4	23.8	2.2
Other	−7.3	−3.5	−109.5

T32 EBIT (in million euros)

	2018	2017	Change in %
Group	94.9	78.0	21.6
Optics & Life Science	62.3	50.5	23.4
Mobility	27.7	18.5	49.4
Defense & Civil Systems	20.1	19.2	4.9
Other	−15.2	−10.1	−50.0

Despite a drop in the financial result, the sharp rise in the EBIT was also reflected in the earnings before tax, which at a total of 91.4 million euros were 14.2 percent up on the prior year (prior year: 80.1 million euros).

The current income taxes reduced to 11.0 million euros (prior year: 14.3 million euros). Of these, 11.2 million euros (prior year: 8.0 million euros) were levied in Germany and minus 0.2 million euros (prior year: 6.4 million euros) abroad. The increase in Germany can be attributed in particular to the higher income during the reporting period. The negative taxes abroad result among other things from a refund in connection with the US tax reform, the setting off of tax assets, and a deviating taxation of profit in connection with the acquisition of Prodomax. In Germany, JENOPTIK AG's losses carried forward had the effect of reducing the tax burden.

The Jenoptik Group's cash effective tax rate, the relationship between the current income taxes and the earnings before tax, remained at 12.0 percent (prior year: 17.9 percent) at a comparatively low level for German companies due to the high domestic earnings and the usable losses carried forward.

Non-cash deferred tax income amounted to 7.0 million euros in the past fiscal year (prior year: 6.9 million euros). Therefore, the group tax rate came to 4.38 percent (prior year 9.27 percent). We expect a higher tax rate for the current fiscal year.

See the Notes for detailed information on the subject of taxes

In 2018, due not least to the deferred tax income, Jenoptik generated earnings after tax of 87.4 million euros, a significant improvement of 20.4 percent (prior year: 72.7 million euros). At 87.6 million euros, earnings attributable to shareholders were well above the prior year's figure of 72.5 million euros, and the earnings per share of 1.53 euros also significantly exceeded the prior year's value of 1.27 euros.

A new record figure of 873.7 million euros was also achieved in the 2018 fiscal year, when the order intake rose by a total of 70.8 million euros (prior year: 802.9 million euros). This increase is the result of stronger demand from the Optics & Life Science segments. The major orders for the supply of traffic safety technology to the Middle East are already included in this figure. The order intake in 2018 was thus both above the prior-year value and above the revenue level. The book-to-bill-ratio remained stable against this background at 1.05 (prior year: 1.07). T33 T36 G16

See the Segment Report for detailed information on the order intake in the segments

T33 Order intake (in million euros)

	2018	2017	Change in %
Group	873.7	802.9	8.8
Optics & Life Science	350.8	295.5	18.7
Mobility	319.3	303.7	5.2
Defense & Civil Systems	203.5	206.2	−1.3
Other	0.1	−2.4	103.5

T34 Order backlog (in million euros)

	2018	2017	Change in %
Group	521.5	453.5	15.0
Optics & Life Science	165.0	109.1	51.2
Mobility	182.0	144.7	25.8
Defense & Civil Systems	175.4	202.6	−13.4
Other	−0.9	−2.9	67.8

T35 Frame contracts (in million euros)

	2018	2017	Change in %
Group	62.5	87.6	−28.7
Optics & Life Science	11.8	11.1	6.5
Mobility	19.2	30.1	−36.3
Defense & Civil Systems	31.4	46.3	−32.2

T36 Book-to-bill ratio (in percent)

	2018	2017
Group	1.05	1.07
Optics & Life Science	1.21	1.14
Mobility	0.97	1.12
Defense & Civil Systems	0.93	0.94

The order backlog at the end of 2018 increased considerably to 521.5 million euros (31/12/2017: 453.5 million euros). Of this order backlog, 79 percent will still be converted to revenue in the current year. In conjunction with a well-filled order pipeline, this is a solid basis for the forecast growth in the 2019 fiscal year. T34

There were also frame contracts worth 62.5 million euros (31/12/2017: 87.6 million euros). Frame contracts are contracts or framework agreements with customers, where the exact extent and time of occurrence cannot yet be specified precisely. The decline in the frame contracts is due to a reclassification in the order intake as well as to reduction of contract volume by the customer, among other things. T35

Financial position

Principles and targets of finance management

The central Treasury department plans for requirements and controls the provision of liquid resources within the Group. The Group's financial flexibility and solvency is guaranteed at all times on the basis of multi-year financial planning and monthly rolling liquidity planning.

A cash pooling system also ensures the liquidity supply to all the major companies in the euro zone and North America. Starting in 2018, amounts in USD have been automatically transferred back and forth between JENOPTIK North America, Inc. in the US and JENOPTIK AG in Germany on a daily basis.

As a result of the above measures, the existing syndicated loan, the issued debenture loans, and a high level of cash and cash equivalents, the Group's liquidity in the past fiscal year was sufficiently secured at all times.

Primarily using forward exchange transactions, Jenoptik hedges orders in foreign currencies, thereby reducing the consequences of exchange rate fluctuations on earnings and cash flow. Derivative financial instruments are used exclusively to hedge the operating business and necessary financial transactions, e.g. internal loans or acquisition financing in foreign currencies. We recently increased the hedging of our internal loans in GBP with regard to Brexit.

There were thus no changes to our financing principles in the 2018 fiscal year.

For more information see the Notes.

Capital structure and financing analysis

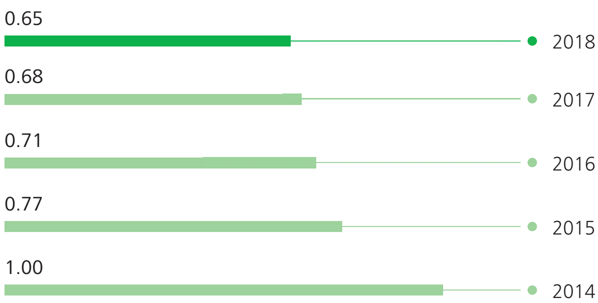
With an excellent equity ratio of 60.6 percent as of December 31, 2018, the debenture loans, and the syndicated loan, the Group has a viable financing structure. This gives Jenoptik the flexibility and financial latitude to finance future organic growth and acquisitions, and thus to implement our international growth strategy.

The debenture loans issued in 2015, originally with a maturity of five or seven years and a total volume of 125.0 million euros, are subject to variable or fixed interest rates. This secures Jenoptik's medium-term financing structure. In addition, the Group is in a position to make use of a credit line on attractive terms thanks to the syndicated loan agreement worth 230.0 million euros that was concluded in 2015 and, as optionally extended, runs until 2022. Financial covenants have been agreed for the syndicated loan, and Jenoptik is in compliance with all their conditions.

In addition to cash and cash equivalents of 89.3 million euros and current financial investments of 59.5 million euros, the

G16 Development of the book-to-bill ratio (in percent)

G17 Debt-to-equity ratio (in percent)



Group also has unused volume from framework credit agreements totaling 220.2 million euros to fall back on. This means that Jenoptik has more than 350 million euros available for corporate development projects.

In 2018, the Group's non-current financial debt increased slightly to 111.4 million euros (31/12/2017: 108.6 million euros). The balance sheet item comprised almost exclusively financial liabilities to banks in the amount of 108.2 million euros (31/12/2017: 107.9 million euros). At the end of 2018, non-current financial debt accounted for around 92 percent of Jenoptik's financial debt (31/12/2017: 85 percent).

The current financial debt fell to 10.1 million euros (31/12/2017: 19.3 million euros), in part due to repayment of a tranche of the debenture loans.

As the equity posted at year-end 2018 was 68.0 million euros up on the prior year but borrowed capital increased by only 28.8 million euros, the debt-to-equity ratio improved further, to 0.65 (31/12/2017: 0.68). The debt-to-equity ratio is defined as the ratio between borrowings (388.0 million euros) and equity (598.0 million euros). G17

At year-end of 2018, the net cash position, defined as the total cash and cash equivalents and current financial investments minus current financial debt, amounted to 138.6 million euros (31/12/2017: 177.5 million euros). Cash and cash equivalents including current financial investments fell compared to the prior year, primarily due to the acquisitions of Prodomax and the OTTO Group, to 148.7 million euros (31/12/2017: 196.9 million euros), while current financial debt fell to 10.1 million euros (prior year: 19.3 million euros).

After reporting a low level of net debt at the end of the third quarter, primarily due to the company acquisitions, Jenoptik remained free of net debt at the end of the fiscal year as a result of good cash flows from operating activities. As of December 31, 2018, net debt came to minus 27.2 million euros (31/12/2017: minus 69.0 million euros). This positive development was achieved despite the above-mentioned acquisitions, a higher dividend payment of 17.2 million euros (prior year: 14.3 million euros), and increased capital expenditure. T37

Analysis of capital expenditure

The focus of capital expenditure is derived from the group strategy and is in line with the planned growth targets and the asset structure of the Group. To ensure this, the individual investments are systematically reviewed with respect to sustainability or their value contribution on the basis of performance and financial indicators, and all risks and opportunities are thoroughly analyzed.

In 2018, the Group invested 42.5 million euros (prior year: 37.9 million euros) on intangible assets, property, plant, and equipment, and investment property. Investments were primarily made to create the conditions for growth and new customer orders, for example by increasing manufacturing capacity at various locations in Germany and abroad, e.g. in Bayeux and Berlin. 2018 saw the start of a project to build a new company building featuring cutting-edge development, production, and office spaces for industrial metrology at the Villingen-Schwenningen location. T38 T39

At 37.9 million euros, once again the largest share of capital expenditure was on property, plant, and equipment (prior year: 33.8 million euros).

T37 Net and gross debt (in million euros)

	2018	2017	2016	2015	2014
Non-current financial debt	111.4	108.6	120.5	113.2	156.8
Current financial debt	10.1	19.3	4.1	14.9	5.1
Gross debt	**121.5**	**127.9**	**124.6**	**128.1**	**161.9**
minus securities	59.5	64.6	50.5	0.4	0.3
minus cash and cash equivalents	89.3	132.3	92.0	83.8	69.5
Net debt	**–27.2**	**–69.0**	**–17.9**	**43.9**	**92.1**

Mainly due to higher license fees and capitalized development expenses, capital expenditure for intangible assets slightly exceeded the prior-year level, coming to 4.5 million euros (prior year: 4.2 million euros). Investment was again made in the IT landscape and other group projects. During the reporting period, development services arising from internal projects and worth 1.3 million euros were capitalized (prior year: 0.5 million euros).

For more information on capital expenditure by segment see the Segment Report from page 103 on; on future investment projects in the Forecast Report from page 128 on

Scheduled depreciation / amortization totaled 30.6 million euros (prior year: 28.7 million euros). Impairment losses and reversals came to minus 2.1 million euros (prior year: minus 0.2 million euros).

Depreciation on property, plant, and equipment was virtually unchanged at 21.6 million euros (prior year: 21.2 million euros) and thus well below capital expenditure on property, plant, and equipment.

Amortization on intangible assets amounted to 8.9 million euros (prior year: 7.4 million euros), and, as in the prior year, primarily included amortization of patents, trademarks, and software, as well as intangible assets identified in the course of company acquisitions.

Analysis of cash flows

Over the reporting year, cash flows from operating activities increased to 135.5 million euros (prior year: 96.3 million euros), primarily due to higher earnings before tax and the positive impact from the change in working capital, while higher payments for income taxes due to increased back payments and prepayments had a negative effect.

Cash flows from investing activities fell to minus 117.5 million euros in 2018 (prior year: minus 42.2 million euros). Payments of 81.4 million euros for the acquisition of consolidated entities were the main reason for this increase, but higher capital expenditure for intangible assets and property, plant, and equipment also impacted on cash flows. Proceeds from sale of financial assets within the framework of short-term disposition exceeded payments by 4.1 million euros and thus had a positive impact (prior year: negative impact of minus 14.5 million euros).

For more information on the acquisitions see the Notes, on page 148 ff.

T38 Capital expenditure and depreciation / amortization (in million euros)

	2018	2017	Change in %
Capital expenditure	42.5	37.9	12.2
Intangible assets	4.5	4.2	9.1
Property, plant, and equipment	37.9	33.8	12.3
Investment properties	0.1	0	–
Depreciation / amortization / impairment losses and reversals	32.6	28.9	12.9
Intangible assets	10.1	7.4	37.1
Property, plant and equipment	22.4	21.4	4.7
Investment properties	0.1	0.1	3.3

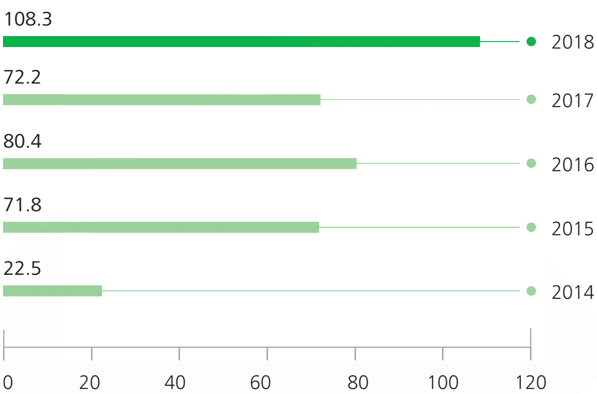
T39 Capital expenditure by segment – intangible assets and property, plant and equipment (in million euros)

	2018	2017	Change in %
Group	42.5	37.9	12.2
Optics & Life Science	16.4	11.3	45.8
Mobility	13.8	17.5	–21.2
Defense & Civil Systems	5.7	4.5	26.0
Other	6.6	4.7	42.5

Over the period covered by the report, improved cash flows from operating activities before taxes and interest resulted in a significant rise in the free cash flow to 108.3 million euros (prior year: 72.2 million euros), despite a higher level of capital expenditure. The free cash flow is calculated as the cash flows from operating activities before payments for income tax in the amount of 149.3 million euros (prior year: 105.1 million euros), less expenditure for operating investment activities, i. e. minus inflows and outflows of funds for intangible assets and property, plant, and equipment, amounting to 41.1 million euros (prior year: 32.8 million euros).

The cash flows from financing activities amounted to minus 60.9 million euros (prior year: minus 12.9 million euros) in the 2018 fiscal year. It was impacted primarily by repayments of bonds and loans of minus 40.3 million euros (prior year: minus 3.6 million euros). In addition to repayment of a tranche of the debenture loans, this item particularly includes repayments of bank loans held by Prodomax in the course of the company's acquisition. In addition, cash flows from financing activities were influenced by a higher dividend payment of 17.2 million euros (prior year: 14.3 million euros).

G18 Free cash flow (in million euros)



For more information on the changes to the consolidated companies see the Notes

Asset position

As of December 31, 2018, the Jenoptik Group's total assets increased to 985.9 million euros, up on the figure at year-end 2017 (31/12/2017: 889.1 million euros). The increase by 96.8 million euros is mainly due to the company acquisitions. By contrast, cash and cash equivalents together with other current non-financial liabilities, in particular, saw a fall.

Non-current assets rose sharply to 491.8 million euros (31/12/2017: 376.2 million euros). Particularly strong growth was seen in the intangible assets and property, plant, and equipment. The former primarily rose as a range of intangible assets such as customer bases and order backlogs were identified and goodwill was recognized during the purchase price allocation in connection with the acquisition of shares in Prodomax and the OTTO Group. The "Goodwill" item increased, in particular due to the acquisitions, to 159.8 million euros (31/12/2017: 101.4 million euros), and thus remained the largest item in intangible assets. Property, plant, and equipment increased to 185.9 million euros (31/12/2017: 164.7 million euros). Due to the capitalization of other deferred taxes on tax losses carried forward, the deferred tax assets increased to 86.3 million euros in the reporting year (prior year: 78.9 million euros).

For more information on intangible assets, on property, plant, and equipment, and on the impacts on these items arising from the company acquisitions see the Notes, sections 5.1, 5.2 and 4.2

There were only minor changes in the remaining items under non-current assets.

T40 Cash flows (in million euros)

	2018	2017	2016	2015	2014
Cash flows from operating activities	135.5	96.3	100.1	85.1	46.3
Cash flows from investing activities	–117.5	–42.2	–71.3	–7.2	–37.6
Cash flows from financing activities	–60.9	–12.9	–20.7	–66.5	–13.8
Cash-effective change in cash and cash equivalents	–42.9	41.3	8.0	11.4	–5.0
Non-cash change in cash and cash equivalents	–0.1	–0.9	0.1	2.9	2.9
Change in cash and cash equivalents	**–43.1**	**40.3**	**8.1**	**14.3**	**–2.1**
Cash and cash equivalents at the end of the fiscal year	**89.3**	**132.3**	**92.0**	**83.8**	**69.5**

Over the past fiscal year, current assets fell to 494.1 million euros (31/12/2017: 512.9 million euros). The acquisitions made in the reporting period were paid for entirely using cash and cash equivalents, producing a fall in cash and cash equivalents to 89.3 million euros (31/12/2017: 132.3 million euros). Current financial investments also fell following the repayment of cash investments. Due to the first-time application of IFRS 15, the "Contract assets" item was posted for the first time with a value of 23.4 million euros. Primarily as a result of this new item, current trade receivables fell to 131.2 million euros (31/12/2017: 136.0 million euros). Inventories rose to 175.6 million euros (31/12/2017: 168,6 million euros), as the increase due to operating activities (15.4 million euros) more than compensated for the effect of first-time application of IFRS 15 (minus 8.5 million euros).

For more information on the application of IFRS 15, see the chapter "Change to accounting and valuation principles"

Primarily due to higher operating receivables (trade receivables and contract assets) and inventories resulting from both revenue growth and the company acquisitions, the working capital increased to 216.8 million euros at the end of December (31/12/2017: 214.8 million euros). Despite the absolute increase, active working capital management meant that the working capital ratio, that of working capital to revenue, fell significantly, to 26.0 percent (31/12/2017: 28.7 percent).

The substantial increase in earnings after tax posted at the end of the 2018 fiscal year, minus the dividend payment, primarily resulted in equity, inclusive of non-controlling interests, growing by 68.0 to 598.0 million euros (31/12/2017: 529.9 million euros). Following the higher increase in equity relative to total assets, the equity ratio, that of equity to total assets, improved further to 60.6 percent (31/12/2017: 59.6 percent). G19

At the end of 2018, non-current liabilities rose to 170.3 million euros (31/12/2017: 162.1 million euros). Key reasons for this were an increase of 2.8 million euros in the non-current financial debt (new finance leasing agreements and first-time consolidation of ASAM Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG) to 111.4 million euros, the increase in other non-current financial liabilities (variable purchase price

T41 Elements of working capital (in million euros)

	2018	2017	Change in %
Inventories	175.6	168.6	4.1
Trade receivables (prior year trade receivables from third parties and construction contracts)	131.2	135.8	−3.4
Contract assets	23.4	0	
Trade payables (prior year trade payables towards third parties and from construction contracts)	60.1	61.5	−2.3
Contract liabilities	53.3	0	
Liabilities arising from advance payments	0	28.2	
Total	**216.8**	**214.8**	**1.0**

T42 Financial debt by due date (in million euros)

	Up to 1 year		1 to 5 years		Total as at 31/12	
	2018	2017	2018	2017	2018	2017
Liabilities to banks	9.3	19.2	108.2	107.9	117.5	127.0
Liabilities from finance leases	0.8	0.2	3.2	0.7	4.0	0.9
Total	**10.1**	**19.3**	**111.4**	**108.6**	**121.5**	**127.9**

components from the acquisition of the OTTO Group and derivatives), and deferred tax liabilities in connection with the acquisition of Prodomax.

A major element of the non-current financial debt are the debenture loans totaling 103 million euros.

Current liabilities rose to 217.7 million euros (31/12/2017: 197.1 million euros). The "Contract liabilities" item, valued at 53.3 million euros, was posted for the first time in connection with the application of IFRS 15. Other current non-financial liabilities primarily fell due to the reclassification of advance payments to contract liabilities. The repayment of debenture loans was the main reason for a fall in current financial debt. As at year-end 2018, current liabilities included trade accounts payable in the amount of 60.1 million euros (31/12/2017: 61.7 million euros). Other current provisions increased to 58.7 million euros (31/12/2017: 51.2 million euros), chiefly due to additions to personnel and warranty provisions, among others, for the 2018 fiscal year.

Acquisitions and disposals:
The following acquisitions and disposals were made in 2018:

Prodomax Automation Ltd.
In July, Jenoptik acquired a 100 percent stake in Prodomax Automation Ltd., Barrie (Ontario), Canada, through its US company JENOPTIK North America Inc.

OTTO Vision Technology GmbH and OVITEC GmbH
In late August 2018, Jenoptik acquired a 100 percent stake in OTTO Vision Technology GmbH and OVITEC GmbH (OTTO Group).

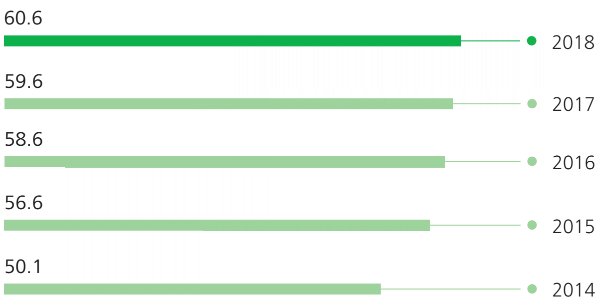
More information on the acquisitions of these companies can be found in the Segment Report, on page 106, and in the Notes, from page 148 on.

There were no other significant acquisitions or disposals in 2018.

Assets and liabilities not included on the Statement of Financial Position

The value of the Jenoptik brand is one of the main assets not included on the statement of financial position. Within the highly fragmented photonics market, which is characterized by a multitude of highly-specialized companies, Jenoptik is considered a key supplier. We aim to further boost awareness of our brand, especially on the international stage, in the coming years. Since February 2019, the company has been on the market with a new brand positioning and a new corporate design.

G19 Equity ratio (in percent)



T43 Elements of interest-bearing liabilities (in million euros)

	2018	2017	Change in %
Current	10.1	19.3	−47.6
Liabilities to banks	9.3	19.2	−51.5
Liabilities from finance leases	0.8	0.2	359.6
Non-current	111.4	108.6	2.6
Liabilities to banks	108.2	107.9	0.3
Liabilities from finance leases	3.2	0.7	360.4

For more information on the brand, see the Non-financial Report

With the Strategy 2022 the Group is set to concentrate on the core photonics expertise in light and optics under the Jenoptik brand. The independent VINCORION brand for the mechatronics business (formerly part of the Defense & Civil Systems segment) was launched in 2018 to take better account of specific market requirements.

Non-capitalized tax losses carried forward. Tax losses carried forward arise from losses in the past that have not yet been offset against taxable profits. They represent potential future cash flow benefits, since actual tax payments can be reduced by these losses being offset against taxable profits.

For the remaining losses carried forward, deferred tax assets are not recognized for corporate tax purposes in the amount of 26.2 million euros (prior year: 105.0 million euros) and trade tax purposes in the amount of 181.7 million euros (prior year: 267.9 million euros), as they are unlikely to be used within a determined planning time frame. Equally, no deferred tax assets were recognized for deductible timing differences in the amount of 8.3 million euros (prior year 6.2 million euros).

Jenoptik does not utilize any off-balance sheet financing instruments for its financial and asset position, such as sales of accounts receivable or asset-backed securities. For details of operating leases, we refer to the Notes, from page 171 f. on.

Information on contingent assets and liabilities can be found in the Notes, from page 198 on.

Clauses in contracts concluded by JENOPTIK AG, which apply in the event of a change of control within the ownership structure of JENOPTIK AG following a takeover bid, exist for financing agreements with a total utilized volume of approximately 120.0 million euros (prior year: 122.7 million euros). More information can be found in the Remuneration Report, from page 44 on, and in the Information on Takeover Law, from page 41 on.

General Statement by the Executive Board on the Development of Business

In the 2018 fiscal year, Jenoptik continued on its successful path of growth and achieved new revenue and earnings records, with revenue increases seen in the Optics & Life Science and Mobility segments. As expected, the Defense & Civil Systems segment saw stable development. The rise in revenue was particularly facilitated by strong demand from the semiconductor equipment industry, for traffic safety technology (toll monitoring systems), and, on a regional level, by strong growth in the Americas and Europe. The acquisitions in the automotive business, in particular Prodomax, also made a significant contribution to revenue. Thanks to a more profitable revenue mix and active cost management, we succeeded in achieving an above-average increase in EBITDA and EBIT, despite the impacts arising from the purchase price allocation in connection with the acquisitions.

We also achieved a sharp increase in our order intake and order backlog. A book-to-bill ratio of 1.05 means we have created a very solid basis for the Group's further profitable growth.

With very good earnings capacity and strong cash flows, we were able to finance not only our operating business but also higher investments and the acquisitions of Prodomax and the OTTO Group. The free cash flow saw a significant increase and, at year-end 2018, the Group was free of net debt despite the company acquisitions. Our equity ratio rose again. We were able to improve our total assets as well as other financial and balance sheet indicators.

Overall, the Executive Board was very satisfied with the company's performance.

Segment Report

The range of services and competitive positioning of the segments are set out in greater detail in the Group Business Model chapter, from page 72 on.

Information on the various markets can be found in the Sector Report, from page 88 on, and on future developments in the Forecast Report, from page 124 on.

Optics & Life Science Segment

In the 2018 fiscal year, the Jenoptik Group further expanded its already strong market position as a high-tech photonics company in the Optics & Life Science segment, which as an OEM partner supports its customers with a broad technology portfolio covering everything from development to volume production. Cooperation as a development and production partner with numerous international market leaders was stepped up. Integrated solutions for semiconductor manufacturing underwent further development, while the product range for the IT and communications technology (ICT) markets was expanded. The segment also focused on the medical technology and life science markets, for example with the successful launch of a modular technology platform for analysis and diagnostics solutions in the bio-imaging sector.

The Optics & Life Science segment achieved a new revenue and earnings record in the 2018 fiscal year. Revenue rose 11.8 percent to 290.0 million euros (prior year: 259.4 million euros), with the segment particularly benefiting from good business with solutions for the semiconductor equipment industry and healthy growth in the healthcare and industry business. In total, around 79 percent of the segment's revenue was generated abroad in 2018 (prior year: 79 percent), with Europe still enjoying the greatest share, followed by the Americas.

The segment generated EBIT of 62.3 million euros (prior year: 50.5 million euros). The operating results thus improved by 23.4 percent, mostly for the reasons set out above. The EBIT margin increased sharply to 21.5 percent (prior year: 19.5 percent). Income from operations before depreciation and amortization (EBITDA) also grew significantly, by 19.1 percent to 69.9 million euros (prior year: 58.7 million euros); the EBITDA margin increased to 24.1 percent (prior year: 22.6 percent).

In the 2018 fiscal year, the order intake significantly exceeded the prior-year level by 18.7 percent, particularly following a strong fourth quarter, and was worth 350.8 million euros (prior year: 295.5 million euros). This increase was particularly facilitated by stronger demand for optical systems. Because the order intake grew at a greater rate than revenue, the book-to-bill ratio also rose, to 1.21 (prior year: 1.14).

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T44 Optics & Life Science segment at a glance (in million euros)

	2018	2017	Change in %
Revenue	290.0	259.4	11.8
EBITDA	69.9	58.7	19.1
EBITDA margin in %	24.1	22.6	
EBIT	62.3	50.5	23.4
EBIT margin in %	21.5	19.5	
Capital expenditure	16.4	11.3	45.8
Free cash flow	52.7	47.5	11.1
Order intake	350.8	295.5	18.7
Order backlog	165.0	109.1	51.2
Frame contracts	11.8	11.1	6.5
Employees	1,241	1,149	8.0

The order backlog increased by 55.9 million euros at the end of the year, to 165.0 million euros (31/12/2017: 109.1 million euros), thus forming a solid basis for the present fiscal year. The segment also had frame contracts worth 11.8 million euros (31/12/2017: 11.1 million euros).

With a free cash flow of 52.7 million euros (before interests and income taxes), the segment exceeded the good level of the prior year in spite of higher capital expenditure and the growth-related increase in working capital (prior year: 47.5 million euros). This was primarily due to a good earnings performance. The segment's working capital grew to a figure of 64.1 million euros, primarily due to inventory increases made in preparation for revenues in 2019 (prior year: 56.0 million euros).

As of December 31, 2018, the segment had a total of 1,241 employees, 92 more than in the prior year. The segment had 31 people in trainee positions at the end of 2018.

R+D expenses in the past fiscal year totaled 15.7 million euros (prior year: 13.4 million euros). Including developments on behalf of customers, the segment's R+D output came to 23.8 million euros, slightly up on the prior year (prior year: 21.1 million euros). The share of total R+D output in segment revenue was 8.2 percent (prior year: 8.1 percent).

For more information on the key development topics, see the "Research and Development" chapter

Capital expenditure on property, plant, and equipment as well as intangible assets rose sharply, to 16.4 million euros (prior year: 11.3 million euros). It was offset by depreciation/amortization in the sum of 7.7 million euros (prior year: 8.0 million euros). Key areas of investment in the 2018 fiscal year included the expansion of capacities and the technological development of the manufacturing infrastructure, e.g. for the production and coating of optical components. Since 2018, Jenoptik has also been upgrading and expanding its production facilities in Berlin, where newly installed systems are accelerating order handling in the production of high-power laser diodes. The segment is thus ensuring its preparedness to meet sustained high demand for semiconductor lasers. These investments are helping the Group to lastingly secure its competitiveness in its core business of photonics.

Production and organization. Within the segment, a range of initiatives focusing on internal customer and supplier relationships were continued in 2018, resulting in an improvement in the quality of the manufactured products as well as in the development of new products. Further development of the work cell structure allowed customer-related planning processes to be more closely interlinked with internal processes, resulting in shorter lead, handling, and waiting times.

A management structure organized by production systems was gradually introduced at the individual production sites and a corresponding infrastructure and quality management system were established. This made it possible to further improve our overall productivity. On the basis of an increased share of business, e.g. in the automotive and consumer electronics market segments, and the high or very high resulting production quantities, the segment also made targeted investments in new production facilities and considerably boosted both its degree of automation and the efficiency of its production lines.

To better meet the growing demands of our international customers, Jenoptik inaugurated a new site in Fremont, located in California's Silicon Valley, at the beginning of the 2018 fiscal year, thereby putting it in the direct presence of its customers on the west coast of the US. Jenoptik can thus address the region's particular needs, especially in the areas of application engineering and product development, and further accelerate its own growth, particularly in the US.

The Light & Optics division launched its new organizational structure on January 1, 2019, combining the former Optical Systems and Healthcare & Industry divisions, together with the sensors business that was previously part of the Defense & Civil Systems division. The new division operates in three strategic business units: Semiconductor & Advanced Manufacturing, Biophotonics, and Industrial Solutions. Sales and production (Operations) were brought together globally under one management.

In addition, the corporate structure in Germany is being streamlined. The legal merger of the companies will be gradually completed in March 2019.

Mobility Segment

In 2018, the Mobility segment further boosted its position as a leading supplier of high-precision automated measuring systems and solutions for laser material processing in the automotive industry. With the acquisitions of Prodomax and the OTTO Group, the segment took a further step in its development to become an integrated supplier for high-tech production environments and for production metrology and industrial imaging applications.

Revenue in the Mobility segment increased by 21.4 percent to 327.8 million euros in 2018 (prior year: 270.1 million euros), with the acquired companies contributing 37.0 million euros to this figure. This equated to organic growth of 7.7 percent. Both solutions for the automotive industry and traffic safety technology systems saw increased demand, the latter primarily due to the delivery of toll monitoring systems. Particularly in the fourth quarter, the strong revenue contribution made by the automotive and traffic solutions business allowed the segment to post its highest ever revenue for a quarter, of 104.4 million euros.

At around 70 percent, the segment again generated most of its revenue abroad in 2018 (prior year: approximately 72 percent). Revenues in the Americas increased particularly due to the contribution made by Prodomax; in Germany due to the delivery of toll monitoring systems; and in the Middle East/Africa due to the settlement of traffic safety projects. Reflecting project volumes, revenue in Asia/Pacific saw a slight decline.

Based on this good overall revenue growth, the segment EBIT grew to 27.7 million euros (prior year: 18.5 million euros). Here, again, the fourth quarter saw the highest earnings, of 10.8 million euros, in the past fiscal year. As expected, the segment thus posted a significantly improved quality of earnings compared to the prior year. EBIT for the newly acquired companies came to minus 0.5 million euros, with earnings accounting for the impacts of these acquisitions. Impacts arising from the purchase price allocation came to minus 10.5 million euros, costs for the acquisitions to 1.9 million euros. The prior-year group EBIT had included one-off costs for the project to supply toll monitoring systems. The EBIT margin improved to 8.4 percent (prior year: 6.9 percent). The EBITDA increased by 45.4 percent to 40.5 million euros (prior year: 27.9 million euros). The EBITDA margin rose to 12.4 percent, compared to 10.3 percent in the prior year. Included in the EBITDA are earnings-reducing impacts of minus 7.0 million euros from the purchase price allocation and acquisition costs of approximately 1.9 million euros.

The order intake in the segment increased by 5.2 percent to 319.3 million euros in 2018 (prior year: 303.7 million euros). This growth was generated in the automotive business, while in the traffic solutions business the major order to supply toll monitoring systems included in the order intake for the prior year could not be fully made up for in 2018. The order intake also includes the orders received by Prodomax and the OTTO Group since the acquisition date, in total worth 24 million euros. The book-to-bill ratio reached a figure of 0.97 in 2018 (prior

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T45 Mobility segment at a glance (in million euros)

	2018	2017	Change in %
Revenue	327.8	270.1	21.4
EBITDA	40.5	27.9	45.4
EBITDA margin in %	12.4	10.3	
EBIT	27.7	18.5	49.4
EBIT margin in %	8.4	6.9	
Capital expenditure	13.8	17.5	−21.2
Free cash flow	45.5	10.1	349.8
Order intake	319.3	303.7	5.2
Order backlog	182.0	144.7	25.8
Frame contracts	19.2	30.1	−36.3
Employees	1,527	1,326	15.2

year: 1.12). In the fourth quarter of 2018, Jenoptik received two orders to supply several hundred traffic monitoring systems to customers in the Middle East. Together, these orders are in the low double-digit million euros range. In January 2019, Jenoptik reported two orders from North American automotive customers to supply automation solutions worth over 12 million euros.

The value of the order backlog increased by 25.8 percent, to 182.0 million euros at the end of 2018 (31/12/2017: 144.7 million euros). Of this figure, the order backlog pertaining to the acquired companies was worth 35.9 million euros. The value of frame contracts fell to 19.2 million euros (31/12/2017: 30.1 million euros).

Lower capital expenditure and higher earnings were key reasons for the significant improvement in the segment's free cash flow (before interest and income taxes) to 45.5 million euros (prior year: 10.1 million euros). The segment's working capital increased to a value of 69.9 million euros (prior year: 68.0 million euros). This growth was comparatively small, as increased inventories and receivables built up in preparation for revenues in the new fiscal year were offset by higher debts.

As a result of the acquisitions, the Mobility segment had 1,527 employees as of December 31, 2018, a strong increase on the prior year (31/12/2017: 1,326 employees). As of the reporting date, 28 people were in trainee positions (31/12/2017: 22 trainees).

The segment's R+D output fell to a value of 26.8 million euros (prior year: 30.0 million euros). This included developments on behalf of customers in the amount of 9.2 million euros (prior year: 13.5 million euros). In the prior year, the segment posted development expenses particularly relating to the order to supply toll monitoring systems. The segment's R+D expenses came to 17.5 million euros (prior year: 16.4 million euros). In 2018, the share of R+D output in total revenue in the Mobility segment was 8.2 percent (prior year: 11.1 percent).

For more information on the key development topics, see the "Research and Development" chapter

The segment's capital expenditure on property, plant, and equipment and intangible assets (excluding effects from acquisitions) fell 21.2 percent to 13.8 million euros (prior year: 17.5 million euros). The prior year item in part included capital expenditure for construction of the new technology campus at the Rochester Hills location in Michigan, US. Capital expenditure was offset by depreciation/amortization in the sum of 11.7 million euros (prior year: 9.3 million euros).

Jenoptik continued to invest in expanding and upgrading its own development and production facilities in 2018. Around 3 million euros were invested in a modern production and sales environment for high-precision industrial metrology at the Bayeux location in France. 48 employees start work at the 2,500 m² building in the first quarter of 2019. Cutting-edge development, production, and office spaces for industrial metrology are being built at the Villingen-Schwenningen site at a cost of over 13 million euros. Construction will commence in the spring of 2019, with operations scheduled to start at the new site one year later.

In addition, the application centers for the laser processing business were expanded around the world in 2018. The Rochester Hills location in the US, for example, saw the installation of the new VOTAN A Scan laser application machine, supplementing existing application systems for cutting and welding and offering our customers the option to develop processes for new materials.

Acquisitions. Over the 2018 fiscal year, the Mobility segment successfully completed three acquisitions.

Prodomax Automation Ltd.: On the closing date in July 2018, Jenoptik acquired a 100 percent stake in Prodomax Automation Ltd., Barrie (Ontario), Canada, through its US company JENOPTIK North America Inc. Prodomax specializes in process automation for the automotive industry. The acquisition allows the Group to boost its position as a turnkey provider of automated production solutions. Jenoptik already began to serve this market in 2017 with the acquisition of Five Lakes Automation. The combination of automation solutions and laser processing machines gives the Jenoptik Group an opportunity to tap into further potential for growth in the field of advanced manufacturing.

OTTO Vision Technology GmbH and OVITEC GmbH: Jenoptik acquired a 100 percent stake in the sister companies Otto Vision Technology GmbH and OVITEC GmbH in August 2018. The two companies specialize in optical testing systems for product inspection and process optimization, as well as in complex imaging systems for applications in the field of parts measurement, surface testing, and position detection.

Production and organization. At the start of the 2019 fiscal year, the Mobility segment was split up into two new divisions, Light & Production (previously the Automotive division), and Light & Safety (previously Traffic Solutions).

Over the course of the 2018 fiscal year, key new appointments were made in the Mobility segment. At the start of the year a new head of the Traffic Solutions division was appointed, and in January 2019 of the Light & Production division. Operating management structures were also streamlined in this division; key account management in sales was optimized in the course of internal projects and global responsibilities were established for individual functional areas. Supported by the Group's central functions, the segment also began the post-merger integration of the acquired companies.

The Traffic Solutions division pushed on with efforts to more closely and lastingly tailor its work to customer expectations, growth, and efficiency targets. To this end, a project to restructure the division with separate areas of Global Sales Services, Global Strategy & Business Development, Global Development, Regional Units, Operations, and Finance was carried out in the second half of 2018 and successfully completed in December.

Defense & Civil Systems Segment

The Defense & Civil Systems segment was responsible for our mechatronics and sensor businesses in 2018. Since mid-September 2018, the Group has been marketing its range of mechatronics solutions for the aviation, security, defense, and rail markets under the VINCORION brand. This new brand name allows the Group to present itself on its target markets better than was previously possible under the Jenoptik brand.

In the 2018 fiscal year, the Defense & Civil Systems segment further established itself as a partner for systems companies and customers with a need for individual solutions, and also launched a wide range of new products. International sales and service structures were expanded and technology and knowledge transfer to civilian fields was continued.

At 218.6 million euros, revenue, as expected, remained practically unchanged on the prior year (prior year: 219.3 million euros). The share of revenue generated abroad, at around 61 percent (prior year: 57 percent), increased but was still lower than in the other two segments. The segment saw significant growth in Europe, in particular in Great Britain. In Germany, by contrast, revenue of 84.4 million euros was down on the prior year, for project-related reasons (prior year: 93.8 million euros). Nevertheless, the majority of products are still sold to German buyers, whose end customers, however, are largely active on the international sales market.

At 20.1 million euros, the segment EBIT was slightly up on the prior-year figure (prior year: 19.2 million euros). A changed product mix, lower currency losses, and cost savings in sales

T46 Defense & Civil Systems segment at a glance (in million euros)

	2018	2016	Change in %
Revenue	218.6	219.3	−0.3
EBITDA	24.4	23.8	2.2
EBITDA margin in %	11.2	10.9	
EBIT	20.1	19.2	4.9
EBIT margin in %	9.2	8.7	
Capital expenditure	5.7	4.5	26.0
Free cash flow	25.5	22.3	14.4
Order intake	203.5	206.2	−1.3
Order backlog	175.4	202.6	−13.4
Frame contracts	31.4	46.3	−32.2
Employees	912	897	1.7

resulted in the EBIT margin increasing to 9.2 percent (prior year: 8.7 percent). The EBITDA also saw a minor increase, to 24.4 million euros (prior year: 23.8 million euros). The EBITDA margin improved to 11.2 percent (prior year: 10.9 percent).

As expected, the segment increased its order intake in the fourth quarter, posting new orders worth some 60 million euros. For the full year, however, the order intake, worth 203.5 million euros, was still marginally down on the prior-year which had included several major projects (prior year: 206.2 million euros). Particularly in the first quarter of 2017, Jenoptik received several major orders for energy and sensor systems. The book-to-bill ratio in the segment remained stable at 0.93 in 2018 (prior year: 0.94).

As of December 31, 2018, the order backlog was worth 175.4 million euros (31/12/2017: 202.6 million euros). The segment also has frame contracts with a value of 31.4 million euros (31/12/2017: 46.3 million euros), the decline is attributable, among others, to reduction of contract volume by the customer.

With a total of 912 employees, the number of people employed in the Defense & Civil Systems segment saw a slight increase at the end of the year (31/12/2017: 897 employees). At the end of December, the segment had a total of 55 people in trainee positions (31/12/2017: 59 trainees).

The segment's R+D output grew to 18.6 million euros in 2018 (prior year: 14.9 million euros). Higher expenditure was particularly due to projects to develop new products in the aviation business. Development costs on behalf of customers amounted to 3.5 million euros (prior year: 1.8 million euros), primarily due to joint development projects with systems companies. At 14.2 million euros, the segment's R+D expenses were up on the prior year (prior year: 12.6 million euros).

For information on the key development topics, see the Research and Development chapter

The segment invested 5.7 million euros in property, plant, and equipment and intangible assets (prior year: 4.5 million euros). As a result, the level of capital expenditure was 26.0 percent higher than in the prior year. Key projects included the establishment of volume production for heated floor panels in aircraft and the modernization and upgrade of machinery. The capital expenditure was offset by depreciation/amortization and impairment losses amounting to 4.3 million euros (prior year: 4.7 million euros).

The free cash flow (before interest and income taxes) improved from 22.3 million euros in the prior year to 25.5 million euros in the 2018 fiscal year, chiefly due to higher earnings and changes in working capital, e.g. with early incoming payments arising from receivables. As of December 31, 2018, the working capital fell to 86.8 million euros, down on the prior year's 95.7 million euros.

Production and organization. Various initiatives relating to the manufacture of mechatronic products and aiming to reduce manufacturing costs and improving quality were carried out in the 2018 fiscal year.

General Statement by the Executive Board on the Development of the Segments

With their different target markets, the Jenoptik Group's three operating segments developed differently in 2018. The Optics & Life Science segment achieved new records in key figures. The Mobility segment managed to boost revenue, assisted by a major order as well as the acquired companies Prodomax and the OTTO Group. As expected, the Defense & Civil Systems segment saw stable development. In all three segments, the majority of revenue was generated abroad.

Strong demand in some markets, the delivery of toll monitoring systems, and the acquisitions all impacted on the operating areas' EBITDA and EBIT over the course of the year. The EBITDA margin in the Optics & Life Science segment exceeded the target corridor for 2018. In the Mobility segment, the EBITDA margin was influenced by the impacts arising from the acquisitions described above. The Defense & Civil Systems segment reported slightly positive margin performance.

All three segments saw improvements in their free cash flow. In the Mobility segment, this was particularly noticeable due to a sharp rise in earnings, a significant reduction in working capital, and a lower level of capital expenditure. Over the course of the past fiscal year, Jenoptik boosted its capital expenditure on expanding international sales structures, in efficient processes, and the development of profitable cutting-edge products.

In 2018, we also managed to expand our position in international growth markets, establish a broader range of systems, and secure both international projects and new customers. Buoyed by good demand for optical systems, the order intake in the Optics & Life Science segment saw a strong increase. In the Mobility segment, the major order for the toll project included in the 2017 order intake was more than made up for by the contribution from the companies acquired in 2018. The Defense & Civil Systems segment's business is geared toward the long term and characterized by major projects; this is also reflected in the fluctuations in order intake.

Management Report of JENOPTIK AG

(Abridged Version According to HGB)

Supplementary to the reports on the Jenoptik Group, the development of JENOPTIK AG is set out below.

JENOPTIK AG is the parent company of the Jenoptik Group and based in Jena. Its asset, financial, and earnings position is fundamentally defined by its capacity as the holding company of the Jenoptik Group. The operating activities of JENOPTIK AG primarily cover the subleasing of commercial premises and the provision of services for subsidiary companies.

JENOPTIK AG's Annual Financial Statements are prepared according to German commercial law (HGB). The Consolidated Financial Statements are prepared in accordance with the International Financial Reporting Standards (IFRS) valid on the reporting date and the interpretations of the International Financial Reporting Interpretations Committee (IFRIC) whose application is mandatory within the European Union. This gives rise to differences in the accounting and valuation methods, chiefly concerning fixed assets, derivatives, provisions, and deferred taxes.

T47 Abbreviated Income Statement of JENOPTIK AG (in thousand euros)

	1/1 to 31/12/2018	1/1 to 31/12/2017
Revenue	22,533	23,646
Cost of sales	18,468	20,387
Gross profit	4,065	3,259
Selling expenses	1,850	516
General administrative expenses	15,850	14,456
Research and development expenses	253	172
Other operating result	−357	−1,238
Income and expenses from profit and loss transfer agreements and income from investments	104,092	92,711
Financial result	−6	−1,508
Income taxes	10,876	7,674
Earnings after tax	78,963	70,405
Net profit	78,963	70,404
Retained profits from prior year	40,000	59,498
Accumulated profit	118,963	129,902

Asset, Financial, and Earnings Position

Earnings position

Revenue was down 1.1 million euros on the prior year, at 22.5 million euros, primarily resulting from rental business revenues due to the reduction in external renting in favor of own use within the Group.

Administrative expenses were 1.4 million euros up on the prior year, chiefly due to increased extra costs in connection with strategic and business-related projects.

JENOPTIK AG posted research and development expenses amounting to 0.3 million euros (prior year: 0.2 million euros), primarily covering expenditure for innovation management and the coordination of R+D work in the Jenoptik Group.

Selling expenses of 1.9 million euros (prior year: 0.5 million euros) concerned expenses for strategic marketing projects, communication, advertising, and sponsorship.

The other operating result included other operating income of 7.7 million euros (prior year: 6.0 million euros), which was offset by 8.0 million euros of other operating expenses (prior year: 7.2 million euros).

Other operating income primarily included currency gains worth 4.3 million euros (prior year: 1.6 million euros), intra-group cost allocations of 1.8 million euros (prior year: 2.4 million euros), and income arising from the reversal of provisions in the sum of 1.0 million euros (prior year: 1.0 million euros).

Key items in the other operating expenses were currency losses of 3.1 million euros (prior year: 4.1 million euros), expenses for intra-group cost allocations of 1.6 million euros (prior year: 2.3 million euros), and 2.9 million euros for an internal group project to analyze and optimize the business processes and introduce an SAP S/4 system based on the powerful SAP HANA in-memory platform.

The financial result of zero (prior year: minus 1.5 million euros) included earnings from securities and loans, depreciation/amortization on loans, and the interest result. This 1.5-million-euro improvement was predominantly the result of interest income from issued intra-group loans on 100.7 million euros granted in connection with the purchase of Prodomax.

With the increase in earnings before tax seen in 2018, income taxes rose 3.2 million euros to 10.9 million euros (prior year: 7.7 million euros).

JENOPTIK AG's annual net profit increased by 8.6 million euros, or 12.2 percent, to 79.0 million euros (prior year: 70.4 million euros). The company's earnings position was mainly influenced by the subsidiaries' earnings, which are paid to JENOPTIK AG on the basis of existing control and profit and loss transfer agreements. The net earnings contribution of the subsidiaries increased on the prior year, by 18.0 million euros to 103.6 million euros. Expenses for group projects of 2.9 million euros had a negative impact.

Asset and financial position

At 767.6 million euros, JENOPTIK AG's total assets were 6.8 percent up on the figure for the prior year (prior year: 718.8 million euros).

The assets side of the statement of financial position reflects JENOPTIK AG's status as a holding company. Alongside intensity of investments of 72.2 percent, of which 63.5 percent was attributable to financial investments and 8.6 percent to property, plant, and equipment, the total assets are also dominated by a high level of cash and cash equivalents (16.6 percent) and loans to affiliated companies (10.5 percent).

Of the 117.0-million-euro increase in financial investments, 100.7 million euros arose from the issue of internal group loans in connection with the purchase of Prodomax.

Receivables from consolidated associates, worth 78.6 million euros (prior year: 89.3 million euros) were mainly due to the transfer or settlement of cash and cash equivalent to and from group companies, and chiefly affected the settlement accounts for cash pool balances.

The reduction in cash and cash equivalents by 59.9 million euros, from 187.3 million euros to 127.5 million euros, was in part due to the purchase of the Canadian company Prodomax and the related loan issued in the value of 100.7 million euros; this was countered by an increase in cash and cash equivalents of 43.2 million euros arising from reduced settlement accounts and the subsidiaries' positive contributions to earnings.

Prepaid expenses and deferred charges were predominantly due to accrued costs, partly in connection with the expansion and extension of financial liabilities, which are distributed over the terms of the financing agreements.

In terms of liabilities, JENOPTIK AG's financing function as the holding company for the Jenoptik Group was of particular note. Equity came to 597.5 million euros, liabilities to banks to 103.0 million euros (13.4 percent of total assets).

T48 JENOPTIK AG Statement of Financial Position (in thousand euros)

	31/12/2018	31/12/2017
Assets		
Intangible assets, property, plant and equipment	66,642	67,590
Financial investments	488,773	371,758
Non-current assets	**555,415**	**439,348**
Inventories, trade receivables, securities, and other assets	81.978	89,598
Cash and cash equivalents	127.479	187,356
Current assets	**209,457**	**276,954**
Expenses and deferred charges	2,706	2,490
	767,578	**718,792**
Liabilities		
Share capital	148,819	148,819
(Conditional capital 28,600 thousand euros)		
Capital reserves	180,756	180,756
Revenue reserves	147,140	74,410
Accumulated profit	118,963	129,902
Equity	**595,678**	**533,887**
Provisions	**21,040**	**19,901**
Liabilities to banks	103,000	114,000
Trade accounts payable	1,703	2,164
Other liabilities	46,155	48,840
Liabilities	**150,860**	**165,004**
	767,578	**718,792**

Thanks to the positive net profit in the sum of 79.0 million euros, equity improved by 61.8 million euros. This was countered by the payment of dividends for the 2017 fiscal year worth a total of 17.1 million euros. The equity ratio rose from 74.3 percent to 77.6 percent.

Due to the positive earnings contribution made by the subsidiaries, which is reflected in the positive earnings in the holding company, personnel provisions increased by 1.0 million euros, tax provisions within the companies consolidated for tax purposes by 0.4 million euros. Other provisions remained at the same level as in the prior year.

Other liabilities included 41.4 million euros of cash pool holdings and 0.2 million euros of tax liabilities.

Over the reporting year, JENOPTIK AG's debt-to-equity ratio improved due to the increase in equity, from 34.6 percent to 28.9 percent.

As of December 31, 2018, JENOPTIK AG had 135 employees, of which 10 were temporary workers (prior year: 121 employees, of which 7 temporary workers).

Risks and opportunities

Due to its function as a holding company, JENOPTIK AG's development of business is subject to the same risks and opportunities as the Jenoptik Group. It generally participated in the risks of holding companies and subsidiaries in line with their equity interests. The risks and opportunities of the Group and the segments are set out in the Risk and Opportunity Report from page 120 on.

Forecast report

The net profit of JENOPTIK AG is largely dependent on the development of contributions to earnings by the subsidiaries.

Based on the development set out in the group forecast report, JENOPTIK AG is anticipating higher revenues from holding company services in the 2019 fiscal year, following centralization measures in individual functional areas in 2018, and thus an expansion of its scope of services.

The profit of JENOPTIK AG – before transfer of profits and losses of the subsidiaries – will fall slightly due to the higher marketing expenses involved in the implementation of the "Strategy 2022".

For detailed information on the expected future development of the Jenoptik Group and its segments, we refer to the Forecast Report from page 128 on.

One element of the new strategy is to merge certain central functions of the holding company with those of the Shared Service Center (SSC). The number of legally independent companies in the Group is to be reduced, decision-making processes and responsibilities further decentralized and increasingly relocated back into the operating areas. With a simplified structure, we will be better positioned to clearly prioritize initiatives aimed at ongoing growth that ultimately guide us to success.

Events after the Balance Sheet Date

The JENOPTIK AG Executive Board approved the submission of the present Consolidated Financial Statements to the Supervisory Board on March 7, 2019. The Supervisory Board is responsible for reviewing and approving the Consolidated Financial Statements at its March 21, 2019 meeting.

Dividends. According to the Stock Corporation Act, the amount available for a dividend payment to the shareholders is based on the accumulated profit of the parent company JENOPTIK AG, as determined by the regulations of the HGB. For the 2018 fiscal year, JENOPTIK AG's accumulated profit totaled 118,963,445.04 euros, comprising net profit for the fiscal year 2018 in the amount of 78,963,445.04 euros plus retained profits of 40,000,000.00 euros.

Based on the good annual result for the past 2018 fiscal year, the Executive Board recommends to the Supervisory Board that for the 2018 fiscal year a 17 percent higher dividend of to 0.35 euros per qualifying share (prior year: 0.30 euros) be proposed to the 2019 Annual General Meeting. This means that an amount of 20,033,340.25 euros from JENOPTIK AG's accumulated profit in the 2018 fiscal year will be distributed. From the remaining accumulated profit an amount of 68,930,104.79 euros will be allocated to revenue reserves, and an amount of 30,000,000.00 euros will be carried forward.

No further events of significance occurred after December 31, 2018.

Risk and Opportunity Report

Principles of Risk and Opportunity Management at Jenoptik

For Jenoptik, the responsible evaluation of risks and opportunities within the corporate environment is one of the principles of responsible corporate governance. To ensure the implementation of our strategy, it is necessary to identify risks and opportunities at an early stage, to evaluate them appropriately, and control them efficiently. This is done by promoting an open risk culture and regularly examining the established risk management system. In the process, Jenoptik works to continuously refine its risk and opportunity management. Reporting processes employ centrally available software.

Risks are defined as potential developments and events that may result in a negative divergence from objectives and forecasts in the company and involve uncertainty regarding the occurrence of an event. Correspondingly, opportunities are events that may result in a positive divergence from our expected targets.

Jenoptik's risks and opportunities are assessed with the help of the probability of occurrence and extent of damage factors using a key matrix. On the basis of a standardized rating scale from 1 to 5, this produces a risk indicator of 1 to 25 for each event. The risks and opportunities described here are the result of the aggregation of locally identified risks and opportunities that were each allocated to defined categories. G20

Organizational integration of the risk and opportunity management

Overall responsibility for the risk and opportunity management system in the Jenoptik Group lies with the Executive Board. The group-wide approach is set out in a risk manual.

Group Compliance & Risk Management organizes and manages the system, working closely with the central departments and the risk officers in the divisions, who in turn are responsible for implementing the risk and opportunity management system in the risk reporting units. The risk reporting units are defined

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G20 Risk assessment

Metrics	Probability of occurence	Consequences / extent of damage		
		Qualitative		Quantitative EBIT deviation
5 = High	up to 50%	The goal of the Group or the risk reporting unit is jeopardized	or	> 20%
4 = Medium-high	up to 40%	The goal of the Group or the risk reporting unit has to be adapted immediately	or	> 15 to 20%
3 = Medium	up to 30%	The goal of the Group or the risk reporting unit has to be adapted in the medium term	or	> 10 to 15%
2 = Low	up to 20%	Further measures are necessary in order to achieve the goals of the Group or the risk reporting unit	or	> 5 to 10%
1 = Very low	up to 10%	Minor consequences	or	> 0 to 5%

reporting units that are employed to accurately identify and allocate risks and opportunities, and can be both business units and individual subsidiaries.

Internal Audit monitors the effectiveness of the risk management system, while the Audit Committee of the Supervisory Board takes up the external monitoring function for or in conjunction with the Supervisory Board.

Within the Risk Committee, all aggregated reporting results are consolidated for a top-level evaluation of the Group's risk position. The Risk Committee consists of the members of the Executive Board and the head of Group Compliance & Risk Management. G21

The consolidation companies exposed to risk correspond to those included in the consolidated balance sheet.

Structure and processes of the risk and opportunity management system

The Jenoptik risk and opportunity management system is based on the ISO 31000 standard.

The definition and ongoing development of the system takes place with the close cooperation of Group Compliance & Risk Management, the Executive Board, and the Audit Committee of the Supervisory Board. Its responsibility and approval lies with the Executive Board. Group Compliance & Risk Management communicates the requirements of the risk management system, advises on their efficient implementation, and monitors the measures and results of the risk management processes.

A core process of risk management is the risk assessment, which is carried out using a combination of top-down and bottom-up elements. In order to ensure the most in-depth risk identification and comparability possible within the company, a risk register was developed to support management in the evaluation of risks. It comprises several specified categories to which potential risks and opportunities are allocated by the risk reporting units. This is to ensure that each risk reporting unit deals with the entire risk landscape and that, simultaneously, an aggregation of the results is guaranteed across the specified categories. While operational and financial targets are analyzed over a time frame of up to two years, strategic topics are considered for periods of up to four years.

G21 Process of Risk Reporting

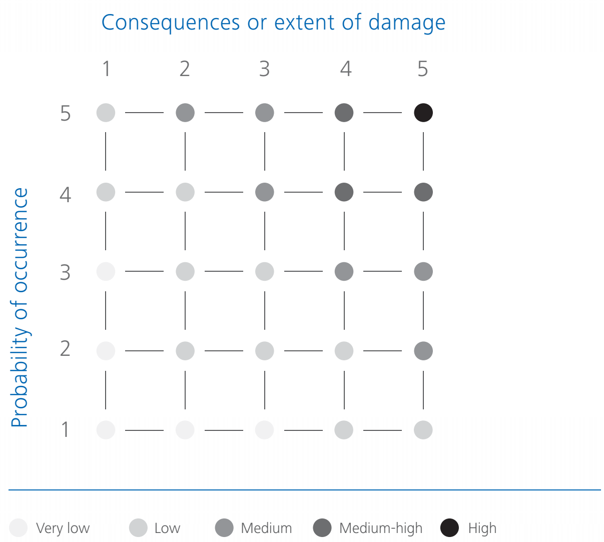
Risk Officers in the Divisions and Central Departments	Assessment of single risks
Central Functions	Review of aggregated risks
Corporate Compliance & Risk Management Department	Review and analysis of group risks
Risk Committee	Analysis of group risks
Executive Board	Final assessment of group risks
Audit Committee Supervisory Board	Evaluation of group risks

Within the scope of the risk analysis, the risk reporting units determine the risks and opportunities in order to be able to undertake a valid risk assessment in the next stage regarding the assessment methods (qualitative or quantitative) and the measures already taken or still required. This takes place in accordance with the net method, i.e. mitigating measures are already included in the assessment so that only the assessed residual risk is reported and aggregated. The assessment of a risk is the product of the probability of occurrence and the quantitative amount of loss or the qualitative extent of damage. The opportunities are evaluated in the same way. G22

There is a scale of 1 to 5 for both assessment factors mentioned, probability of occurrence and extent of loss, with 1 being the smallest and 25 the greatest possible risk indicator. G23

Every six months, the results of the risk assessments are requested by central Compliance & Risk Management at the risk reporting units and aggregated to the Group Risk and Opportunity Report. The findings in the risk reporting units are then validated by the departments of the Corporate Center before being discussed on the Risk Committee and subjected to a general assessment by the Executive Board, potentially also involving

G23 Calculation of risk scores



G22 Risk and opportunity categories

Operational Risks / Opportunities	Strategic Risks / Opportunities
Supply Chain Management / Safety and Environmental Protection / Production (incl. Quality Management) / Marketing & Sales / Patents & IP rights / Human Resources Management / IT / Compliance / Legal Affairs / Real Estate	Market Development / Product Development (incl. R+D) / Corporate Development (Portfolio and Structure) / Organizational Setup (Processes and Resources)
Financial Management Risks / Opportunities	
Accounting / Finance Management (Treasury) / Controlling / Taxes	

1st year 2nd year 3rd year 4th year

For further information see Corporate Governance Report on page 38 f.

the adoption of further actions. Once the Executive Board has approved the Group Risk and Opportunity Report, it is presented and discussed on the Audit Committee of the Supervisory Board before being submitted to the Supervisory Board.

In addition, any risks identified during the year which have a high probability of occurrence and significant potential for damage are communicated without delay to the Chief Compliance & Risk Officer and the Executive Board. Following joint analysis with the responsible departments, they decide on further measures to be taken and, if necessary, the required communication.

The above-mentioned reporting instruments also form the basis for the risk early warning system. This is reviewed within the framework of the audit of the financial statements by the auditor in order to ensure that the system is appropriate for promptly recording, evaluating, and communicating all risks that could potentially jeopardize the Group's existence.

Risk prevention and ensuring compliance

Risk prevention is a key element of the risk management system, and an integral part of regular business operations and committee work.

It essentially comprises risk monitoring as part of a range of assessments and special approval procedures. Consequently, risks and opportunities as well as their impact on the company are discussed during the monthly meetings of the Executive Board, the EMC, and at strategy meetings. At the same time, potential risks to achieving the strategic goals can be considered directly in the strategy development process and minimized by taking suitable measures.

Adherence to national and international compliance requirements is an integral part of risk prevention and of the processes of Jenoptik's risk management system. In order to improve employee awareness and achieve company-wide uniform understanding of our compliance standards, regular training is provided on subjects relevant to compliance, such as anti-corruption or anti-trust law, as well as data protection issues or insider trading. Online training on key compliance issues is obligatory for all employees. A help desk is available on the intranet to assist employees on any risk or compliance issues they may have. The corporate guidelines implemented within the Group with regard to important company processes are continually being reexamined, expanded, and updated. They are published on the intranet. Our Code of Conduct and Group Guidelines also help to prevent risk.

In accordance with international standards, a supplier code of conduct requires Jenoptik's suppliers to comply with a number of different compliance requirements.

Central business partner screening (third-party due diligence) is used to check whether cooperation with a high-risk business partner is viable from a compliance perspective.

Jenoptik therefore has a system of regulations, processes and controls that enable it to identify any possible deficits in the company and to minimize them using appropriate measures at an early stage.

Alongside the risk management and compliance management systems, the Internal Control System (ICS) is a key element of corporate governance. It covers technical and organizational regulations and control steps that serve to ensure compliance with guidelines and prevent damage, as well as ensuring clear divisions of responsibility and function, in adherence to the principle of double-checking. In particular, its intention is to ensure the security and efficiency of transaction, as well as the reliability of financial reporting, and it is regularly reviewed by Internal Audit. The established ICS and compliance self-assessments, to be completed by the management of all subsidiaries and JENOPTIK AG in the form of questionnaires, were also carried out in the past fiscal year. Monitoring and evaluation of the completed questionnaires is carried out by Group Compliance & Risk Management, Accounting, Controlling, and Internal Audit. Reported deficits are analyzed and appropriate countermeasures are defined to ensure they are lastingly eliminated.

Internal Audit is permanently incorporated into the ongoing further development of the internal monitoring and risk management system through process-independent audits. As a staff department, it reports to the Chief Financial Officer. Internal Audit carries out independent audits. This involves the organizational units of the Jenoptik Group being analyzed and audited on the basis of a risk-oriented audit plan. Compliance with and proper implementation of the applicable guidelines form integral parts of the audit. This not only identifies errors or process weaknesses but also potential process improvements in the sense of a "best practice approach". The recommendations are prioritized, categorized, and reported directly to the persons responsible for the audited units, the respective central departments, and to the Executive Board. Breaches or errors are analyzed and work on their elimination initiated as quickly as possible. The audited unit then submits a report to the Executive Board, indicating the measures and deadlines for implementation of the stated recommendations. This is followed by follow-up audits that review the implementation of the recommendations, with information on the results being sent to the respective management levels and central departments as well as the Executive Board. Internal Audit submits a report containing its key findings since the last report to the Audit Committee of the Supervisory Board at least once a year. In 2018, six Jenaudits, two follow-up audits, and three ad hoc audits were conducted. Six units received support for implementation of the measures identified in the course of auditing.

Jenoptik has a centralized financial management system. The central Treasury department coordinates the financing needs of the Group, ensures liquidity and monitors the currency, interest rate, and liquidity risks on the basis of a group-wide guideline and relevant process descriptions. These regulations include provisions for the clear separation of transaction and corporate oversight functions as well as trading within predetermined limits.

The purpose of financial risk management is to limit financial risks arising from changes in market rates, for example interest and exchange rates. Financial instruments are used exclusively for the purpose of securing underlying transactions and not for speculative purposes and are only concluded with banks with good to very good credit ratings.

Key features of the Internal Control and Risk Management System with regard to the consolidated accounting process (§ 289 (4) and § 315 (4) of the German Commercial Code [HGB])

The accounting-related internal control system is part of the overall ICS of the Jenoptik Group. Its purpose, in part, is to ensure a due and proper process in preparing the Consolidated Financial Statements, guaranteeing compliance with statutory regulations, accounting rules, and internal guidelines for uniform accounting and valuation principles, which are binding for all companies included in the Consolidated Financial Statements. New regulations and changes to existing rules are analyzed promptly and implemented. All employees involved in the accounting process receive regular training.

Access restrictions in the respective IT systems protect the financial systems against abuse. Centralized control and regular backup of the IT systems reduce the risk of data loss.

In order to prepare the Consolidated Financial Statements, data from the companies is recorded directly by them in the LucaNet consolidation tool. The transferred data from the statements and financial statements of consolidated companies is verified by manual and technical system inspections. All the consolidation processes required for the preparation of the Consolidated Financial Statements are documented. These processes, systems, and controls enable Jenoptik to ensure a group accounting process that complies with both the IFRS and statutory requirements. The group auditor audits JENOPTIK AG's Consolidated Financial Statements in accordance with the IFRS regulations as adopted by the EU.

The Corporate Governance Report can be found in the Annual Report from page 36 on. The Corporate Governance Statement in accordance with §§ 289 f, 315 d of the German Commercial Code can be viewed on our website at www.jenoptik.com by going to Investors/Corporate Governance. In accordance with § 317 (2) (6) of the German Commercial Code, the information required under §§ 289 f, 315 d is not considered by the auditor.

The Group's Risk and Opportunity Profile

The Group's risk profile for 2018 and subsequent years was determined using the various risk and opportunity assessments from the segments. Part of the risk assessment of the segments is a review by the corporate departments of the Corporate Center, whose identified risks are then included in the segment reporting and in the final group assessment. Our risk and opportunity management makes possible a direct comparison of the individual risk subcategories and the associated risk symptoms. The risk assessment of subcategories is set out in greater detail in the table below. T49

Overall, the risks to which the Group are exposed are at the lower end of the medium risk range. No significant changes on the prior year were identified.

Once again, strategic risks and opportunities for the overall Group were on average assessed as the most important, compared to operational and financial management risks, in 2018. Jenoptik is active on a range of markets. Following the strategic realignment initiated in 2018 to help focus our work on photonics market segments, their development is both a risk and an opportunity for the Group.

The at times uncertain general direction of economic development in Jenoptik's growth markets, e.g. China, the difficulty in assessing the trade and foreign policy positions of the current US administration, political conflicts caused by existing and emerging trade barriers, and the uncertainties surrounding Great Britain's withdrawal from the European Union that remained unresolved at the time this report was prepared all present potential risks to the Group's current and future business. We are continuously monitoring the effects of Brexit. We have, for example, analyzed our supply chain and examined

T49 Risk profile of the Jenoptik Group 2018

	Group risk assessment	
	Current year	Prior year
Strategic risks		
Market development	Medium	Medium
Product development (incl. R+D)	Medium	Medium
Corporate development (portfolio and structure)	Medium	Medium
Organizational setup (processes and resources)	Medium	Medium
Operational risks		
Supply chain management	Medium	Medium
Safety and environmental protection	Low	Low
Production (incl. quality management)	Medium	Medium
Marketing and sales	Medium	Medium
Patents and IP rights	Low	Low
Human resources management	Medium	Medium
IT	Medium	Medium
Compliance	Medium	Medium
Legal affairs	Low	Low
Real estate	Low	Low
Financial management risks		
Accounting	Low	Low
Finance management	Low	Low
Controlling	Medium	Medium
Taxes	Low	Low
Total risk	Medium	Medium

the impacts that different suppliers have on different customers. Countermeasures were initiated, in order to effectively counter bottlenecks in the supply chain, e.g. through alternative suppliers or by making specific adjustments to the working capital. We also analyze the impacts of potential financial management factors such as possible tariff and export restrictions or exchange rate fluctuations, which we counter with appropriate hedging mechanisms.

Continuing high levels of public debt in parts of Europe and associated budgetary consolidations are also inhibiting investment by both public sector clients and consumers. In the course of active risk management, we also develop suitable measures to counter political uncertainties within our business processes wherever possible.

Jenoptik is exposed to intense competition throughout its business. The company counteracts the risk of being squeezed out by competitors by, for example, making specific and flexible changes to its product range or offering customization options for customers. In addition, mergers and acquisitions on the markets we target may further exacerbate the competitive environment. Potentially improved cost structures at competitor companies, and the resulting increasing pricing pressure, may have negative effects on group earnings. We counter this risk by continuously analyzing our company portfolio, i.e. by determining whether and how specific acquisitions may usefully complement our product range and generate lasting profitable growth. M&A activities as well as the integration of acquired companies entail an inherent risk for the Group. We actively counter this risk through a thorough due diligence, as well as a structured integration process which is individually adapted to the acquired company.

Operational risks and opportunities were assessed with low to medium risk indicators for the whole Group.

The increasing number of complex international projects, particularly those of a technically challenging nature, place enormous operational demands on all parts of the business. Supply chain management and production are predominantly responsible for assuring the quality of the products we supply. The use of individual single-source suppliers may increase the risk of dependency. Ongoing refinement of our purchasing and production organization aims to ensure that our customers continue to receive high-quality, tailored solutions in good time.

Global IT systems and processes are of great significance to Jenoptik in all segments. The security and availability of these systems have top priority. Data is stored on redundant storage media and secured against data loss by means of a partially tiered archive and backup system. This aims to enable rapid data recovery in the event of a crisis situation. The world is seeing a rise in the number of IT threats, e.g. in the form of phishing or other virus attacks in which corporate information is obtained by third parties by means of deception. Despite compliance with a range of technical requirements, established processes and training provided to relevant employees, there remains a risk of data loss or restricted use of the IT infrastructure, which in turn could negatively impact on our business position. In 2018, Jenoptik took out cyber risk insurance to limit any such financial impacts on the Group.

Our employees make the most important contribution to the company's success. As an international technology company, we need dedicated and highly qualified colleagues around the world – now and in the future. Due to the difficulties in attracting qualified employees, particularly in Germany, Jenoptik is also exposed to the risk of not being able to fill vacant positions as they arise. We counter this risk with targeted employer branding and both attractive and personalized incentive and loyalty schemes, which are in part geared toward trends and developments in HR.

In view of Jenoptik's international business operations, one general risk is non-compliance with legal, ethical, and contractual requirements. As a company with customers and business partners in numerous countries, clients in the public sector, and involvement in the US defense market, Jenoptik must grapple with many, partly evolving, compliance requirements in a wide range of different markets. Although the necessary organizational structures and measures to minimize potential compliance violations have been implemented with a group-wide export control organization, the corporate Compliance and Risk Management department, and corresponding processes, such violations cannot be entirely ruled out. Strict adherence to the compliance program and the continuous development of the compliance management system aim to close up any process gaps and ensure that processes comply with laws and regulations.

Financial management risks were assessed on average as low throughout the Group in 2018. The issues cited below also include the segment-specific risks. One key task of Jenoptik's corporate Treasury department is to safeguard and coordinate the financing of all group companies over the long term. Jenoptik has good internal financing and access to alternative, external financing options. Financial indicators have been agreed for JENOPTIK AG's syndicated loan; adherence to them is monitored continuously and regularly reported to the lenders. Currency-related risks arise from the Group's international activities. The corporate Treasury department identifies these risks in collaboration with the Group companies and controls them with appropriate measures such as the conclusion of forward exchange transactions. As a basic principle, all group companies must hedge foreign currency positions on the date they are created. Hedging has the aim of establishing a hedge relationship with the greatest possible effectiveness.

The risk of changing interest rates is in part reduced by the conclusion of fixed interest loans. In addition, interest rate swaps are used to reduce the risk of changing interest rates for loans with variable interest. A variable interest rate was consciously agreed for a part of the loans in order to fully profit from the current low interest rate environment.

The purpose of the liquidity planning is to identify liquidity risks at any early stage and to systematically minimize them on a group-wide basis. Regular Treasury reports and a monthly rolling liquidity forecast are used for liquidity control and monitoring.

In the Controlling and Accounting departments, opportunities predominantly arise from the continuing expansion and optimization of the standardized ERP system, and from the centralization of accounting activities for continuous quality improvement. Thanks to the ongoing establishment and development of modern, targeted financial controlling instruments, we counter the risk of lacking business-critical information in internal reporting.

With regard to the use of financial instruments, we refer to the Notes, section 8.2, from page 191 on

Risk and Opportunity Profiles of the Segments

The risk and opportunity profile of the Jenoptik Group was derived from the various risk profiles of the segments. Financial management risks are aggregated and shown in the group risk and opportunity profile. T50

Optics & Life Science

Strategic risks and opportunities primarily arise on the basis of demand in the semiconductor equipment industry, which is subject to cyclical developments. They may have a significant positive or negative effect on results. Beyond this, the focus on larger customers is generally associated with the risk that poor business performance or the loss of customers may impact severely on revenue and earnings. On the other hand, the loyalty of such customers enables profitable revenue growth due to economies of scale. Although there is always an inherent threat posed by the growing number of mainly Asian competitors and the trend among suppliers and customers toward forward and/or backward integration, it may still be achieved through the continuous expansion of existing competitive advantages and internationalization. In addition, the business segment addresses this risk by continuously reviewing vertical integration with the aim of supplying more system solutions to its customers.

The growing importance of digitization and the strong related demand for applications and devices, both from private households and companies, continues to present the segment with major opportunities for the coming years. Demographic developments in industrialized nations and the relentless progress being made in medical technologies, particularly in our core markets of Asia and the Americas, are also boosting demand for our product solutions. Ongoing development of the product portfolio and Jenoptik's greater market centricity mean that we are better able to meet our customers' requirements. Increasing financial problems in national healthcare systems, however, are resulting in growing price pressure among suppliers. The trend toward increasing complexity in the market environment makes clear and reliable forecasts more difficult, especially in innovative areas of application.

Customers' specific requirements result in particular operational risks and opportunities in supply chain management and production processes. For many components manufactured in the segment, there is only a very limited number of qualified suppliers that are able to meet the necessary specifications in a timely manner. When such a supplier is lost or the customer changes specifications, this can result in corresponding problems in the development or production process. Partners are subject to ongoing qualification with the help of strategic purchasing to develop a stable base of suitable suppliers in the medium and long term. Specific customer requirements, especially regarding the quality of the products, also lead to increased demands for asset investment in the area of manufacturing, which are met through targeted expansion or replacement investment. If necessary investments are not made, there is a risk that quality requirements may not be met to the agreed schedule, or at all, resulting in either delivery delays or non-acceptance by the customer.

Mobility

Both market developments and political conditions influence the strategic risks and opportunities in the Mobility segment. Within the metrology business, achieving revenue targets is strongly dependent on the automotive market. The trend toward electric mobility is both a risk and an opportunity for us. The reduction in the number of mechanical components is a risk to our established business model and one that we are proactively

T50 Risk profiles of the segments 2018

	Group risk assessment					
	Optics & Life Science segment		Mobility segment		Defense & Civil Systems segment	
	Current year	Prior year	Current year	Prior year	Current year	Prior year
Strategic risks						
Market development	Medium	Medium	Medium	Medium	Medium	Medium
Product development (incl. R+D)	Medium	Medium	Medium high	Medium high	Medium	Medium
Corporate development (portfolio and structure)	Medium	Medium	Medium	Medium high	Medium	Medium
Organizational setup (processes and resources)	Medium	Medium	Medium	Medium high	Medium	Medium
Operational risks						
Supply chain management	Medium	Medium	Medium	Medium	Medium	Medium
Safety and environmental protection	Low	Low	Low	Low	Low	Low
Production (incl. quality management)	Medium	Medium	Medium	Medium	Low	Low
Marketing and sales	Medium	Medium	Medium	Medium	Medium	Medium
Patents and IP rights	Low	Low	Medium	Low	Low	Low
Human resources management	Medium	Medium	Medium	Medium	Medium	Medium
IT	Medium	Low	Medium	Medium	Low	Medium
Compliance	Low	Medium	Medium	Medium	Medium	Medium
Legal affairs	Low	Low	Medium	Low	Medium	Medium
Real estate	Low	Low	Low	Medium	Low	Medium
Financial management risks						
Accounting	Low	Low	Medium	Medium	Low	Low
Finance management	Low	Low	Low	Low	Low	Low
Controlling	Low	Low	Medium	Medium	Low	Medium
Taxes	Low	Low	Medium	Low	Low	Low
Total risk	Medium	Medium	Medium	Medium	Medium	Medium

countering with the aid of the segment's new strategic focus and a corresponding adjustment to its product range, in addition to selectively broadening our prior activities through the acquisition of Prodomax and the OTTO Group.

Presently uncertain economic and political developments on the Asian and North African markets represent a risk to our traffic safety business. As a supplier to international public-sector customers in particular, Jenoptik is exposed to both the political and economic development of the respective countries. Particularly in the event of unrest, regime change or in connection with the Brexit, this may result in projects being delayed or even stopped entirely. By contrast, improvements in the political situation in certain sales markets and the economic prosperity of the countries are opening up opportunities to better serve the evolving demand for traffic safety technology. However, increased demand for security technologies and intelligent traffic flow solutions ("smart cities"), especially in metropolitan areas, present good opportunities for the segment. We develop strategic advantages over our competition by working to continuously optimize our product range.

In terms of operational risks and opportunities, the increasing internationalization of projects and parts of the value chain is reflected in increased demands on supply chain management, manufacturing, marketing, sales, and HR management. The systematic expansion of efficient service and sales structures is of crucial importance to achieving growth targets, particularly abroad.

An unregulated withdrawal of Great Britain from the European Union could have impacts on the Mobility segment. As described above, we are continuously monitoring possible consequences and have already prepared measures. But at the time of drawing up the risk and opportunity report we cannot completely assess their impact. Therefore, we cannot exclude the risk that unplanned measures or delays in the course of business will lead to higher costs with a negative effect on the segment's earnings.

Innovations and process adjustments in implemented ERP systems may presently still cause isolated delays within the organization. With long-term use of the group-wide ERP system, however, the opportunities outweigh the risks in terms of efficiency and improved controls.

Stricter compliance requirements, whether imposed by customers or legislation, entail the risk of delays in our business processes or of additional costs that could adversely affect the business's results. The requirements of the General Data Protection Regulation are of particular importance in the field of traffic safety technology.

Defense & Civil Systems

Strategic risks and opportunities. The defense market is strongly influenced by political decision-making, in particular by governments' budgetary positions, and by the restrictive export license policy of the German government, in particular with regard to the Middle East. Looking ahead, the market environment is likely to be stimulated by the demand that NATO members spend two percent of gross domestic product on defense and the consideration being given by the European Union's member states to establishing a common armaments policy. The planned increase in the defense budget and the associated growth in investment by the German government may result in higher order intakes for VINCORION.

In terms of corporate development, the potential risk of a dependency on political decisions and government budgets is in part countered by the target expansion of the civilian and in particular international product portfolio. The processes and resources required for this must be gradually adapted within the course of strategic organizational development. Marketing and sales activities are also being stepped up continuously to fully exploit the relevant growth options. We want to use the new VINCORION brand to better target our customers.

Since a large proportion of revenue generated under the VINCORION brand is the result of project business, product developments and launches represent both a huge risk and a huge opportunity. Long-term development projects present great potential to generate future revenue. However, there are also inherent technological and organizational risks here that may jeopardize the timely success of the development.

The decision by Airbus to stop the production of the A380 will have no major impact on VINCORION's course of business in 2019 and 2020, based on current information. This is particularly true as the spare part business as well as repair and maintenance work for the A380 currently in use will continue to contribute to our result.

Due to the business model being focused on long-term customer relationships and long product life cycles, supplier performance is an important success factor. Operational risks and opportunities arise primarily from a strong dependency on single sources in a number of cases, which may endanger future business opportunities. Compared to the prior year, the risk was reduced thanks to active supply chain management.

Risks arise in the field of civil applications due to the high performance requirements for the manufactured systems and, in part, low quantities.

General Statement by the Executive Board on the Group's Risk and Opportunity Situation

Overall, in terms of strategic, operational, and financial management risks, the Jenoptik Group's exposure to risk is largely unchanged on the prior year, and currently remains at the lower end of the medium risk range.

The strategic risks that were assessed as "medium" are offset by adequate opportunities or are countered by measures that enable lastingly beneficial strategic positioning. This is particularly the case for the risks in the "product development", "corporate development", and "organizational development" subcategories. The risks in the "market development" category are attributable to external sources of risk that are also countered by appropriate strategic measures.

In the area of operational risk, the successful development and expansion of the sales structures is of crucial importance. The same applies to supply chain management and production, which demands special attention due to the high technological requirements in an international market environment and, in some cases, associated single source procurement.

In total, the financial management risks for the Group have not changed in any significant way from the prior year.

Overall, it can be said that the restructuring of the Group's strategic market segments (with the help of Strategy 2022) may gradually help to reduce the existing strategic risks. The growing importance of the photonics industry and the strong related demand for applications and devices, both from private households and companies, continues to offer Jenoptik the potential for good further growth.

Overall, there is an acceptable relationship between risks and opportunities in the Jenoptik Group. No risks were identified that may jeopardize the continued existence of the Group.

Forecast Report

Framework Conditions: Future Development of the Economy as a Whole and the Jenoptik Sectors

The International Monetary Fund (IMF) further downgraded its growth forecasts in January 2019, and is now expecting the global economy to grow by 3.5 percent in 2019 (prior forecast: 3.7 percent), followed by 3.6 percent in 2020. The risk of a greater decline in global growth has increased and the weakness seen in the second half-year 2018 will continue in the coming quarters. In addition to escalating trade conflicts between the US and other economies, risks include a potentially disorderly Brexit, a new debt crisis in the euro zone, for example in Italy, and a drop in Chinese economic momentum.

The Chinese government is attempting to counter the economic slowdown and is planning for major tax cuts and higher infrastructure spending in the current year. In view of the trade conflict and a generally weaker global economy, China is expecting GDP to rise just 6 to 6.5 percent in 2019.

According to the IMF, the US economy will continue to grow.

By contrast, the IMF has significantly cut back its forecast for Germany: weakness in industrial production, particularly in the automotive industry, and a drop in foreign demand mean that growth is not likely to exceed 1.3 percent in 2019, down from 1.9 percent. The German economy saw a downturn at the start of the year, according to the ifo Institute. Its Business Climate Index fell for a fifth time in succession in January, with both the present situation and the future outlook downgraded. Uncertainties were primarily the result of problems in key emerging economies, the trade conflict between the US and China, the worrying prospect of a no-deal Brexit, and an economic slowdown in China. The German government is therefore now expecting growth of just 1.0 percent in the current year. Its original forecast of 2.1 percent had already been reduced to 1.8 percent in 2018. For 2020, the German government is anticipating stronger growth of 1.6 percent.

At the time this report was prepared, the economic outlook caused by Brexit was still uncertain, particularly in the event that Great Britain leaves the single market and the customs union with no transition agreement in place. According to the British Chambers of Commerce, thousands of British companies have already triggered emergency plans to cope with a no-deal Brexit, building up stocks to prevent delivery bottlenecks. A number of car manufacturers and aircraft manufacturer Airbus have also announced factory closures or relocations to the European continent in the event of a "hard" Brexit at the end of March 2019. According to the Association of German Chambers of Industry and Commerce (DIHK), the customs controls and bureaucracy that this would entail would result in up to 10 million additional customs declarations and over 200 million euros in extra costs a year for German companies alone.

According to the analysts at Markets and Markets, the global photonics market will grow from 530 billion US dollars to a value of 795 billion US dollars by 2022, an average of 8.4 percent annually, chiefly driven by strong demand from applications such as displays, information and communication technology, medical technology and life sciences, metrology, lighting, and production technology. Spectaris, the German industry association, also assesses the outlook for the German photonics industry as positive: key drivers of growth in the industry include topics such as "Industry 4.0" and smart factories, where large numbers of optical sensors and image capture and processing systems are required. The association also sees the

T51 Gross domestic product forecast (in percent)

	2019*	2020*
World	3.5	3.6
US	2.5	1.8
Euro zone	1.6	1.7
Germany	1.3	1.6
China	6.2	6.2
India	7.5	7.7
Emerging countries	4.5	4.9

Source: International Monetary Fund, World Economic Outlook, January 2019
* Forecast

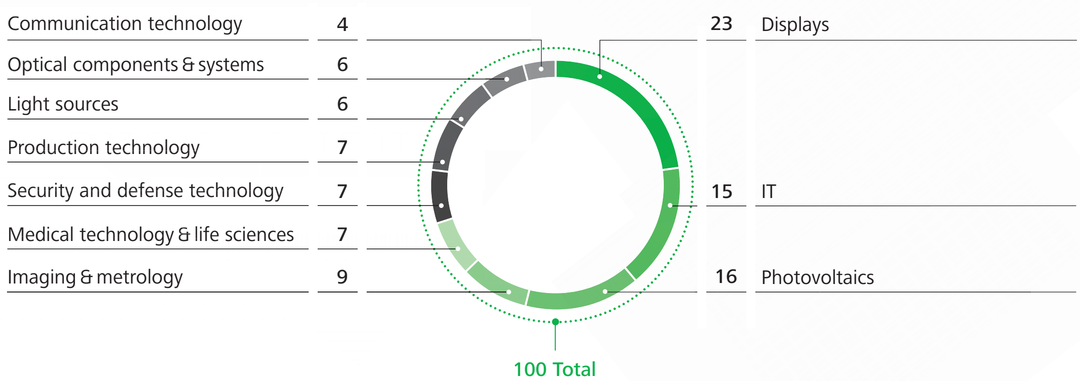
automotive industry adopting a key role with regard to autonomous or semi-autonomous driving, particularly involving optical metrology for data acquisition or LiDAR sensor technology. As stated by the market researchers at Research and Markets, the automotive LiDAR market will grow by an average of almost 30 percent annually over the next ten years as demand for autonomous vehicles and advanced driver-assistance systems (ADAS) increases.

Photonic technologies lie at the heart of many diagnostic procedures and treatment methods used in medical technology, for example in in-vitro diagnostics, endoscopy, and in point-of-care solutions for patient-oriented treatment. Market research company EvaluateMedTech, cited by Spectaris, is forecasting annual growth of some 5 percent, to around 530 billion US dollars in 2022, for the global medical technology market, while sounding cautious on regulatory uncertainties and environmental legislation.

Following a record year in 2018, the international laser market could again grow by 5 to 6 percent in 2019, according to the forecast published in "Laser Focus World" magazine's annual review. Volatile macro-economic conditions could, however, endanger this target.

Following several record years, the major semiconductor equipment manufacturers see the prospects for 2019 in a more cautious light. The slight downturn in the second half-year 2018 is expected to continue in the first few months of 2019. Demand for semiconductors for smartphones, tablets, servers, and cars is in decline at the same time as customers' inventory levels are high and there is general uncertainty caused by trade conflicts and a weaker global economy. The SEMI trade association is expecting revenues to fall 4 percent in 2019, but is more optimistic about 2020, when growth of 20.7 percent, to 71.9 billion US dollars, could signal a new all-time high.

G24 Global photonics market in 2020: 615 billion euros (share in percent)

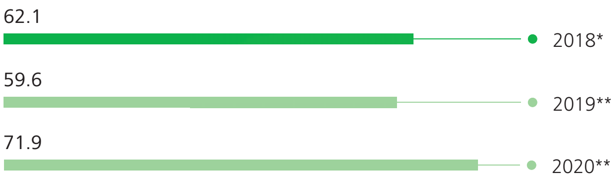


Source: VDMA, ZVEI, Spectaris: Photonics Industry Report 2013

The semiconductor industry is also bracing itself for moderate growth: according to forecasts by the SIA, global revenue in 2019 will rise only 2.6 percent on the prior year. As sales of smartphones stagnate, companies need to move into other areas such as the Internet or the automotive field. Semiconductor manufacturers are hoping for strong business with autonomous vehicles and electromobility. G25

German mechanical engineering companies started 2019 with an order backlog of around eight months, which could temporarily cushion any restrictions caused by Brexit. The situation could be aggravated if several risks emerge at the same time: a hard Brexit, an escalation of the trade conflict between the US and China, and a deepening of the debt crisis in Italy – in which case four of five main export markets would be affected. Nevertheless, the German Mechanical Engineering Industry Association (VDMA) is anticipating growth of 2 percent in 2019. The industry association also published a study entitled "China Business of the Future", according to which increasing numbers of Chinese companies are being developed with government assistance to compete with German small and medium-sized entities, including in the high-end segment.

G25 Semiconductor equipment: Global revenue forecast (in billion US dollars)



Change 7.5 %

Source: Semiconductor Equipment and Materials International (SEMI)
* provisional calculation
** forecast

The trend toward increasing automation shows no sign of abating: market research company Gartner is expecting the "robotic process automation" software market to grow to a value of 2.4 trillion US dollars by 2022, compared with 680 million US dollars in 2018. The International Federation of Robotics (IFR) is forecasting growing robot sales to meet rising levels of automation in the automotive industry. Global sales of industrial robots are set to grow by an annual average of 14 percent by 2021. Smaller and medium-sized manufacturers are also increasingly employing automation technologies, requiring simple and flexible robotics solutions. In addition to the large robots deployed in the automotive industry, the IFR is expecting increased demand for "cobots", smaller collaborative robots that enable close cooperation between man and machine.

In the automotive industry, China is opening up its market, but details are as yet sketchy: the country wants to reduce tariffs on car imports and in general enable greater market access and better investment conditions for foreign companies. The German Association of the Automotive Industry (VDA) welcomed these announcements in April 2018, as China is an important export market and production location for German manufacturers and suppliers. Developments in international trading policies give the VDA cause for concern: the German automotive industry is dependent on free access to markets. The extent and impact of any new punitive tariffs imposed after a break in negotiations are not yet foreseeable. Industry associations warn that, in the automotive industry, for example, import duties could result in higher prices, loss of revenue, an investment backlog, and job losses in production, the supplier chain, and trade.

The automotive industry is also adapting to new, extremely strict technology and environmental regulations. The introduction of the new WLTP exhaust emissions test caused many manufacturers to scale down car production; the situation is only now slowly returning to normal. In addition, the EU nations plan to tighten carbon dioxide emissions limits for new cars: from 2020 to 2030, they aim to reduce limit values by 35 percent and increase the number of electric and hybrid vehicles in the EU. To achieve the latter objective, the EU Parliament wants to oblige car manufacturers to ensure that at least 35 percent of the cars they sell have low emissions by 2030.

The "Global Automotive Outlook" study, published by consultants AlixPartners in July 2018, is forecasting a bleaker outlook for manufacturers and suppliers: on the one hand, growth in the global car market will slow down through 2025, while at the same there is a need to make high investment, particularly in electric drive systems and autonomous driving concepts. Car manufacturers are therefore planning to work in partnership with each other, as well as with automotive suppliers, IT companies, and mobility service providers.

In its "Road Safety Market by Solution, Service" report, US market research company Markets and Markets believes that the global traffic safety market will grow from 2.6 billion US dollars in 2016 to 4.1 billion dollars in 2021, an average annual increase of 9.3 percent. Key factors include the growing number of traffic accidents, growing urbanity and mobility, and increasing statutory regulations for traffic safety. Automatic number plate recognition (ANPR) is becoming more important as a means of traffic monitoring and prevention: as set out in industry reports, market researchers expect the ANPR market segment to grow by an average 12.8 percent annually and be worth 1.4 billion US dollars by 2023. The technology could also be used should a hard Brexit require customs controls. ANPR could further be used to monitor entry permits or restricted zones, such as those in which diesel vehicles are prohibited in Germany. Before this can be done, the necessary (regulatory) political conditions first need to be created.

According to the EU Commission, it will be difficult to achieve the political goal of halving the number of road deaths to around 16,000 between 2010 and 2020. In order to increase traffic safety, the EU Commission intends to adopt new measures that aim to ensure no more road deaths on Europe's roads by the year 2050. Examples include strategies for networked and automated mobility, financing for research projects, improved vehicle technology, or intelligent speed assistant systems that aid compliance with speed limits.

In the rail industry, increased international competition among train manufacturers is having consequences: Bombardier has announced restructuring plans to reduce its workforce while retaining all German plants by 2020; on the other hand, the planned merger of Siemens and Alstom was barred by the EU Commission, citing competition concerns. Market research company SCI Verkehr sees the industry's wave of consolidation reaching a new high, which may lastingly change the manufacturing landscape to help counter competition from China. Companies are hoping that these mergers will primarily reduce development and approvals costs. According to SCI Verkehr, the global market for railway technology is on course for growth with a current market volume of 183 billion euros and an expected annual growth rate of 2.8 percent. However, according to "Worldwide Market for Railway Industries 2018", published on the occasion of the Innotrans trade fair in October 2018, this growth could be endangered by protectionism and both political and economic uncertainty to a greater extent than previously assumed. In addition to the electrification of routes, key trends include alternative drive concepts, digitization, and automation, the latter with the ultimate goal of autonomous railways. The Chinese rail technology market, currently worth 34 billion euros, will remain at its high level in the next five years but not grow further, according to a study entitled "The Chinese Railway Market" from SCI Verkehr. Due to overcapacity, Chinese companies need to focus more strongly on international markets in order to balance a slowdown in growth in their national market.

According to reports issued by Airbus and Boeing, the major aircraft manufacturers increased their long-term forecasts for the aviation industry in summer 2018. As stated in its "Global Market Forecast", Airbus anticipates that the airlines will buy a total of around 37,400 new passenger jets and cargo planes worth 5.8 trillion US dollars by 2037. Boeing forecasts a demand for 42,730 aircraft worth 6.3 trillion US dollars. Both aircraft manufacturers are hoping for a boost with the help of new models in the MOM segment ("Middle of the Markets") but, according to a study by Alix Partners, are coming under increasing pressure from smaller competitors. Airbus will cease production of the A380 aircraft following final deliveries in 2021. Following the cancellation of two major orders, the company says that its order backlog is no longer sufficient to continue production beyond this date.

In the security and defense industries, the EU nations plan to boost cooperation with each other. At the heart of the "Pesco" European defense pact established in 2017 is the future joint procurement of defense equipment and coordination of defense projects, supported by a European defense fund for research projects worth 13 billion euros by 2027. Germany and France, in particular, are planning to work more closely together to jointly develop a fighter jet to replace the Eurofighter and Rafale models in the future. The German Ministry of Defense will receive 33 new Eurofighters, allowing Airbus to maintain production for several more years. Great Britain has announced its intention to return to an armored vehicle engineering program: a joint venture between Rheinmetall and BAE Systems aims to secure value creation in Great Britain, in part through the construction of a production facility for armored vehicles.

In Germany, spending on security and defense technology is due to rise sharply under plans revealed by the Ministry of Defense – from almost 43 billion euros in 2019 to 60 billion euros by 2023. This corresponds to about 1.5 percent of GDP. This investment aims to meet NATO requirements that stipulate greater expenditure on national and alliance defense. A new arms race may be imminent, especially considering that the US and Russia have suspended their involvement in the INF treaty that bans intermediate-range nuclear weapons and plan to develop new missile systems.

Expected Development of the Business Situation

Planning assumptions for the Group and the divisions

The forecast for the future business development was based on the group planning undertaken in the fall of 2018 and the Strategy 2022 published in early 2018. Since January 1, 2019, Jenoptik has the following reportable segments: the Light & Optics, Light & Production, Light & Safety and VINCORION divisions.

The starting point is formed by the separate plans from the divisions and operational business units, which are harmonized and integrated in the group planning. Possible acquisitions and exchange rate fluctuations are not included in the planning process.

The system of key performance indicators covers the revenue, EBITDA margin, order intake, free cash flow, and capital expenditure. Other indicators will also be regularly compiled in the future and are used by top management for informational purposes.

See the Control System chapter for more information on the key performance indicators

In 2018, we began rolling out our Strategy 2022, which is focused on photonic technologies. In the process, we are concentrating on three building blocks – focus, innovation, and internationalization. We established our new corporate structure on schedule at the start of the 2019 fiscal year, which also forms the basis for our reporting from January 1, 2019 on.

See the Business Model and Markets and the Targets and Strategy chapters for more information on the strategy and the new division structure

The Jenoptik Group anticipates a continued good development of business in the Light & Optics division in 2019. We aim to boost our leading position in the photonics market by stepping up our activities as a global OEM supplier of solutions and products based on photonic technologies, by focusing on key sales markets, by growing our global reach, and with innovative products and a larger range of integrated system solutions. For the semiconductor equipment market, observers expect demand to fall marginally in the current year. Here, however, the division can profit from its position as one of the leading suppliers of optical and micro-optical system solutions for semiconductor production. In order to support the positive

See the Framework Conditions chapter for more information on the future development of the Jenoptik sectors

development and broaden our presence in core markets, a focus on optical information and communication technologies is growing in significance. In medical technology and life science, existing cooperation arrangements with key international customers are due to be expanded in the current fiscal year and contribute to growth. In the current fiscal year, the division will also continue to invest in the international production locations and sales to promote future growth and continue the process of internationalization. As an example, Jenoptik is investing further in modern production equipment, thereby anticipating a sustained high level of demand and securing its long-term competitiveness in one core photonics business.

In the Light & Production division, we also expect to see a positive development in a market environment that is becoming ever more difficult in 2019. The acquired companies will also help to achieve this. In the metrology sector, we assume that the trend toward integrated production-related metrology will continue. This plays a particularly important role when precision parts are manufactured, such as those required by the automotive industry for efficient and environmentally-friendly drive systems. In order to respond to this trend, the division is continuing to invest in the development of innovative and high-performance technologies and systems. New development and production capacities, and modern office spaces, will be built at the Villingen-Schwenningen location starting in the spring of 2019. Key growth momentum is also expected in the field of laser machines. Alongside established systems for plastics processing in the automotive industry, the division is primarily focusing on the field 3D material processing. It acquired the Canadian company Prodomax in the summer of 2018. The combination of automation solutions and laser processing machines gives Jenoptik an opportunity to tap into further potential for growth in the field of advanced manufacturing and takes a further step along the road to becoming an integrated supplier of high-tech production environments. We also continue to grow from developing stand-alone machines to supplying modular systems and solutions for customer manufacturing in the B2B segment, thereby boosting our customers' productivity. We aim to counter growing price pressure from our competitors with efficient and more flexible system solutions. Our international reach is also due to grow, especially in China.

Following a fiscal year marked by revenue growth and a significant margin improvement, in 2019 the Light & Safety division faces the task of compensating for the loss of revenue and earnings from the project to supply toll monitoring systems. Orders received from the North Africa / Middle East region in the fall of last year will contribute to achieve this aim. Jenoptik won out over several international manufacturers in a tendering process requiring a high level of technical expertise. Further orders are currently in the pipeline. In the fall of 2018, Jenoptik received approval in Germany for section control measuring systems, a technology that has already proven itself in other countries. Beyond this, the Traffic Service Provision business model will also be rolled out further. The civil security business is another area that is growing in significance. We will expand our product range in 2019, particularly in the area of traffic monitoring. Deep learning technology is due to be used to a greater extent in safety and civil security applications. On a regional level, Jenoptik is primarily expecting growth momentum benefiting the Light & Safety division to come from Europe and the Americas.

The VINCORION division is expected to see stable development in 2019. Its business is predominantly project-based and geared toward the long term. After years of stagnation, defense spending in Europe, particularly in Eastern Europe, is picking up again. In Germany, too, a range of new procurement projects are in the pipeline. Key criteria include connectivity, automation, and energy efficiency. At the same time, a potentially more restrictive export policy under the present government in Germany could impact on or delay projects.

In the medium term, a significant increase in investment for the German armed forces has political support, but we do not expect this to have any effect on our business in the short term, as political decision-making processes are generally highly protracted. In the years ahead, however, they may contribute to higher revenues. Internationalization also remains a key topic in 2019; foreign business is due to expand steadily, particularly in North America and Asia/Pacific. Beyond this, the division is looking to further increase the share of systems used in civilian fields. These include system solutions for civil aviation, for example the rescue hoist.

For further information on IFRS 16 see the Notes on page 144

Earnings position forecast 2019

On the back of a robust order situation and continuing good demand from our markets, the Executive Board is expecting revenue and earnings to grow in 2019. Market developments and currently identifiable risks such as bottlenecks in the supply chain are subject to ongoing monitoring. Our scheduled growth also presupposes that political and economic conditions do not worsen. In particular, these include economic trends, the potential impacts of Brexit, regulations at European level, export restrictions, and further policy developments in our sales markets.

The Jenoptik Group anticipates revenue growth without major changes in the portfolio in the mid single-digit percentage range for 2019 (prior year: 834.6 million euros), with key contributions to growth coming from the Light & Optics and Light & Production divisions.

At present, Jenoptik is expecting EBITDA (earnings before interest, taxes, depreciation, and amortization, incl. impairment losses and reversals) to grow in the 2019 fiscal year (2018: 127.5 million euros); the EBITDA margin is due to come in at between 15.5 and 16.0 percent. This includes the positive impacts arising from the introduction of IFRS 16, "Leases".

The order intake for a period is in part affected by major orders, particularly in the VINCORION and Light & Safety divisions. In the past fiscal year, Jenoptik received new orders worth 873.7 million euros and had thus built up a very good order base at year-end 2018. For the current fiscal year, Jenoptik assumes that its order intake will grow slightly, despite an already high initial value. Also worthy of note is that Jenoptik had frame contracts worth 62.5 million euros at the end of 2018, which are not included in the order intake or backlog. Around 79 percent of the order backlog as of the end of December 2018 will be converted to revenue in 2019 (31/12/2017: around 79 percent).

T52 Summary of targets for the Group and divisions (in million euros)

	Actual 2018	2019 guidance
Revenue	834.6	Growth in the mid single-digit percentage range (without major changes in the portfolio)
Light & Optics	339.6	Growth in the mid single-digit percentage range
Light & Production	210.9	Growth in the low double-digit percentage range
Light & Safety	116.9	Noticeable decline (2018: settlement of a major order)
VINCORION	166.4	Stable
EBITDA/EBITDA margin	127.5/15.3%	EBITDA margin between 15.5 and 16%
Light & Optics	74.1	Growth in the mid single-digit percentage range
Light & Production	24.6	Growth slightly stronger than revenue
Light & Safety	15.9	Decline in line with revenue
VINCORION	20.1	Slight increase, improved margin
Order intake	873.7	Slight increase
Free cash flow	108.3	Approx. 80 million euros
Capital expenditure [1]	42.5	Significant increase

[1] Without capital expenditure on financial investments

Following the very positive business performance in 2018, with new record revenue and earnings figures, the Light & Optics division is expecting revenue and EBITDA to increase in the mid single-digit percentage range in 2019.

Buoyed by the contributions to revenue made by the acquired companies, the Light & Production division is anticipating revenue growth in the low double-digit percentage range in the current fiscal year. EBITDA is expected to grow slightly stronger than revenue. The accuracy of forecasts in this division is influenced by the times at which projects are settled.

The Light & Safety division settled a major project with the delivery of toll monitoring systems in 2018; its contribution to revenue can probably not be fully compensated in the current fiscal year. The division is therefore expecting revenue and EBITDA to each fall noticeably. In this division, too, the accuracy of forecasts is influenced by the times at which projects are settled.

In the 2019 fiscal year, the VINCORION division is expected to contribute to the company's overall success with stable revenue, a slight rise in EBITDA, and an improved EBITDA margin.

Group asset and financial position forecast

For the 2019 fiscal year, Jenoptik is forecasting a significant increase in capital expenditure. The largest single investment, worth over 13 million euros, will be the construction of new development, production, and office spaces for industrial metrology at the Villingen-Schwenningen location. Capital expenditure on property, plant, and equipment will focus on the growth areas within the divisions or take place within the scope of new customer projects. It aims to expand capacities, thereby ensuring future growth.

See the Events after the Balance Sheet Date for more information on the dividend

Following a sharp rise in the free cash flow over the past fiscal year, we are expecting a free cash flow of around 80 million euros in 2019. Even considering the rise in capital expenditure, this will allow all interest, tax, and dividend payments to be covered by the free cash flow.

Dividend. In addition to financing the continued growth of the company, the future aim of the Executive Board is still to ensure a dividend policy in line with corporate success. In the view of the Executive Board, a stable provision of equity for sustainable organic growth to increase the enterprise value as well as the exploitation of opportunities for acquisitions are also of crucial importance to the interests of the shareholders.

Important note. The actual results may differ significantly from the forecasts of anticipated development made above and summarized below. This may arise, in particular, if one of the uncertainties mentioned in this report were to materialize or if the assumptions upon which the statements are based prove to be inaccurate in relation to the economic development.

General Statement by the Executive Board on Future Development

In the current 2019 fiscal year, the Jenoptik Group will continue rolling out its Strategy 2022, focusing on photonic technologies. In terms of economic development, our key focus remains on profitable growth. We believe that revenue growth, resulting economies of scale, and more efficient and faster processes result in higher, sustainable earnings.

Despite an increasingly difficult environment, Jenoptik aims to see further successful growth in 2019, building on a strong order backlog and good demand in our markets. The solid asset position and a viable financing structure also give us sufficient room for maneuver to finance further growth and acquisitions. In 2019, the Executive Board is forecasting revenue growth in the mid single-digit percentage range without major changes in the portfolio and an EBITDA margin of between 15.5 and 16.0 percent. Achieving these targets is dependent on economic and political conditions.

In the current fiscal year, we will again invest a significant portion of our funds in the expansion of international sales and value creation structures, as well as in the development of innovative products. As part of our active portfolio management, potential acquisitions are closely scrutinized; divestments are not ruled out.

The Executive Board expects positive corporate development within the Jenoptik Group overall during the 2019 fiscal year.

Jena, March 7, 2019

JENOPTIK AG
the Executive Board

Consolidated Financial Statements

» in short «

At the end of the fiscal year
Jenoptik had

4,043

employees in total.

With this increase of more than 10 percent compared with the prior year, the number of employees also reached a new record figure. More than half of the new employees joined Jenoptik as a result of the acquisitions made.

Consolidated Statement of Comprehensive Income

Consolidated Statement of Income

in thousand euros	Note No.	1/1 – 31/12/2018	1/1 – 31/12/2017
Revenue	4.1	834,571	747,929
Cost of Sales	4.2	541,475	484,042
Gross profit		**293,096**	**263,887**
Research and development expenses	4.3	47,443	43,078
Selling expenses	4.4	87,050	80,312
General administrative expenses	4.5	56,129	55,817
Other operating income	4.7	20,861	15,944
Other operating expenses	4.8	28,426	22,579
EBIT		**94,910**	**78,044**
Result from other investments	4.9	152	6,468
Financial income	4.10	3,438	1,756
Financial expenses	4.10	7,060	6,186
Financial result		**−3,470**	**2,038**
Earnings before tax		**91,440**	**80,082**
Income taxes	4.11	−4,002	−7,429
Earnings after tax		**87,438**	**72,653**
Results from non-controlling interests	4.12	−138	149
Earnings attributable to shareholders		87,575	72,504
Earnings per share in euros (diluted = undiluted)	4.13	**1.53**	**1.27**

Consolidated Comprehensive Income

in thousand euros	Note No.	1/1 – 31/12/2018	1/1 – 31/12/2017
Earnings after tax		**87,438**	**72,653**
Items that will never be reclassified to profit or loss	5.16	511	858
Actuarial gains/losses arising from the valuation of pensions and similar obligations		599	1,156
Deferred taxes		−88	−298
Items that are or may be reclassified to profit or loss	5.16	−2,928	−4,704
Equity instruments measured at fair value through other comprehensive income		−22	−270
Cash flow hedges		−4,760	4,456
Foreign currency exchange differences		692	−8,016
Deferred taxes		1,161	−874
Total other comprehensive income		**−2,418**	**−3,846**
Total comprehensive income		**85,020**	**68,807**
Thereof attributable to:			
Non-controlling interests		−111	209
Shareholders		85,131	68,598

Consolidated Statement of Financial Position

Assets in thousand euros	Note No.	31/12/2018	31/12/2017	Change
Non-current assets		**491,812**	**376,225**	**115,588**
Intangible assets	5.1	205,553	120,931	84,623
Property, plant and equipment	5.2	185,930	164,730	21,201
Investment property	5.3	4,354	4,350	4
Financial investments	5.5	6,770	4,408	2,362
Other non-current financial assets	5.6	2,191	2,319	−128
Other non-current non-financial assets	5.7	723	586	136
Deferred tax assets	5.8	86.291	78,900	7,391
Current assets		**494,096**	**512,901**	**−18,805**
Inventories	5.9	175,602	168,625	6,978
Current trade receivables	5.10	131,198	136,017	−4,818
Contract assets	5.11	23,385	0	23,385
Other current financial assets	5.12	5,268	5,307	−39
Other current non-financial assets	5.13	9,912	6,067	3,845
Current financial investments	5.14	59,476	64,577	−5,101
Cash and cash equivalents	5.15	89,255	132,310	−43,055
Total assets		**985,908**	**889,126**	**96,782**

Equity and liabilities in thousand euros		31/12/2018	31/12/2017	Change
Equity	5.16	**597,951**	**529,932**	**68,019**
Share capital		148,819	148,819	0
Capital reserve		194,286	194,286	0
Other reserves		254,175	186,704	67,472
Non-controlling interests	5.17	671	123	548
Non-current liabilities		**170,267**	**162,105**	**8,162**
Pension provisions	5.18	37,339	37,066	274
Other non-current provisions	5.20	16,279	15,909	370
Non-current financial debt	5.22	111,405	108,573	2,831
Other non-current financial liabilities	5.23	2,664	420	2,243
Other non-current non-financial liabilities		108	0	108
Deferred tax liabilities	5.8	2,473	137	2,336
Current liabilities		**217,690**	**197,089**	**20,601**
Tax provisions	5.19	9,000	8,938	63
Other current provisions	5.20	58,706	51,250	7,456
Current financial debt	5.22	10,123	19,337	−9,214
Current trade payables	5.24	60,102	61,657	−1,555
Other current financial liabilities	5.25	7,582	8,654	−1,072
Contract liabilities	5.26	53,273	0	53,273
Other current non-financial liabilities	5.27	18,903	47,253	−28,350
Total equity and liabilities		**985,908**	**889,126**	**96,782**

Consolidated Statement of Cash Flows

in thousand euros	1/1 – 31/12/2018	1/1 – 31/12/2017
Earnings before tax	**91,440**	**80,082**
Financial income and expenses	3,622	4,430
Non-operating income from investments	−50	0
Depreciation and amortization	30,569	28,678
Impairment losses and reversals of impairment losses	2,068	147
Profit/loss from asset disposals	101	−6,359
Other non-cash income/expenses	−563	539
Operating profit before adjusting working capital and further items of the statement of financial position	**127,188**	**107,517**
Change in provisions	7,334	7,150
Change in working capital	12,457	−7,776
Change in other assets and liabilities	2,368	−1,817
Cash flows from operating activities before income tax payments	**149,346**	**105,074**
Income tax payments	−13,856	−8,727
Cash flows from operating activities	**135,490**	**96,347**
Proceeds from sale of intangible assets	0	18
Capital expenditure for intangible assets	−5,293	−4,384
Proceeds from sale of property, plant and equipment	787	1,870
Capital expenditure for property, plant and equipment	−36,564	−30,340
Capital expenditure for investment property	−100	0
Proceeds from sale of financial investments	230	18,854
Capital expenditure for financial investments	0	−351
Acquisition of consolidated entities	−81,404	−13,893
Proceeds from sale of investment companies	281	0
Proceeds from sale for financial assets within the framework of short-term disposition	34,108	34,736
Capital expenditure for financial assets within the framework of short-term disposition	−29,969	−49,196
Proceeds from non-operating income from investments	50	0
Interest received	347	521
Cash flows from investing activities	**−117,527**	**−42,164**
Dividends paid	−17,171	−14,310
Capital expenditure for shares in consolidated entities	−589	−339
Proceeds from issuing bonds and loans	4,188	7,272
Repayments of bonds and loans	−40,272	−3,562
Payments for finance leases	−709	−116
Change in group financing	−2,872	1,416
Interest paid	−3,469	−3,271
Cash flows from financing activities	**−60,896**	**−12,909**
Change in cash and cash equivalents	**−42,932**	**41,274**
Effects of movements in exchange rates on cash held	150	−1,014
Change in cash and cash equivalents due to valuation adjustments	−500	0
Change in cash and cash equivalents due to changes in the scope of consolidation	227	89
Cash and cash equivalents at the beginning of the period	132,310	91,961
Cash and cash equivalents at the end of the period	**89,255**	**132,310**

Statement of Changes in Equity

in thousand euros	Note No.	Share capital	Capital reserve	Retained earnings	Equity instruments measured through other comprehensive income
Balance at 1/1/2017		**148,819**	**194,286**	**155,016**	**515**
Net profit for the period	4.12 / 4.13			72,504	
Other comprehensive income after tax	2.3 / 5.18 / 8.2				−302
Total comprehensive income				**72,504**	**−302**
Acquisition of non-controlling interests				−245	
Dividends				−14,310	
Other adjustments				−944	
Balance at 31/12/2017		**148,819**	**194,286**	**212,022**	**213**
Balance at 1/1/2018		**148,819**	**194,286**	**212.022**	**213**
Changes in accounting policies	1.2			−2,875	
Balance at 1/1/2018 [1]		**148,819**	**194,286**	**209,147**	**213**
Net profit for the period	4.12 / 4.13			87,575	
Other comprehensive income after tax	2.3 / 5.18 / 8.2				−16
Total comprehensive income				**87,575**	**−16**
Acquisition of non-controlling interests	2.4			−659	
Dividends				−17,171	
Other adjustments	2.1 / 5.5			3,047	
Balance at 31/12/2018		**148,819**	**194,286**	**281,938**	**197**

[1] Adjusted due to initial application of IFRS 9 and IFRS 15

Cash flow hedges	Cumulative exchange differences	Actuarial effects	Equity attributable to shareholders of JENOPTIK AG	Non-controlling interests	Total	
−1,577	**8,108**	**−28,457**	**476,710**	**−331**	**476,379**	**Balance at 1/1/2017**
			72,504	149	72,653	Net profit for the period
3,131	−7,811	1,076	−3,906	60	−3,846	Other comprehensive income after tax
3,131	**−7,811**	**1,076**	**68,598**	**209**	**68,807**	**Total comprehensive income**
			−245	245	0	Acquisition of non-controlling interests
			−14,310		−14,310	Dividends
			−944		−944	Other adjustments
1,554	**297**	**−27,382**	**529,809**	**123**	**529,932**	**Balance at 31/12/2017**
1,554	**297**	**−27,382**	**529,809**	**123**	**529,932**	**Balance at 1/1/2018**
			−2,875	−1	−2,876	Changes in accounting policies
1,554	**297**	**−27,382**	**526,934**	**122**	**527,056**	**Balance at 1/1/2018 [1]**
			87,575	−138	87,438	Net profit for the period
−3,347	498	421	−2,444	26	−2,418	Other comprehensive income after tax
−3,347	**498**	**421**	**85,131**	**−111**	**85,020**	**Total comprehensive income**
			−659	660	0	Acquisition of non-controlling interests
			−17,171		−17,171	Dividends
			3,047		3,047	Other adjustments
−1,793	**795**	**−26,961**	**597,281**	**671**	**597,952**	**Balance at 31/12/2018**

Notes

1 Presentation of the Group Structure

1.1 Parent company

The parent company is JENOPTIK AG headquartered in Jena and is registered in the Commercial Register at the local court of Jena in Department B under the number 200146. JENOPTIK AG is listed on the German Stock Exchange in Frankfurt and traded on the TecDax and SDax, amongst others.

The list of shareholdings of the Jenoptik Group is published in the Federal Gazette in accordance with § 313 (2) Nos. 1 to 4 of the German Commercial Code (Handelsgesetzbuch [HGB]) and is disclosed from page 205 in the Notes under the heading List of Shareholdings of the Jenoptik Group. The entities to which the simplification relief regulations were applied as specified in § 264 (3) or § 264b of the HGB, are disclosed in the section "Required and Supplementary Disclosures under HGB".

1.2 Accounting principles

The consolidated financial statements of JENOPTIK AG were prepared for the 2018 fiscal year in accordance with the International Financial Reporting Standards (IFRS) and the binding interpretations of the International Financial Reporting Interpretations Committee (IFRIC) in force at the reporting date for use in the European Union.

The consolidated financial statements were presented in euros. If not otherwise specified, all amounts are presented in thousand euros. Please note that there may be rounding differences as compared to the mathematically exact amounts (monetary units, percentages, etc.). The statement of comprehensive income was prepared in accordance with the cost of sales method.

The fiscal year of JENOPTIK AG and those of the subsidiaries included in the consolidated financial statements corresponds with the calendar year.

In order to improve the clarity of the presentation, individual items were aggregated in the statement of comprehensive income and the statement of financial postition. The classifications used for these items are listed in the Notes.

Changes in accounting policies

The following International Financial Reporting Standards were applied for the first time in the fiscal year:

IFRS 9 "Financial Instruments". This standard replaces all earlier versions of IAS 39 for the classification and valuation of financial assets and liabilities as well as for the accounting treatment for hedging instruments. This new version of the standard contains revised guidelines for the classification and valuation of financial instruments. These include a new model for anticipated credit defaults for calculating the impairment loss to financial assets as well as the new general accounting regulations for hedging transactions. This standard also adopts the IAS 39 guidelines for the recognition and derecognition of financial instruments. IFRS 9 is to be adopted in fiscal years beginning on or after January 1, 2018. With the exception of the accounting for hedging transactions, the standard is to be applied retrospectively but there is no requirement for the disclosure of comparison information. Apart from a few exceptions, the regulations for the accounting treatment of hedging transactions must be applied in general prospectively.

This gave rise to the following overall effects on the statment of financial position, income statement and equity for Jenoptik:

a) Classification and valuation
The Group will take advantage of the option, which can be exercised on an individual case basis, of applying a valuation, outside of profit or loss, at fair values for equity instruments which were previously valued as available-for-sale assets. As a result, all fluctuations in the value of these equity instruments will now be recognized outside of profit or loss in other comprehensive income, without the possibility of a later reclassification through profit or loss. Under IFRS 9, there are no material changes with regard to assets valued at amortized procurement costs. Loans and trade receivables are held in order to collect the contractual cash flows which exclusively represent redemption of and interest payments on the outstanding nominal amounts. Jenoptik analyzed the contractual cash flows and came to the conclusion that the cash flow requirement is being met and no reclassification is necessary.

b) Impairment losses
A provision for losses in the sum of 0.6 million euros for current cash investments and bank deposits to cover the debtor default risk on the date of first application was recognized for the first time. The Group also applies the simplified approach to determine the Expected Credit Loss over the entire term for all trade receivables.

c) Accounting for hedging transactions
The Group has determined that all hedging transactions currently designated as effective hedging relationships on the date of first application, also meet the criteria of IFRS 9 for hedge accounting. Since IFRS 9 does not provide for any change in the general principles for the accounting of effective hedging relationships, no material changes arise with regard to the accounting of hedging relationships in the consolidated financial statements.

The amended classification and valuation of financial assets has led to the following implications on the date of first application:

There were no implications for financial liabilities on the date of first application.

The Group recorded the transition effects as at January 1, 2018 on a cumulative basis in equity. With consideration of an increase of deferred tax assets in the sum of 173 thousand euros, other reserves reduced by 409 thousand euros.

The application of IFRS 9 had only an insignificant impact on the statement of financial position and income statement for the fiscal year 2018. There were also no significant impacts on the cash flow statement.

IFRS 15 "Revenue from Contracts with Customers". IFRS 15 introduces a five-stage model for accounting of revenue from contracts with customers. Under IFRS 15, revenue is recorded in the amount of the consideration in return which an entity can expect for the transfer of goods or services to a customer (the transaction price). The new standard replaces all existing guidelines for recording revenues such as IAS 18 Revenue,

Transition of financial assets from IAS 39 to IFRS 9

in thousand euros	Valuation category according to IAS 39 [1]	Carrying amounts according to IAS 39 as at 31/12/2017	Revaluation according to the application of the expected-loss model	Carrying amounts according to IFRS 9 as at 1/1/2018	Valuation category according to IFRS 9 [1]
Financial investments					
Cash desposits	LAR	64,169	−214	63,955	AC
Shares in unconsolidated associates and investments [2]	AFS	2,812		2,812	FVTOCI
Aviable-for-sale financial assets [3]	AFS	867		867	AC
Loans granted	LAR	730		730	AC
Financial assets held to maturity	HTM	408		408	AC
Trade receivables	LAR	136,017		136,017	AC
Other financial assets					
Receivables from lease agreements		340		340	–
Derivatives with hedging relations		2,962		2,962	–
Derivates without hedging relations	FVTPL	2,003		2,003	FVTPL
Miscellaneous financial assets	LAR	2,322		2,322	AC
Cash and cash equivalents	**LAR**	**132,310**	**−368**	**131,942**	**AC**

[1] LAR = Loans and receivables
AFS = Available for sale
HTM = Held to maturity
FVTPL = Fair value through Profit & Loss
AC = Amortized acquisition costs
FVTOCI = Fair value through other comprehensive income
[2] Reduction in the sum of 1,225 thousand euros due to changes in the group of entities consolidated see 2.1 from page 146
[3] Full consolidation after acquisition of ASAM, see 2.4 from page 150 on

IAS 11 Construction Contracts and IFRIC 13 Customer Loyalty Programs. For the fiscal year commencing on January 1, 2018, the modified retrospective method was applied.

Clarifications on IFRS 15 "Revenue from Contracts with Customers". The clarifications explain implementation issues which were addressed by the Joint Transition Group for Revenue Recognition. These questions relate to the identification of performance obligations, the application guidelines for principal-agent relationships and licenses for intellectual property, as well as the transitional provisions. In addition, the aim of the amendments is to ensure a more consistent approach in the implementation of IFRS 15 and to reduce the costs and complexity associated with its application. Together with the main standard the changes came into effect on January 1, 2018 and essentially affect Jenoptik as follows:

a) Customer-specific development projects, followed by volume production: In the past, revenues were recognized after delivery of the product, unless IAS 11 applied (successive contracts to supply). The Group concludes that in most cases development services under IFRS 15 are categorized as separate performance obligations over the period of development as revenue and no longer recognized through volume production. Therefore, a revenue portion of the future volume production has to be anticipated and recorded as revenue. In fiscal year 2018, this led to a reduction in revenue of 4.2 million euros and a reduction in cost of sales by 5.0 million euros.

b) Customer-specific volume production: Up to and including the fiscal year 2017, revenue was recognized with the transfer of risk after delivery or acceptance by the customer. Under IFRS 15, Jenoptik concludes that certain contracts are to be accounted for in accordance with the requirements of IFRS 15.35 (c) over time, leading to revenue being recognized earlier. In fiscal year 2018, these transactions led to an increase in revenue of 2.6 million euros with an increase in cost of sales of 1.4 million euros.

In addition, the application of IFRS 15 in individual cases led to a change in revenue recognition for customer contracts previously recognized as construction contracts in accordance with IAS 11, which are now recognized at a point in time. In fiscal year 2018, this led to a reduction in revenue of 0.6 million euros and a reduction in cost of sales by 0.2 million euros.

Through the acquisition of Prodomax Automation Ltd. in the 3rd quarter of 2018, the volume of business transactions that would have been recognized over time under IAS 11 in accordance with the POC method but which under IFRS 15 must be recognized at a point in time, has increased considerably. A hypothetical comparison with the accounting standards applicable in 2017 results in higher revenues of 13.7 million euros for the 2018 fiscal year, as substantial performance obligations were satisfied in the period between the acquisition and December 31, 2018. Cost of sales rose accordingly by 12.2 million euros.

In addition, revenue increased slightly in fiscal year 2018 due to further effects arising from the application of IFRS 15, including from the reallocation of the consideration between performance obligations.

The Group recognized the transition effects cumulatively in equity as of January 1, 2018 for all customer orders not yet completed at that date (modified retrospective method). Overall, the initial application of IFRS 15 led to the following changes in the items in the consolidated statement of financial position:

in thousand euros	1/1/2018
Non-current assets	1,007
Deferred tax assets	1,007
Current assets	−2,520
Inventories	−8,484
Current trade receivables	−14,859
Contract assets	20,824
Total assets	**−1,512**
Equity	−2,467
Other Reserves	−2,466
Non-controlling interests	−1
Non-current liabilities	19
Deferred tax liabilities	19
Currents liabilities	935
Other current provisions	−1,581
Contract liabilities	30,685
Other current non-financial liabilities	−28,169
Total equity and liabilities	**−1,512**

The items in the consolidated statement of financial position as well as the consolidated income statement for fiscal year 2018 were influenced by the application of IFRS 15 compared to the accounting and valuation methods applied in fiscal year 2017 as follows:

in thousand euros	31/12/2018
Non-current assets	358
Deferred tax assets	358
Current assets	15,756
Inventories	−4,458
Current trade receivables	−7,049
Contract assets	27,263
Total assets	**16,114**
Equity	1,410
Other Reserves	1,410
Non-current liabilities	982
Deferred tax liabilities	982
Currents liabilities	13,722
Other current provisions	−1,506
Current trade payables	−918
Contract liabilities	53,273
Other current non-financial liabilities	−37,128
Total equity and liabilities	**16,114**

in TEUR	31/12/2018
Revenue	11,860
Cost of sales	6,371
Gross profit	**5,489**
EBIT	**5,489**
Earnings before tax	**5,489**
Income taxes	−1,612
Earnings after tax	**3,877**
Result from non-controlling interests	1
Earnings attributable to shareholders	3,876
Earning per share in euros (diluted = undiluted)	**0.07**

In addition to changes in the consolidated statement of financial position due to a differing recognition of revenue compared to the accounting policies applied in 2017, extensive reclassifications were made to the new balance sheet items of contract assets and contract liabilities, in particular the reclassification of advances received from other current non-financial liabilities as well as the first-time disclosure of due advance payment requests in the statement of financial position.

The effects on the statement of cash flows for the fiscal year as at December 31, 2018 only refer to the changes in earnings before tax and to the change in the working capital and other balance sheet items. However, there was no impact on cash flows from operating activities and the free cash flow. Cash flows from investing and financing activities were also unaffected.

Furthermore, for Jenoptik, the application of IFRS 15 led to significant additional information in the Notes with regard to type, amount, timing and uncertainty of the revenue and cash flows arising from contracts with customers. This information is contained in the Sections “Revenue” from page 160, “Contract assets” from page 175 and “Contract liabilities” from page 186.

Amendments to IFRS 2: Classification and valuation of share-based payment agreements. The IASB has published an amendment to IFRS 2 “Share-based payment” which addresses three main areas: a) the effects of vesting conditions on the valuation of share-based payment transactions with cash settlement, b) the classification of share-based payment transactions with net fulfillment clauses with a legal obligation to the deduction of withholding tax and c) the accounting of share-based payment transactions with settlement in cash in the event of a modification of their conditions leading to a classification as a share-based payment transaction with equity settlement. The amendment is to be applied for fiscal years beginning on or after January 1, 2018. Early application is allowed. This amendment had no material effect on the consolidated financial statements.

Amendments to IAS 40 “Investment property”. The amendment to IAS 40 relates to the classification of property which has not yet been completed and makes clear in which cases the classification of an investment property begins or ends if the property is still under construction or in development. The amendment is to be applied for fiscal years beginning on or after January 1, 2018. This amendment had no material effect on the consolidated financial statements.

IFRS Improvements (2014–2016). The Annual Improvements Project has made changes to various standards. This also affects the IFRS 1 and IFRS 28 standards. The amendments to IFRS 1 cover the deletion of the remaining, temporary relief regulations for first-time users. The amendments to IAS 28 entail clarifications. The date on which this part of the Improvement Project came into effect was January 1, 2018. These amendments had no material effects on the consolidated financial statements.

IFRIC 22 "Foreign currency transactions and prepaid considerations". The IASB has clarified the date for calculating the exchange rate for the conversion of transactions in a foreign currency which include advance payments received or paid. The amendment is to be applied for fiscal years beginning on or after January 1, 2018. This amendment had no material effect on the consolidated financial statements.

The amendments of IFRS 4: Application of IFRS 9 "Financial instruments" together with IFRS 4 "Insurance contracts" are not applicable to the Group and therefore have no influence on the consolidated financial statements.

Standards which have been published but not yet adopted by the EU as mandatory

The application of the following standards and interpretations published by the IASB and adopted by the EU is not yet mandatory. They were applied by Jenoptik in the consolidated financial statements as of December 31, 2018. The Group has no plans to apply these standards early.

IFRS 16 "Leasing". IFRS 16 includes a comprehensive set of new rules for accounting for leases and supersedes the previous rules of IAS 17 Leases and some interpretations. The objective is to disclose the lessee's rights and obligations associated with the leases in the statement of financial position. Relief is planned for short-term leases and the leasing of objects of low-value. Lessors will continue having to account for leases by classifying them as either finance or operating leases, applying the criteria defined in IAS 17. Moreover, IFRS 16 contains further regulations on classification and disclosures in the Notes. IFRS 16 is to be adopted in fiscal years beginning on or after January 1, 2019. Early application is permitted insofar as IFRS 15 is also applied.

These changes are expected to have a significant impact on the Group as a lessee, as it has so far largely concluded contracts on movable assets as well as real estate that were accounted as operating leases.

For the first application of IFRS 16 as of January 1, 2019, the Group will apply the modified retrospective approach and value the rights of use in the amount of the continuing carrying amounts from the commencement of the leases, applying interest rates from the date of first application. As a result of this and based on the current information, the Group expects a substantial increase in fixed assets of between 50 and 55 million euros. The financial liabilities are expected to increase by between 55 and 60 million euros as the result of the first time recognition of the leasing liabilities as a discounted value of the outstanding lease payments. The difference between rights of use and leasing liabilities is expected to reduce equity by between 3.0 and 3.5 million euros, taking deferred taxes into account. The resulting increase in total assets of approximately 50 to 55 million euros is resulting in a corresponding decline in the equity ratio.

Furthermore, the change in the recognition of the leasing expenses in the income statement will lead to an improvement in the EBITDA of between 10 to 11 million euros, as well as to a smaller improvement in the EBIT of around 1.5 to 2 million euros. In the cash flow statement, payments for operating leases will in future be reported in the cash flows from financing activities which leads to an improvement of between 10 and 11 million euros in the cash flows from operating activities compared to the provisions in IAS 17.

With regard to the scope of leases arising in future periods and to be recorded in the accounts, we refer to the disclosure in the Notes 5.4 from page 171.

This is not expected to have any material effects for the Group as a lessor.

Amendments to IFRS 9: Prepayment features with negative compensation. The change clarifies that the cash flow condition is met for financial assets with negative compensation in the event of early repayment. The amendment is to be applied for fiscal years beginning on or after January 1, 2019. Early application is allowed. Due to its narrow scope, Jenoptik does not expect this amendment standard to affect the consolidated financial statements.

Amendments to IAS 28: Long-term interests in associates and joint ventures. In particular, the amendments address the question of how the requirements in IAS 28 and IFRS 9 Financial Instruments interact. They regulate the extent to which long-term interests, which are part of the net investment in the associated companies or joint ventures and to which the equity method does not apply, are covered under the scope of the two standards. These essentially make it clear that IFRS 9 must initially apply to such long-term interests. The amendments are to be applied retrospectively on January 1, 2019. Earlier application is allowed. This amendment will have no material impact on the consolidated financial statements.

IFRIC 23 "Uncertainty over income tax treatments". The interpretation is to be applied to the accounting of income taxes if there are any uncertainties regarding the treatment of income for tax purposes. The interpretation is to be applied for fiscal years beginning on or after January 1, 2019. At the balance sheet date no uncertain tax positons were known.

Standards which have been published but not yet adopted by the EU as mandatory

The following standards and interpretations published by the IASB have not yet been adopted by the European Union.

Amendments to IAS 19: "Plan amendment, curtailment or settlement" The changes relate to the accounting for plan amendment, curtailment or settlement that are made during a reporting period and specify how a company must define and report the effects of a plan amendment, curtailment or settlement carried out during a fiscal year. The amendments are to be applied prospectively on January 1, 2019. Earlier application is allowed.

IFRS Improvements (2015–2017). The Annual Improvements Project has made changes to various standards. The collective standard contains clarifications on IFRS 3, IFRS 11, IAS 12, and IAS 23. The effective date is January 1, 2019. These amendments will have no material effects on the consolidated financial statements.

Revised framework concept and adjustments to the cross-references in the IFRS. In connection with the publication of the extensively revised framework concept in March 2018 which came into force immediately, adjustments were also made to the cross-references in the IFRS to the framework concept or from reproductions from the framework concept. This may e.g. have an impact on previously applied accounting policies and valuation methods developed under IAS 8. The amendments are to be applied prospectively on January 1, 2020. Earlier application is permissible if all adjustments are applied.

Amendments to IFRS 3 "Definition of a business combination". The changes are intended to help companies determine whether a transaction should be recognized as a business combination or acquisition of assets, by clarifying the minimum requirements for a business combination. In order to illustrate the application of the changes, illustrative examples have also been added. The amendments are to be applied prospectively on January 1, 2020. Earlier application is allowed.

Amendments to IAS 1 and IAS 8 "Definition of materiality". The amendments specify when information is material. For the first time, the new definition of materiality takes into account the obscuring of information as a measure of materiality in terms of the information. Furthermore, information must be reasonably able to influence decisions in order to be material. The amendments were made to adapt the definition to the statements on materiality in the 2018 framework concept and to generally make them more easily applicable. The amendments are to be applied for the first time prospectively on January 1, 2020.

Amendment to IFRS 10 "Consolidated financial statements" and IAS 28 "Investments in associates and joint ventures". The amendments address a well-known inconsistency between the regulations of IFRS 10 and IAS 28 (2011) for cases when assets are to be sold to an associated company or to a joint venture or when assets are to be contributed towards an associated company or to a joint venture. The intention in the future is for the entire profit or loss from a transaction to only be recognized if the assets, either sold or contributed, constitute a business combination in accordance with IFRS 3. This applies independently of whether the transaction is designed as a share deal or an asset deal. If, by contrast, the assets do not constitute a business, then the results may only be recognized on the basis of the percentage of completion method. The date on which the amendments come into effect has been deferred by the IASB for an indefinite period. This amendment will have no material impact on the consolidated financial statements.

1.3 Estimates

The preparation of the consolidated financial statements in accordance with IFRS, as are to be applied in the EU, requires that assumptions be made for certain items that affect their recognition in the statement of financial position or in the statement of comprehensive income of the Group as well as the disclosure of contingent receivables and contingent liabilities. All assumptions and estimates are made to the best of the Group's knowledge and belief in order to provide a true and fair picture of the asset, financial and earnings situation of the Group.

The underlying assumptions and estimates are continually reviewed. This gives the author of the consolidated financial statements a certain amount of discretionary leeway. This essentially relates to:

- the assumptions and parameters for the valuation of intangible assets identified as part of the purchase price allocation (see section "Entities acquired" from page 148 f.),
- the assessment of impairment to goodwill (see section "Intangible assets" from page 166),
- determining the useful lives when valuing intangible assets, property, plant, and equipment and investment property (see section "Intangible assets" from page 166, section "Property, plant, and equipment" from page 169 and section "Investment property" from page 170),
- the method for valuing inventories, as well as for defining valuation routines and discounts, (see section "Inventories" from page 173),
- the estimate of anticipated losses as part of the valuation of financial assets (see section "Trade receivables" from page 173),
- the actuarial parameters for the valuation of provisions for pensions and similar obligations as well as the determination of the fair value of fiduciary assets (see section "Provisions for pensions and similar obligations" from page 179),
- the assumptions and methods for valuing other provisions - for example, warranty obligations and actuarial parameters of personnel provisions (see section "Other provisions" from page 183),
- the estimate of the probability of the outflow of resources from current obligations and their reporting as a contingent liability (see section "Contingent liabilities and contingent payables" from page 198),
- the realizability of future tax breaks – in particular arising from losses carried forward – in the valuation of deferred tax assets (see section "Income taxes" from page 163).

2 Consolidation Principles

2.1 The Group of entities consolidated

Along with JENOPTIK AG, all significant subsidiaries have been included fully in the consolidated financial statements and one joint operation on a proportional basis. The list of shareholdings is presented in Disclosure Note 12 from page 205.

The consolidated financial statements of JENOPTIK AG includes 40 (prior year: 35) fully consolidated subsidiaries. Of which 16 (prior year: 12) have their legal seat in Germany and 24 (prior year: 23) have theirs abroad. The consolidated entities of the Jenoptik Group include one joint operation (prior year: 1).

In fiscal year 2018, 100 percent of the shares were acquired in Prodomax Automation Ltd., Barrie (Ontario), Canada (referred to below as: Prodomax) as well as 100 percent of the shares respectively in OTTO Vision Technology GmbH, Jena, as well as in its sister company OVITEC GmbH, Jena, Germany (referred to below as: OTTO Group). In addition, in the fiscal year 94 percent of the limited partnership interest in Asam Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz, Germany (referred to below as: ASAM). Detailed disclosures on the corporate acquisitions are provided in Note 2.4 from page 148.

In addition, RADARLUX Radar Systems GmbH, Leverkusen, Germany, which had previously not been one of the group of entities, was included in the consolidated financial statements for the first time with effect from 1 January 2018. This did not have any significant effects on the Group.

TELSTAR-HOMMEL CORPORATION, Ltd., Pyeongtaek, Korea, was also included in the consolidated financial statements as an associated company using the at-equity method as of January 1, 2018 (see Disclosure Note 5.5 from page 172).

Hillos GmbH, Jena, is included in the consolidated financial statements as a joint operation with a proportional shareholding of 50 percent in accordance with IFRS 11. This entity is a strategic customer of Jenoptik, operating in the area of construction and construction-related applications of laser technology. The following assets and liabilities are to be allocated to the Group:

in thousand euros	2018	2017
Non-current assets	578	524
Current assets	8,631	10,043
Non-current liabilities	57	37
Current liabilities	1,819	2,665
Income	22,353	22,884
Expenses	21,947	22,280

Further 11 subsidiaries, of which 9 are non-operating entities, are not consolidated as their influence on the net assets, financial and earnings position – both individually and in total – is of minor significance. The total revenue of the non-consolidated entities amounts to about 0.2 percent of group revenue; the EBIT was almost zero percent of group EBIT. The estimated effect of consolidating all the previously non-consolidated entities on the consolidated statement of financial position total is approximately 0.1 percent.

The following subsidiaries have investments held by non-controlling shareholders:

Name	Legal seat of the entity	Non-controlling interests
JENOPTIK Korea Corporation Ltd.	Korea	33.40
JENOPTIK Japan CO. Ltd.	Japan	33.42
Asam Grundstücksverwaltungs-gesellschaft mbH & Co. Vermietungs KG	Germany	6.00

For reasons of materiality, it was decided not to present separate financial information on these subsidiaries.

2.2 Consolidation procedures

The assets and liabilities of domestic and foreign entities included fully or proportionately in the consolidated financial statements are recognized uniformly in accordance with the accounting policies and valuation methods applicable throughout the entire Jenoptik Group.

At the acquisition date, the capital consolidation is based on the acquisition method. In this context, the assets and liabilities of the subsidiaries are recognized at fair values. Furthermore, identifiable intangible assets are capitalized and contingent liabilities are classified as liabilities as defined in IFRS 3.23. The remaining difference between the purchase price and the acquired net assets corresponds to the goodwill. This is subject to an annual impairment test in the subsequent periods in accordance with IAS 36.

Receivables and payables as well as income and expenses between the consolidated entities are eliminated. The Group's inter-company goods and services are delivered and rendered both on the basis of market prices as well as transfer prices and are determined on the basis of the "dealing-at-arm's-length" principle. Assets from inter-company deliveries included in the inventories and property, plant, and equipment are adjusted by interim results. Consolidation procedures recognized as profit or loss are subject to the delimitation of deferred taxes, with deferred tax assets and deferred tax liabilities being netted if there is a legally enforceable right to offset current tax refund claims against current tax liabilities and only if they concern income taxes levied by the same tax authority.

Changes in shares in subsidiaries which reduce or increase the investment ratio without loss of control, are shown as transactions between equity investors, outside of profit or loss.

There was no change in the consolidation methods applied in the prior year.

2.3 Foreign currency conversion

Annual financial statements prepared by subsidiaries in foreign currencies are converted on the basis of the functional currency concept as defined in IAS 21 "The effects of changes in foreign exchange rates" by using the modified reporting date exchange rate method. Since the subsidiaries conduct their business activities independently from the financial, economic and organizational aspects, the functional currency is generally identical to that of the subsidiary's respective national currency.

Assets and liabilities are consequently converted at the exchange rate on the reporting date, whereas income and expenses are converted at the annual average exchange rate which is determined on a monthly basis. The resulting difference arising from the currency conversion is offset outside of profit or loss and shown separately in equity under foreign currency reserves.

If a consolidated entity leaves the group of consolidated entities, the corresponding difference arising from the foreign currency conversion is reversed through profit or loss.

Receivables and payables in the individual financial statements of consolidated entities prepared in a local currency which is not the functional currency of the subsidiary, are converted at the exchange rate on the balance sheet date in accordance with IAS 21. Differences arising from the foreign currency conversion are shown under other operating income or other operating expenses affecting the results and, if these are derived from financial transactions, are recognized under financial income or financial expenses (see details on the Income Statement from page 160). This excludes currency conversion differences arising from loans and advances which constitute a part of the net investment in a foreign business operation. These differences from foreign currency conversions are recorded in other comprehensive income outside of profit or loss until the sale of the net investment; it is only at the time of their disposal that the cumulative amount is reclassified into the income statement.

The exchange rates used for the conversion are shown in the table below:

2.4 Entities acquired and sold

Acquisition of Prodomax

With the signing of the agreement on July 10, 2018 and closing on July 23, 2018, Jenoptik acquired a 100 percent stake in Prodomax Automation Ltd., Barrie (Ontario), Canada, through its US company JENOPTIK North America Inc. The acquired entity specializes in process automation for the automotive industry. The acquisition allows the Group to boost its position as a turnkey supplier of automated production solutions which Jenoptik established with the acquisition of Five Lakes Automation LLC in 2017.

The information below is based on provisional figures. The provisional nature relates to the determination of the acquired net assets because of the so far not final valuation of the intangible assets identified during the process of the purchase price allocation. The first-time consolidation will be finalized by the end of the valuation period.

The purchase price comprises a fixed cash component of 120.197 thousand Canadian dollars (78.128 thousand euros). In return, we acquired the following net assets as at the date of the initial consolidation:

in thousand euros	Total
Non-current assets	32,961
Current assets	41,675
Non-current liabilities	19,800
Current liabilities	30,833

		Annual average exchange rate		Reporting date exchange rate	
	1 EUR =	2018	2017	31/12/2018	31/12/2017
Australia	AUD	1.5799	1.4729	1.6220	1.5346
Canada	CAD	1.5302	n. a.	1.5605	n. a.
Switzerland	CHF	1.1549	1.1115	1.1269	1.1702
China	CNY	7.8073	7.6264	7.8751	7.8044
Great Britain	GBP	0.8847	0.8761	0.8945	0.8872
India	INR	80.7275	73.4967	79.7298	76.6055
Japan	JPY	130.4090	126.6541	125.8500	135.0100
Korea	KRW	1,299.2331	1,275.8233	1,277.9300	1,279.6100
Malaysia	MYR	4.7642	4.8501	4.7317	4.8536
Singapore	SGD	1.5928	1.5582	1.5591	1.6024
USA	USD	1.1815	1.1293	1.1450	1.1993

The acquired assets include receivables with a gross value of 12,815 thousand euros, corresponding to the full fair value. There is no expectation that the acquired receivables will be unrecoverable. Also included in the acquired assets are cash and cash equivalents amounting to 3,156 thousand euros and bank liabilities assumed by Jenoptik amounting to 22,786 thousand euros.

In connection with the acquisition of shares in Prodomax, in addition to the revaluation of work in progress, a customer base, order backlog, brand and advantageous contracts were identified as intangible assets as part of the purchase price allocation. The intangible assets are amortized over periods of between three and eight years. The order backlog and newly valued work in progress will be amortized in line with the progress of the project. Goodwill in the sum of 54,125 thousand euros was also recorded for the acquisition of the skilled personnel as well as for synergy effects arising from combining automation solutions and laser processing machines, the enlarged customer base and opening up of new markets. The goodwill is to be allocated to the "Automotive" group of cash-generating units and is not tax-deductible.

Contingent liabilities were not included in the company acquisition.

Costs incurred up to December 31, 2018 for the acquisition of Prodomax totaled 1,797 thousand euros. These were shown in other operating expenses.

Acquisition of the OTTO Group

On signing the agreement on August 31, 2018, Jenoptik acquired a 100 percent stake in OTTO Vision Technology GmbH, Jena, and its sister company OVITEC GmbH, Jena, through its company JENOPTIK Industrial Metrology Germany GmbH. The OTTO Group specializes in optical testing systems for quality assurance and process optimization, as well as in complex imaging systems for applications in the field of parts measurement, inspection testing and position detection. The acquisition will enable the Jenoptik Group to strengthen its range of services for innovative metrology solutions in the Mobility Segment and further expand its market position as a systems supplier for production metrology and industrial imaging applications.

The purchase price of 7,918 thousand euros comprises a fixed cash component (6,684 thousand euros) and a conditional component (1,234 thousand euros), which is based on the attainment of agreed earnings figures in the years 2018 and 2019 and recognized at fair value. In return, we acquired the following net assets as at the date of the initial consolidation:

in thousand euros	Total
Non-current assets	2,094
Current assets	4,629
Non-current liabilities	636
Current liabilities	1,936

The acquired assets include trade receivables with a gross value of 1,497 thousand euros, corresponding to the full fair value. There is no expectation that the acquired receivables will be unrecoverable. Also included in the acquired assets are cash and cash equivalents amounting to 1,701 thousand euros.

In connection with the acquisition of shares in the OTTO Group, in addition to the revaluation of work in progress and finished goods, a customer base, order backlog, and internally produced software were identified in particular as intangible assets during the process of the purchase price allocation. The intangible assets are amortized over periods of between six months and five years. Goodwill in the sum of 3,768 thousand euros was also recorded for the acquisition of the skilled personnel as well as for synergy effects arising from the expansion of the range of services in the field of 2D and 3D metrology, from the enlarged customer base, and from the opening up of new markets. The goodwill is to be allocated to the "Automotive" group of cash-generating units and is not tax-deductible.

Contingent liabilities were not included in the company acquisition.

Costs incurred up to December 31, 2018 for the acquisition of the OTTO Group totaled 107 thousand euros. These were shown in other operating expenses.

In connection with the acquisition of shares in the OTTO Group, an agreement was signed under which JENOPTIK Industrial Metrology Germany GmbH also acquires its business premises. The transfer of ownership took place in December 2018.

Acquisition of ASAM

Under the agreement dated February 13, 2018, JENOPTIK Optical Systems GmbH, Jena, Germany, acquired 94 percent of the limited partnership interest in Asam Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz, Germany. The company is the owner of the production and administration building used by JENOPTIK Polymer Systems GmbH at the Triptis site. The fixed cash purchase price was 5 thousand euros. Since the acquired company has no business, this does not constitute a business combination as defined in IFRS 3 but rather an acquisition of the individual assets and liabilities of the company. There were the following additions to assets and liabilities at the time of initial consolidation:

in thousand euros	Total
Non-current assets	3,452
Current assets	36
Non-current liabilities	3,001
Current liabilities	482

The non-current liabilities contain a tenant loan of JENOPTIK Polymer Systems GmbH with a fair value of 867 thousand euros that will be eliminated within the consolidated financial statements.

As a result of the inclusion of Prodomax, the consolidated financial statements include revenue in the sum 34,463 thousand euros and earnings after tax (EAT) of minus 1,068 thousand euros and from the OTTO Group revenue in the sum of 2,578 thousand euros and earnings after tax in the sum of minus 74 thousand euros. The reasons for the two negative earnings after tax items are particularly expenses incurred in the scheduled amortization of the intangible assets identified during the purchase price allocation and a higher cost of sales from the consumption of remeasured inventory.

On the premise that all corporate acquisitions had already taken place as of January 1, 2018, the Jenoptik Group would show revenue of 864,882 thousand euros and consolidated earnings after tax (EAT) of 90,453 thousand euros. In order to determine this information, it was assumed that the fair values and useful lives of the intangible assets identified in the context of the allocation of the purchase price as of January 1, 2018 are identical to those as at the initial consolidation date. These proforma figures were produced solely for comparison purposes. They do not provide a reliable indication either of the operating results that would actually have been achieved if the acquisition had been made at the beginning of the period or of future results.

With the signing the agreement on July 27, 2017 and on fulfillment of the conditions precedent on August 21, 2017, Jenoptik acquired a 100 percent stake in Five Lakes Automation LLC, Novi (MI), US through its US company JENOPTIK Automotive North America LLC. Its inclusion in the 2017 consolidated financial statements in accordance with IFRS 3 was based on provisional figures. The provisional nature concerned determination of the acquired net assets and measurement of the intangible assets identified in the process of purchase price allocation. The figures were finalized by the end of the valuation period and resulted in a change of 1,177 thousand euros to the intangible assets identified during the purchase price allocation. The development of goodwill arising from this acquisition up to December 31, 2018 is as follows:

in thousand euros	Total
Goodwill as of 1/1/2018	**5,700**
Change in goodwill after finalizing first-time consolidation	1,177
Foreign currency exchange effects	280
Goodwill as of 31/12/2018	**7,157**

In the 4th quarter of 2018, non-controlling shareholders of JENOPTIK Holdings UK Ltd. (formerly: Vysionics Ltd.) exercised existing put options. This resulted in Jenoptik's investment quota in JENOPTIK Holdings UK Ltd. and the companies controlled by this entity increasing from 96.50 to 100.00 percent with a corresponding reduction in non-controlling interests. The change is shown as an acquisition of non-controlling interests in the consolidated statement of changes in equity.

There were no sales of companies in the 2018 fiscal year.

2.5 Notes on other entities

Jenoptik holds shares in 6 (prior year 8) other entities with a maximum 50 percent investment quota respectively. These investments are of minor importance individually and as a whole for the asset, financial and earnings situation of Jenoptik. Therefore, based on the principle of cost effectiveness and materiality, the equity valuation was not applied to these investments. The general disclosures on the investments are contained in the list of shareholdings of the Jenoptik Group from page 205.

3 Accounting Policies and Valuation Methods

3.1 Goodwill

Goodwill as stated in IFRS 3 corresponds to the positive difference between the consideration for a business combination and the newly acquired, revalued assets and liabilities, including certain contingent liabilities, remaining after a purchase price has been allocated. Within the framework of this purchase price allocation, the identifiable assets and liabilities are not recognized at their previous carrying amounts but at their fair value. During an acquisition of a controlling interest, non-controlling interests are valued according to their proportion of the identifiable net assets.

Goodwill is recognized as an asset and subject to an impairment test at least once a year on a defined date or whenever there is an indication that the cash-generating unit could be impaired. An impairment loss is recognized immediately through profit or loss and not reversed in later reporting periods.

3.2 Intangible assets

Intangible assets acquired in return for payment, primarily patents, trademarks, software and customer relationships, are capitalized at their acquisition costs. Intangible assets with finite useful lives are subject to schedule amortization on a straight-line basis over their economic useful lives. This is generally a period of between three and ten years. The Group reviews whether its intangible assets with finite useful lives have suffered an impairment loss (see section "Impairment of property, plant, and equipment and intangible assets").

Internally generated intangible assets are capitalized if the recognition criteria specified in IAS 38 "Intangible assets" have been fulfilled.

Internally generated intangible assets are subject to schedule amortization on a straight-line basis over their anticipated useful lives. This is generally a period of between five and ten years.

Development costs are capitalized if a newly developed product or process can be clearly identified, is technically realizable and if there are plans for production, own use, or marketing. Furthermore, it is assumed that, if capitalized, there is sufficient probability that the development costs will be covered by future financial cash inflows and can be reliably determined. Finally, there must be adequate resources available to conclude the development and enable the asset to be used or sold.

Capitalized development costs are subject to scheduled amortization over the anticipated sales period of the products – in principle however no longer than five years. In this context, the acquisition and production costs cover all the costs directly attributable to the development process as well as appropriate portions of the overheads relating to the development. If the requirements for capitalization have not been fulfilled, the expenditures are recognized through profit or loss in the year they occurred.

Amortization of intangible assets is apportioned on the basis of the causer principle to the corresponding function areas in the income statement.

Research costs are recorded as current expenses in research and development expenses in accordance with IAS 38.

3.3 Property, plant, and equipment

Property, plant, and equipment are valued at acquisition and production costs, less scheduled, straight-line depreciation. The depreciation method reflects the anticipated pattern of consumption of the future economic benefits. Where necessary, impairment losses reduce the amortized acquisition and production costs. In principle, government grants are deducted from the acquisition and production costs in accordance with IAS 20 "Accounting for and presentation of government grants" (see section entitled "Government grants"). Production costs are calculated on the basis of directly attributable specific costs as well as proportionate, directly attributable cost of materials and production overheads including depreciation. In accordance with IAS 23 "Borrowing costs", borrowing costs directly attributable to acquisition or production costs of a qualifying asset are capitalized as a portion of the acquisition or production costs.

Costs incurred for repairing property, plant, and equipment are generally treated as an expense. Subsequent acquisition costs for any components of property, plant, and equipment replaced at regular intervals, can be capitalized insofar as future economic benefits can be reasonably expected and the respective costs can be reliably measured.

Scheduled depreciation is essentially based on the following useful lives:

	Useful life
Building	20 – 80 years
Machinery and technical equipment	4 – 20 years
Other equipment, operating and office equipment	3 – 10 years

If any items of property, plant, and equipment are decommissioned, sold or relinquished, the gain or loss arising from the difference between the proceeds of the sale and the residual carrying amount are recorded under other operating income or other operating expenses.

3.4 Impairment of property, plant and equipment and intangible assets

Property, plant, and equipment and intangible assets with finite useful lives are assessed at each reporting date to see if there are any indications of possible impairment losses for the corresponding assets in accordance with IAS 36 "Impairment of assets". If any such indications for specific assets or cash-generating units are identified, impairment tests are performed on these assets.

The demarcation between cash-generating units is primarily carried out on the basis of the business units constituting the divisions.

As part of the impairment test, the recoverable amount of an asset or cash-generating unit first determined and then compared with the corresponding carrying amount in order to identify if there is any need for an impairment to be applied.

The recoverable amount is the higher of an asset's fair value less costs to sell and its value in use.

The amount designated as at fair value less costs to sell is that which could be achieved through the sale of an asset in a transaction at arm's length between knowledgeable and willing parties.

Value in use is determined on the basis of discounted expected future cash inflows. This is based on a fair market interest rate before tax that reflects the risks of using the asset that are not yet considered in the estimated future cash inflows.

If the recoverable amount of an asset is estimated to be less than the carrying amount, it is then depreciated to the recoverable amount. The impairment loss is recognized immediately through profit or loss.

If an impairment loss is reversed in a subsequent accounting period, the carrying amount of the asset must then be adjusted to the recoverable amount determined. The maximum limit is determined by the amount of the amortized acquisition or production costs that would have been recorded if an impairment loss had not been recognized in prior periods. The impairment loss reversal is immediately recorded through profit or loss.

3.5 Government grants

IAS 20 distinguishes between grants related to acquiring non-current assets and grants related to income.

In general, IAS 20 states that grants are to be accounted for through profit or loss in the same period as the relevant expenses.

In the Jenoptik Group a grant for a non-current asset is deducted from the acquisition costs. Correspondingly, the amount to be written off is determined on the basis of the reduced acquisition costs.

3.6 Leases

When using leased items of property, plant, and equipment, the conditions for finance leases as defined in IAS 17 "Leases" are fulfilled if all material risks and opportunities incidental to ownership have been transferred to the respective consolidated entity of the Group. All other leases are classified as operating leases.

Finance leases. The Group, as a lessee of the finance lease, capitalizes the assets leased at the inception of the lease at the amount equal to their fair value, or if lower, the current value of the minimum lease payments. The straight-line depreciation method is to be used to write off the asset over the period of its economic useful life or the shorter term of the lease agreement if it is unlikely that an option to purchase the asset will be exercised. Liabilities from finance lease agreements are shown at the current value of the minimum lease payments.

If the Group is a lessor, the net value of the investment from the lease is capitalized as a receivable. Financial income is recognized through profit or loss in the respective reporting period, so that there is a constant periodic return on the net investment.

Operating leases. Lease payments from operating leases are recognized through profit or loss on a straight-line basis over the term of the corresponding lease.

Any incentives received or outstanding for entering into an operating lease agreement are also recognized on a straight-line basis over the term of the lease.

3.7 Investment property

Investment property comprises plots of land and buildings held for gaining rental income or for the purpose of their value increasing. These properties are not held for the Group's own production, for supplying goods or rendering services, for administration purposes or for any sales in the ordinary course of business activities.

In accordance with the right of choice under IAS 40 "Investment property", such assets are to be accounted for at the amortized acquisition or production costs (see page 170). The fair values to be stated are determined using a discounted cash flow method or standard land values.

The straight-line depreciation method is based on a useful life of between 20 to 80 years.

In accordance with IAS 36, depreciation resulting from impairment losses on investment property is charged if the value in use or fair value less costs to sell of the respective asset is less than the carrying amount. If the reasons for an impairment loss resulting from depreciation from a prior period cease to exist, corresponding write ups are recorded.

3.8 Financial instruments

Financial instruments are contracts giving rise to a financial asset of one entity and to a financial liability or an equity instrument of another entity. As defined in IAS 32, such instruments include on the one side primary financial instruments such as trade receivables and trade payables or financial receivables and financial payables. On the other side, they also include derivative financial instruments which are used for hedging risks arising from fluctuations in interest and foreign currency exchange rates.

Financial assets and financial liabilities are recognized in the consolidated statement of income from the date on which the Group becomes a contractual party in a financial instrument agreement.

Depending upon the Group's business model for managing assets and the question as to whether the contractual cash flows of the financial instruments exclusively constitute repayments and interest payments on the outstanding nominal amount, the existing financial instruments are categorized either as "at amortized acquisition costs", "at fair value through other comprehensive income", or "at fair value through profit or loss" and valued accordingly.

In the past fiscal year, depending on their classification, existing financial instruments were recognized at amortized acquisition costs, or "available-for-sale financial assets" at fair value, in the categories "receivables and loans".

The amortized acquisition costs of a financial asset or a financial liability are defined as the amount at which the financial asset or financial liability was valued at initial recognition:

- minus any repayments
- minus any impairment losses or potential inability to be recovered, as well as
- plus/minus any difference between the original amount and the amount repayable on maturity (e.g. premium and transaction costs). Under the effective interest method, this difference is spread over the full contractual term of the financial asset or financial liability.

The amortized acquisition costs for current receivables and payables generally reflect the nominal amount or the repayment value.

Fair value generally corresponds to the market or stock market value. If there is no active market, the fair value is determined by using financial mathematical methods such as by discounting estimated future cash flows at market interest rates or by applying standard option price models and by confirmations issued by the banks that sold the instruments.

a) Primary financial instruments

Shares in entities

Initial recognition in the statement of financial position is based on the fair value.

In the Jenoptik Group, on the basis of the exercising of the option, all investments in listed public companies are classified as "at fair value through other comprehensive income" and, in the subsequent periods, at the fair value derived from observable market prices. In the period under comparison, these investments are classified as "available for sale" and in subsequent periods are valued at fair value without deducting transaction costs.

Under IFRS 9, and on the basis of the exercising of the option, shares in unlisted subsidiaries and other investments are classified as at "fair value through other comprehensive income". In the absence of any identifiable market prices, the fair values of these financial instruments are determined on the basis of discounted cash flows. In the 2017 fiscal year, these shares were classed as "available-for-sale financial assets" but generally shown at the respective acquisition costs as these represented a reasonable approximation for the fair values. As far as there were any indications of lower fair values, these were recognized.

With the exception of impairments that are reported as profit or loss under IAS 39, all changes in the value of shares in companies are recognized outside profit or loss in other comprehensive income.

Shares in entities which are subject to valuation at-equity

Shares in entities over which Jenoptik exerts key influence, are valued using the at-equity method under IAS 28. For this purpose, the original investment carrying amount is updated with the shares in the company's consolidated statement of changes in equity to which the shareholders are entitled. Shares in the profit or loss are recognized under profit or loss, whilst shares in other comprehensive income are recorded outside profit or loss.

Loans

Loans involve credits granted by the Jenoptik Group which are valued at the amortized acquisition costs in accordance with both IAS 39 and IFRS 9.

Non-current, non-interest-bearing loans and low interest-bearing loans are accounted for at current value. If any objective, substantial evidence of impairment can be identified, then unscheduled depreciation is applied.

Other financial assets

Under IAS 39, the other financial assets shown in the 2017 fiscal year were classified under the category of "available-for-sale financial assets" and shown at fair value. Until sold, they were recognized under other comprehensive income outside profit or loss, taking deferred taxes into consideration. When securities are sold or if a significant or permanent impairment loss occurs, the cumulative profit or loss that had been accounted for directly in equity up to then was reclassified in the profit or loss of the current reporting period. The initial valuation was recorded at the settlement date at acquisition costs which reflect the fair value.

Trade receivables

Trade receivables are non-interest bearing due to their short term nature and are recognized at nominal value less impairment losses on the basis of anticipated bad debts (amortized acquisition costs). The anticipated bad debts are determined in accordance with IFRS 9 via the simplified method. In this context, consideration is given to both the individual default risk as well as an anticipated default risk derived from past events for a group of receivables with comparable default risks (portfolio-based impairment) through the recognition of a provision for risk in the amount of the bad debts anticipated over the entire period, using an impairment loss account. Under IAS 39, individual impairments as well as portfolio-based impairments were also recognized in the 2017 fiscal year, using an impairment account.

When the loss of a trade receivable is finally realized, the receivable is booked out by using any impairment previously recognized.

Contract assets

Contract assets reported under IFRS 15 are recognized at nominal value, taking impairment losses under IFRS 9 into account. Jenoptik also applies the simplified approach to determine impairment losses on contract assets and determines the risk provisions for the anticipated bad debts over the total term.

Other financial assets

Other financial assets are recognized at amortized acquisition costs. All identifiable default risks are accounted for by a corresponding impairment.

Significant non-current, non-interest-bearing or low interest-bearing receivables are discounted.

Current financial assets

Current cash deposits are classified as "at amortized acquisition costs" in accordance with IFRS 9 and valued accordingly. Under IAS 39, the classification was carried out as "loans and receivables", with the valuation also being applied at the amortized acquisition costs.

In the 2017 fiscal year, some of the current financial assets under IAS 39 were classified as "financial investment to be held to maturity" and valued at the amortized acquisition costs.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, checks and bank credit balances available on demand with an original maturity of up to three months. These are recognized at the nominal amount less a provision for the risk of anticipated loan defaults.

Financial liabilities and equity instruments

In principle, financial liabilities are valued at amortized acquisition costs by applying the effective interest method. This does not apply to financial liabilities which are accounted for at fair value through profit or loss.

Liabilities from finance lease agreements are shown at the cash value of the outstanding minimum lease payments.

An equity instrument is any contractual agreement containing a residual interest in the assets of the Group after all liabilities have been deducted. Shares which have been issued are classified as equity, whereby the costs (less related income tax benefits) directly attributable to the issue of treasury shares, have been deducted from equity.

Liabilities to banks

Interest-bearing bank loans and overdraft lines of credit are accounted for at the amounts received less any directly attributable disbursement expenses. Financing costs, including premiums due to be paid on repayments or redemption, are accounted for on an accrual basis by applying the effective interest method, and increase the carrying amount of the instrument insofar as they have not been settled at the date of its inception.

b) Derivative financial instruments

Within the Jenoptik Group, derivative financial instruments are used for hedging risks arising from fluctuations in interest and foreign currency exchange rates. They serve to reduce earnings volatility resulting from interest and foreign currency exchange rate risks. Fair values are determined on the basis of the market conditions – interest rates, foreign currency exchange rates – at the balance sheet date and using the valuation methods shown below.

Derivative financial instruments are not used for speculation purposes. The use of derivative financial instruments is governed by a group guideline which is authorized by the Executive Board and represents a fixed written guideline on the use of derivative financial instruments. In order to hedge risks from fluctuations in interest and foreign currency exchange rates, the Group uses cash flow hedges.

Changes in the fair value of derivative financial instruments which serve to hedge cash flow risks, are documented. If the hedge accounting has been classified as effective, the changes in fair value are recognized outside of profit or loss in other comprehensive income. Reclassifications from equity to profit or loss are carried out in the period during which the hedged underlying transaction affects profit or loss. Fluctuations in value arising from financial instruments which are classified as not effective are recorded directly in profit or loss.

3.9 Inventories

Inventories are recognized at the lower of acquisition or production costs and their net realizable value.

The net realizable value is the estimated proceeds from sale less the estimated production costs and any further costs incurred up to sale.

Acquisition costs also include any other costs incurred to restore the inventories to their current condition. Any reductions in purchase prices such as rebates, bonuses or trade discounts are taken into account.

Production costs include the full costs relating to production that have been determined on the basis of normal production capacity utilization. In addition to direct costs, these also include the appropriate portion of the necessary material and production overheads as well as production related depreciation which can be directly attributable to the production process. In this context, particular account is taken of the costs that are allocated to specific production cost centers. Administrative expenses are also taken into account insofar as they can be allocated to production. If fair values at the reporting date have decreased owing to lower prices on the sales market, then these are recognized. In principle, the valuation of similar inventory assets is based on the average cost method. If the reasons that led to a write-down of inventories cease to exist and the net realizable value has consequently increased, the reversals of write-downs are recognized as a reduction in material expenses in the corresponding periods in which they occur.

3.10 Borrowing costs

Borrowing costs that can be directly attributed to the construction or production of a qualifying asset are capitalized as a portion of the acquisition or production costs of this asset.

3.11 Construction contracts

In accordance with IAS 11 "Construction contracts", revenue and profits from construction contracts in the 2017 fiscal year were recognized according to the "Percentage of completion method". The percentage of completion is derived from the ratio between the actual contract costs incurred up to the end of the fiscal year and the currently estimated total contract costs ("cost-to-cost method"). Losses arising from construction contracts are recognized immediately and in full in the fiscal year in which they were identifiable.

Construction contracts valued according to the "Percentage of completion method" were recognized as receivables or payables arising from construction contracts, depending on the amount of the advanced payments or progress billings received. They were valued at production costs plus any proportion of income received according to the percentage of completion achieved. Insofar as the cumulative services rendered (contract costs and contract outcome) exceed the progress billings and advances received in individual cases, construction contracts are shown under receivables from construction contracts. If, after deducting progress billings and advances received, there was a negative balance, this was shown as a payable under liabilities from construction contracts. Any anticipated contract losses were taken into account as write-downs or provisions. They were determined, taking into consideration all identifiable risks.

Customer orders which were previously reported under IAS 11 as construction contracts, have been reported in accordance with IFRS 15 since the 2018 fiscal year. Any differences between advance payments and progress billings received and realized revenue are shown as contract assets or contract liabilities.

3.12 Contract assets and contract liabilities

A contract asset is the not yet unconditional claim to the receipt of a consideration in return for goods or services transferred to a customer. If the Group meets its contractual obligations by transferring goods or services to a customer before the customer pays the consideration or before the payment is due, a contract asset will be recognized for the conditional claim to consideration in return. This gives rise to contract assets as the difference between the realized revenue from the respective order, less advances received and customer billings. Receivables from customers arising from invoices issued, are shown under trade receivables.

If the requested advances received and due, as well as the customer billings issued, exceed the realized revenue, a contract liability will be shown. A contract liability therefore constitutes the obligation of the group to transfer goods or services to a customer for which the Group has received a consideration from the customer or for which a requested payment is due. Contract liabilities are recognized as proceeds as soon as the Group fulfills its contractual obligations.

The contract liabilities also include obligations arising from agreed contractual penalties that are accounted as a reduction in revenue.

3.13 Deferred taxes

The accounting for and valuation of deferred taxes is performed in accordance with IAS 12 "Income Taxes". Deferred tax assets and deferred tax liabilities are shown as separate items in the statement of financial position in order to take into account future tax effects resulting from timing differences between the balance sheet valuations of assets and liabilities and tax losses carried forward.

Deferred tax assets and deferred tax liabilities are computed in the amount of the anticipated tax burden or tax relief in subsequent fiscal years on the basis of the tax rate applicable on the date of realization. The effects of changes in tax rates on deferred taxes are recognized in the reporting period during which the legislative procedure on which the change in the tax rate is based has been completed.

Deferred tax assets on differences in the statement of financial position and on tax losses carried forward are only recognized if it is probable that these tax advantages can be realized in the foreseeable future.

Deferred tax assets and deferred tax liabilities are offset against each other insofar as taxes are levied by the same authority and relate to the same tax period. In accordance with the regulations of IAS 12, there is no discounting of deferred tax assets and liabilities.

3.14 Provisions for pensions and similar obligations

Pensions and similar obligations comprise both the pension obligations of the Jenoptik Group as well as defined benefit and defined contribution retirement schemes.

In accordance with IAS 19, pension obligations for defined benefit schemes are determined by applying the so-called projected unit credit method. Actuarial expert opinions are annually obtained for this procedure.

In Germany, the mortality rates are determined in accordance with the Klaus Heubeck guideline mortality tables 2018 G. In Switzerland, the BVG / LPP 2015 mortality tables apply. Actuarial gains and losses are recognized outside profit or loss in other comprehensive income. Past-service expenses are shown under personnel expenses and the interest portion of the addition to provisions is recorded in the financial result.

For defined contribution schemes, the contributions payable are recognized immediately as an expense.

3.15 Tax provisions

Tax provisions contain obligations arising from current income taxes. Deferred taxes are disclosed in separate items in the statement of financial position.

Tax provisions for corporate income tax and trade tax or similar income tax expenses are determined on the basis of the taxable income of the consolidated entities, less any prepayments made. Any other taxes to be assessed are considered in the same manner.

3.16 Other provisions

In accordance with IAS 37 "Provisions, contingent liabilities and contingent assets", provisions are set aside insofar as there is any current liability to a third party resulting from a past event that is likely to lead to an outflow of resources in the future and the amount of which can be reliably estimated. Other provisions are only set aside for legal or de facto obligations to third parties that are more likely than not at the reporting date.

Provisions are recognized at their settlement value discounted to the reporting date, providing the interest effect is significant. The settlement value also includes the anticipated price or cost increases. Discounting is based on interest rates before taxes that reflect current market expectations with regard to the interest effect and which are dependent upon the corresponding term of the obligation. The interest portion of the compounding of the provision is recorded in the financial result.

Provisions are valued on the basis of empirical values, taking the circumstances at the balance sheet date into consideration. Provisions for guarantees and warranties are set aside for individual cases and on a lump-sum basis. The amount of the provision is based on the historical development of guarantees and warranties as well as on a consideration of all future potential guarantee or warranty claims, weighted by the probability of their occurrence.

Claims of recourse are only taken into account if these claims are virtually certain.

3.17 Share-based payments

The members of the Executive Board and some senior management personnel of JENOPTIK AG receive share-based remuneration in the form of long term incentives (LTI) as well as performance shares in accordance with the new Executive Board remuneration system. These payments are accounted for as share-based payment with settlement in cash in accordance with IFRS 2 “Share-based payment”. At the balance sheet date and depending upon the contractual provisions, a long-term liability is set aside in the amount either of the pro rata temporis or full fair value of the payment obligation. Changes in fair value are recognized through profit or loss.

3.18 Advances received

Advance payments received from customers were recognized as liabilities in the fiscal year 2017, insofar as such payments do not relate to construction contracts.

From the 2018 fiscal year, advance payments received will be reported in accordance with IFRS 15 as part of the contract assets or contract liabilities.

3.19 Contingent liabilities

Contingent liabilities are potential obligations that are based on past events and whose existence is only confirmed by the occurrence of one or more uncertain future events, which are, however, outside the control of the Jenoptik Group. Moreover, current obligations can constitute contingent liabilities if there is insufficient certainty regarding the likelihood of outflows of resources to set aside a provision and/or the amount of the obligation cannot be reliably estimated. The valuations of the contingent liabilities correspond to the existing scope of liability at the balance sheet date. In principle, they are not accounted for in the statement of financial position but are explained in the Notes in the section “Contingent liabilities and contingent payables” from page 198.

3.20 Revenue

Proceeds from contracts with customers are recognized in accordance with IFRS 15 if the control of the goods or services is transferred to the customer. These are recognized in the amount of the consideration in return that the Group is expected to receive in exchange for these goods or services. For sales transactions with several performance obligations, the revenue is allocated based on stand-alone selling prices.

Proceeds from the sale of goods are generally recorded at the time when control of the asset passes to the customer. The determination of this timing takes into account, among other things, the transfer of the legal ownership, the physical transfer of possession and any potentially agreed acceptance of the products by the customer.

In certain cases, the goods produced by Jenoptik within a specific order process represent assets without any alternative benefit to the Group. Under the condition of a claim for compensation of the work performed so far, revenue is realized over time, with the percentage of completion determined according to the input-oriented cost-to-cost method. This applies both to the production of individual assets and development projects, followed by volume production (customer-specific volume production).

Proceeds from the provision of services are recognized over time according to the percentage of completion as at the balance sheet date, with the percentage of completion generally determined according to the input-oriented cost-to-cost method.

The Group usually offers statutory warranties for the repair of defects that were present at the time of sale. These so-called assurance-type warranties are recognized under provisions for warranties in accordance with IAS 37. If agreed guarantees and warranty claims significantly exceed the usual framework (so-called service-type warranties), these are assessed and accounted for as a separate performance obligation. In this case, revenue proportion thereof is realized on a straight-line basis over the agreed period of the service-type warranty.

Rental income received from investment property is recognized on a straight-line basis over the term of the corresponding rental contracts and disclosed in revenue.

If a contract contains a number of delimitable components (multi-component contracts), these will be implemented separately in accordance with the above principles.

In determining the consideration in return that Jenoptik receives for fulfilling a customer order, agreed variable components are estimated at the beginning of the contract and then included in the transaction price when it is highly likely that the elimination of the uncertainty associated with the variable components of the consideration in return will not lead to a cancellation of revenue which has already been recognized. At Jenoptik, this applies to both agreed discounts and bonuses as well as to possible contractual penalties.

As a result of the fact that advance payments received from the customer are generally short-term, the Group takes advantage of the simplification relief offered by IFRS 15 and refrains from taking a financing component into account when determining the consideration in return.

In the 2017 fiscal year, revenues were recorded in accordance with both IAS 11 for construction contracts as well as IAS 18. This gave rise to the following accounting policies and valuation methods used in the prior year.

Revenue generated from the sale of goods is recognized through profit or loss as soon as all material risks and rewards associated with the ownership of the goods have been transferred to the buyer, a price has been agreed or could be determined and payment of same could be assumed. The payments charged to the customers for the goods and services – less sales deductions and trade discounts – are shown under revenue.

Revenue from services was recorded in accordance with the percentage of completion of the order at the balance sheet date. The percentage of completion of the order is determined on the basis of the services rendered. Income was only recognized if there was sufficient probability that the entity would receive the economic benefit associated with the contract. Otherwise, income was only recognized to the extent that the expenses incurred were refundable.

Rental income received from investment property was recognized on a straight-line basis over the term of the corresponding rental contracts and disclosed in revenue.

If a contract contained a number of delimitable components (multi-component contracts), these were implemented separately in accordance with the above principles.

3.21 Cost of sales

Cost of sales show the costs incurred to generate revenue. This item also includes the costs for setting aside provisions for warranties and guarantees. The scheduled depreciation or amortization of intangible assets and property, plant, and equipment is shown in accordance with the principle of cause and included in cost of sales insofar as they are attributed to the production process.

3.22 Research and development expenses

Research and development expenses include non-capitalizable research and development expenses, with the exception of research and development expenses for customer orders which are disclosed under cost of sales.

3.23 Selling expenses and general administrative expenses

Along with personnel expenses and cost of materials, selling expenses include the costs incurred for distribution, advertising, sales promotion, market research, and customer service. In addition, since the 2018 fiscal year, selling expenses have also included the costs for contract initiation which are immediately recognized as an expense as a result of the application of the practical remedy under IFRS 15, as the period of depreciation for the asset that the Group would otherwise have recognized is not more than one year.

General administrative expenses include personnel expenses and the cost of materials as well as administration-related depreciation.

3.24 Other operating income and expenses

Income from the reversal of provisions is recorded in the functional costs, insofar as the provision was also generated in the corresponding functional costs. If the provision was set aside in other operating expenses, the provision reversal will also be shown in other operating expenses. Furthermore, these items include currency exchange gains and losses arising from operational receivables and liabilities as well as net gains or losses arising from hedging instruments for these items. In addition to other taxes, expenses for group projects are also allocated to other operating expenses.

3.25 Financial income and financial expenses

The financial income and financial expenses of the Group mainly comprise interest income and interest expenses. Furthermore, these items include currency exchange gains and losses arising from financial assets and liabilities as well as net gains or losses arising from hedging instruments for these financial assets and liabilities. In addition, the financial income and financial expenses include net gains and losses arising from the measurement of the fair value of contingent considerations that are classified as financial liabilities.

4 Disclosures on the Statement of Income

4.1 Revenue

In contrast to 2017 revenue increased overall by 86,642 thousand euros or 11.6 percent and totaled 834,571 thousand euros.

Detailed disclosures on revenue according to segment and region are shown in the Segment Report from page X ff.

A division of revenue, recognized over time and at a point of time, is shown in the table below:

in thousand euros	Optics & Life Science	Mobility	Defense & Civil Systems	Other	Group
External revenue	**285,169**	**327,644**	**218,056**	**3,701**	**834,571**
thereof recognized over time	71,691	94,927	62,257	3,542	232,417
thereof recognized at a point in time	213,478	232,717	155,799	158	602,153

The revenue recognized over time included revenue from customer-specific volume production in the sum of 150,392 thousand euros. In addition, in particular revenue for services rendered was recognized over time.

Revenue in the Traffic Solutions business of the Mobility segment also included other revenue from embedded operating leasing contracts in the sum of 6,675 thousand euros.

Revenue for performance obligations that have already been met in prior years were realized in the past fiscal year in the sum of 1,107 thousand euros, in particular due to variable considerations, the amount of which was previously the subject of some uncertainty.

The item 'revenue' also included revenues arising from the so-called "bill and hold" agreements in the sum of 515 thousand euros (prior year: 6,759 thousand euros).

In the prior year, the division of revenue was as follows:

in thousand euros	2017
Sale of goods	645,910
Services rendered	100,006
Rental income	2,013
Total	**747,929**

Revenue in the prior year included revenue for construction contracts accounted for according to their percentage of completion at the reporting date in accordance with IAS 11, in the sum of 28,267 thousand euros. For these construction contracts, progress billings sent to customers up to the end of fiscal year 2017 amounted to 13,508 thousand euros.

Total revenue of 46,200 thousand euros was recognized for the production orders which had not yet been completed as at the balance sheet date of December 31, 2017.

In the fiscal year just past, these construction contracts were accounted for in accordance with the provisions of IFRS 15. Details on the effects of applying IFRS 15 to the consolidated statement of income are contained in the section "Accounting principles" from page 140.

4.2 Cost of sales

in thousand euros	2018	2017
Cost of materials	335,816	289,651
Personnel expenses	159,260	141,063
Depreciation and amortization	22,365	21,591
Other cost of sales	24,033	31,738
Total	**541,475**	**484,042**

In contrast to 2017 cost of sales increased overall by 57,432 thousand euros or 11.9 percent and totaled 541,475 thousand euros. Cost of sales include the costs incurred to generate revenue. This item also records the costs for setting aside provisions for sales-related transactions, in particular for guarantee and warranty costs, as well as the costs for development services on behalf of customers.

Cost of sales of 47,634 thousand euros was recognized for the production orders which had not yet been completed as at the balance sheet date of December 31, 2017. The profit realized from these contracts totaled 8,299 thousand euros, a loss was posted in the sum of 9,733 thousand euros. As a result of the initial application of IFRS 15 as of January 1, 2018, these orders are no longer accounted for as construction contracts within the meaning of IAS 11.

4.3 Research and development expenses

In 2018, in contrast to the prior year, research and development expenses increased overall by 4,364 thousand euros to 47,443 thousand euros.

These cover all expenses attributable to research and development activities. These income statement items did not include expenses paid by customers in connection with research and development services in the sum of 20,191 thousand euros (prior year: 22,155 thousand euros). Such expenditures were allocated to cost of sales.

In the fiscal year just past, costs in the sum of 1,280 thousand euros (prior year 549 thousand euros) were capitalized in intangible assets for internal development projects.

More detailed information on the Group's research and development activities is provided in the Combined Management Report in the section "Research and development" from page 81.

4.4 Selling expenses

In contrast to 2017, selling expenses increased overall by 6,737 thousand euros or 8.4 percent to 87,050 thousand euros in 2018.

Selling expenses include personnel expenses and the cost of materials as well as sales-related depreciation/amortization. They also include the expenses for sales commissions as well as marketing and communication.

In addition, since the 2018 fiscal year, selling expenses have also included the costs for contract initiation which are immediately recognized as an expense as a result of the application of the practical remedy under IFRS 15, since the period of depreciation for the asset that the Group would otherwise have recognized, is not more than one year.

4.5 General administrative expenses

Compared to the prior year, general administrative expenses in 2018 increased slightly by 312 thousand euros to 56,129 thousand euros.

General administrative expenses include personnel expenses and the cost of materials as well as administration-related depreciation/amortization.

4.6 Expenses according to types of expense

The following main types of expenses are included in revenue, selling and administrative expenses as well as in the research and development expenses:

in thousand euros	2018	2017
Cost of materials	356,089	309,343
Personnel expenses	278,347	258,275
Depreciation and amortization	30,569	28,684
Other expenses	67,091	66,947
Total	**732,096**	**663,250**

4.7 Other operating income

in thousand euros	2018	2017
Foreign currency exchange gains	9,744	8,178
Income from reversed bad debt allowances for receivables	3,461	1,416
Income from services, offsets and rentals	2,022	1,375
Income from non-cash contributions	1,686	1,593
Income from government grants	1,090	970
Income from damage claims/insurance benefits	557	414
Income from the sale of materials	230	351
Income from the sale of intangible assets and property, plant and equipment	119	222
Others	1,952	1,425
Total	**20,861**	**15,944**

Other operating income increased by 4,917 thousand euros and thus by 30.8 percent to 20,861 thousand euros in 2018.

Income from foreign currency exchange gains mainly includes gains arising from fluctuations in exchange rates between the transaction date and the payment date of receivables and payables in foreign currencies, as well as exchange rate gains arising from the valuation at the exchange rate on the reporting date.

The reversal of bad debt allowance for receivables has been recorded through profit or loss on the basis of payments received for overdue receivables.

Income from services, clearing and rental is not derived from the normal activities of the companies.

Income from government grants generally related essentially to grants for research and development projects that Jenoptik received from the Federal Ministry for Education and Research and other federal and European institutions.

Other operating income includes, amongst other things, income from compensation and insurance payments, income from the operation of staff canteens as well as income from asset disposal.

4.8 Other operating expenses

in thousand euros	2018	2017
Foreign currency exchange losses	8,823	11,836
Expenses from increase of bad debt allowances for receivables and bad debt losses	5,904	3,531
Expenses for group projects	2,877	530
Impairments of intangible assets and property, plant and equipment	2,136	248
Amortization of intangible assets from a first-time consolidation	2,031	1,362
Expenses for services and rentals	1,925	2,404
Acquisition costs	1,901	1,158
Losses from disposals of intangible assets and property, plant and equipment	387	296
Other taxes	358	359
Additions / reversals of provisions	−349	−763
Others	2,433	1,618
Total	**28,426**	**22,579**

Other operating expenses increased by 5,847 thousand euros or 25.9 percent compared with the prior year, to 28,426 thousand euros.

The expenses incurred from foreign currency exchange losses primarily include losses from changes in currency exchange rates between the transaction date and the date of payment of receivables or payables, as well as from the valuation at the exchange rate on the reporting date. Exchange rate gains resulting from these items are recognized under other operating income. From the net viewpoint, foreign currency gains and losses led to a net gain of 921 thousand euros in 2018 (prior year: net loss of 3,658 thousand euros).

The expenses for group projects relate to a project to analyze and optimize business processes and implement a new group-wide ERP system.

Impairment losses on intangible assets and property, plant and equipment include both the unscheduled amortization of an intangible asset from an earlier acquisition, as a well as an impairment loss on a building partly leased to a third party. Details on this can be found in the sections “Intangible assets” from page 166 and “Property, plant and equipment” from page 169.

The increase in amortization of intangible assets arising from initial consolidations relates to some of the intangible assets identified within the framework of the acquisitions of Prodomax and the OTTO Group.

The acquisition costs include transaction and consultancy costs for corporate acquisitions. In 2018, these were attributable to the acquisitions of Prodomax and the OTTO Group.

The addition to and reversal of provisions include additions in the sum of 237 thousand euros (prior year: 683 thousand euros) as well as reversals in the sum of 586 thousand euros (prior year: 1,446 thousand euros) which were not directly apportioned to the functional costs. More information on these items can be found in the section “Other provisions” from page 183.

In fiscal year 2018, other operating expenses included, amongst other things, one-off costs for the Group’s strategic realignment project as well as for the launch of the VINCORION brand for the mechatronics business.

4.9 Investment income

in thousand euros	2018	2017
Impairments and impairment reversals of financial investments	−9	74
Earnings from investments	161	6,393
Total	**152**	**6,468**

The investment income reduced by 6,316 thousand euros compared to 2017, to 152 thousand euros.

The income from investments in the prior year included in particular income from the sale of a minority holding and the sale of listed securities in the total sum of 6,344 thousand euros. In 2018, income from dividend payments from investment companies as well as income from the subsequent adjustment of the consideration for the minority shareholding that had been transferred in the previous year, were recognized under this item.

4.10 Financial income and financial expenses

in thousand euros	2018	2017
Income from measuring financial instruments in foreign currency	3,105	776
Income from financial asset securities and loans	63	19
Income from fair value measurment of financial instruments	33	280
Other interest and similar income	237	682
Total financial income	**3,438**	**1,756**
Expenses for measuring financial instruments in foreign currency	2,135	1,797
Interest expenses for debenture loans	1,769	1,867
Interest expenses for syndicated loan	561	693
Interest expenses for foreign finance loans	551	485
Impairment losses from current financial investments cash and cash equivalents	411	0
Net interest expenses for pension provisions	540	502
Other interest and similar expenses	1,093	843
Total financial expenses	**7,060**	**6,186**
Total	**−3,622**	**−4,430**

The net balance of financial income and financial expenses improved by 808 thousand euros or 18.2 percent to minus 3,622 thousand euros (prior year: minus 4,430 thousand euros).

Income from the foreign currency valuation of financial transactions in the sum of 3,105 thousand euros (prior year: 776 thousand euros) and countervailing expenses in the sum of 2,135 thousand euros (prior year: 1,797 thousand euros) led to a net profit of 970 thousand euros in fiscal year 2018 (prior year: net loss of 1,021 thousand euros). This result is derived from the foreign currency exchange gains and losses arising from the valuation of financial investments which were issued in foreign currencies, less the valuation of the respective derivatives.

The income from the valuation of financial instruments at fair value includes the valuation of the put option agreed as part of the acquisition of the Vysionics Group.

The item other interest and similar income primarily comprises interest income from bank deposits.

Interest expenses for foreign finance loans were incurred on local financing of entities in the USA and China.

The item other interest and similar expenses included guaranty and bank charges, interest arising from finance leasing contracts, as well as interest expenses from accrued interest on non-current liabilities and other provisions.

4.11 Income taxes

Current income taxes (paid or owing) in the respective countries as well as deferred tax assets and deferred tax liabilities are shown as income taxes. The calculation of the current income taxes of the Jenoptik Group was performed by using the tax rates applicable at the balance sheet date.

The calculation of the deferred taxes for the domestic entities was based on a tax rate of 29.74 percent (prior year: 29.74 percent) In addition to the corporate income tax at 15.0 percent (prior year: 15.0 percent) and the solidarity surcharge of 5.5 percent of the corporate income tax charge (prior year 5.5 percent), an effective trade tax rate of 13.92 percent (prior year: 13.92 percent) was taken into account. The calculation of deferred taxes for foreign entities is based on the tax rates applicable in the respective country.

Deferred taxes are recognized as either tax income or tax expenses in the income statement, unless these directly relate to items recognized outside of profit or loss in other comprehensive income. In this event, deferred taxes are also recognized outside of profit or loss in other comprehensive income.

Tax expenses were classified according to origin as follows:

in thousand euros	2018	2017
Current income taxes		
Domestic	11,150	7,952
Foreign	−196	6,382
Total	**10,954**	**14,334**
Deferred taxes		
Domestic	−6,162	−5,199
Foreign	−791	−1,706
Total	**−6,953**	**−6,905**
Total income tax	**4,002**	**7,429**

The current income taxes include an income in the sum of 827 thousand euros (prior year: expense of 537 thousand euros) for current taxes from earlier business periods. Deferred taxes included expenses relating to a different period in the sum of 889 thousand euros (prior year: income of 281 thousand euros) and expenses resulting from the development of timing differences of 2,262 thousand euros (prior year expenses of 390 thousand euros). In addition, deferred tax income includes in particular income from the capitalization of deferred taxes on tax losses carried forward.

A deferred tax claim of 67,951 thousand euros (prior year: 59,448 thousand euros) was recognized for unused tax losses carried forward. Of which 31,561 thousand euros (prior year: 27,167 thousand euros) was attributable to tax losses carried forward for trade tax.

For the remaining losses carried forward, no deferred tax assets were recognized for corporate tax purposes in the sum of 26,247 thousand euros (prior year: 105,015 thousand euros) whilst no deferred tax assets were recognized for trade tax purposes in the sum of 181,747 thousand euros (prior year: 267,927 thousand euros).

As at the balance sheet date, the Jenoptik Group had the following unused tax losses carried forward at its disposal for offsetting against future profits:

in thousand euros	31/12/2018	31/12/2017
Corporate income tax	252,178	303,570
Trade tax	408,463	462,709

The reduction in tax losses carried forward mainly resulted from their being used in the reporting period. Taking into consideration all currently known positive and negative factors influencing the future tax results of the Jenoptik Group, a utilization of the corporate tax loss carried forward of 225,931 thousand euros (prior year: 198,555 thousand euros) and the use of a trade tax loss carried forward of 226,716 thousand euros (prior year: 194,782 thousand euros) was probable.

The tax losses carried forward were subject to a time limit on losses carried forward:

in thousand euros	31/12/2018	31/12/2017
1 year or less	259	676
2 years to 5 years	5,838	5,790
6 years to 9 years	2,716	1,496
More than 9 years	445	477
Total losses carried forward subject to a time limit	**9,258**	**8,439**

In addition, no deferred tax assets were shown for allowable timing differences in the sum of 8,271 thousand euros (prior year: 6,210 thousand euros) as these will probably not be realized in the underlying reporting period.

The following recognized deferred tax assets and deferred tax liabilities were attributed to recognition and valuation differences in the individual balance sheet items and to tax losses carried forward:

	Deferred tax assets		Deferred tax liabilities	
in thousand euros	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Intangible assets	2,284	1,678	4,922	1,562
Property, plant and equipment	1,692	2,011	3,088	1,684
Financial assets	986	1,055	457	157
Inventories	7,396	7,273	673	58
Receivables and other assets	1,359	1,387	5,398	3,115
Provisions	12,584	12,129	661	1,274
Liabilities	4,254	1,881	218	249
Tax losses carried forward and tax refunds	68,680	59,448	0	0
Gross value	**99,235**	**86,862**	**15,417**	**8,099**
(thereof non-current)	(73,156)	(66,303)	(10,753)	(5,624)
Offset	−12,944	−7,962	−12,944	−7,962
Value presented in the statement of financial position	**86,291**	**78,900**	**2,473**	**137**

The net inventory of the asset surplus in deferred taxes increased by 5,055 thousand euros. Taking into consideration the deferred taxes (minus 2,229 thousand euros) recognized outside of profit or loss, initial consolidations (4,217 thousand euros), as well as the foreign currency exchange conversions (minus 90 thousand euros), offset in the reporting year, this gave rise to deferred tax income of 6,953 thousand euros shown in the income statement.

Temporary differences in the sum of 79,965 thousand euros (prior year: 66,463 thousand euros) related to shares in subsidiaries. Deferred tax liabilities in the sum of 28 thousand euros (prior year: 0) were set aside on outside basis differences.

4.12 Earnings from non-controlling interests

Earnings from non-controlling interests in the group earnings totaled 138 thousand euros (prior year: 149 thousand euros) and related to the non-controlling interests in JENOPTIK Korea Corporation Ltd., JENOPTIK Japan Co. Ltd. as well as the Vysionics Group. The portion of group earnings of the non-controlling shareholders of the Vysionics Group were only taken into account up to the exercising of the put options of the non-controlling shareholders in respect of all shares still held by them during the course of the year.

More information on the entities with non-controlling interests is available in section 2.1 “The group of entities consolidated” from page 146.

in thousand euros	2018	2017
Earnings before tax	**91,440**	**80,082**
Corporate income tax rate for the Jenoptik Group in %	29.74	29.74
Expected tax expense	**27,194**	**23,816**
Following tax effects resulted in the difference between the actual and the expected tax expense:		
Non-deductible expenses, tax-free income and permanent deviations	691	578
Changes in unrecognized deferred taxes	−24,204	−20,590
Effects resulting from tax rate differences	415	1,080
Effects of tax rate changes	79	1,535
Taxes for prior years	−414	584
Other tax effects	241	426
Total adjustments	**−23,192**	**−16,387**
Actual tax expense	**4,002**	**7,429**

The table above shows the tax reconciliation between the tax expense expected in the respective fiscal year and the actual tax expense recognized. To determine the anticipated tax expense, in the fiscal year 2018 the applicable group tax rate of 29.74 percent (prior year: 29.74%) was multiplied by the earnings before tax (EBT).

4.13 Earnings per share

Earnings per share corresponds to the earnings attributable to shareholders divided by the weighted average of outstanding shares.

	2018	2017
Earnings attributable to shareholders	87,575	72,504
Weighted average number of outstanding shares	57,238,115	57,238,115
Earnings per share in euros (diluted = undiluted)	**1.53**	**1.27**

Further information on earnings per share is available in section Jenoptik Share from page 32.

5 Disclosures on the Statement of Financial Position

5.1 Intangible assets

in thousand euros	Development costs arising from internal development projects	Acquired patents, trademarks, software, customer relationships	Internally generated patents	Goodwill	Other intangible assets	Total
Acquisition/production costs	**14,501**	**68,158**	**1,424**	**111,279**	**2,247**	**197,609**
Balance as of 1/1/2018	**(14,194)**	**(67,408)**	**(1,688)**	**(104,197)**	**(1,800)**	**(189,288)**
Foreign currency exchange effects	5	−476	0	−703	0	−1,173
	(−17)	(−838)	(0)	(−2,018)	(−1)	(−2,874)
Changes in the group of entities consolidated	0	32,906	0	59,069	0	91,975
	(0)	(6,385)	(0)	(9,100)	(0)	(15,484)
Additions	864	2,705	23	0	957	4,549
	(485)	(2,270)	(25)	(0)	(1,392)	(4,171)
Disposals	272	2,429	241	0	207	3,149
	(161)	(8,127)	(19)	(0)	(169)	(8,476)
Transfers (+/-)	10	463	160	0	−681	−48
	(0)	(1,060)	(−270)	(0)	(−774)	(15)
Acquisition/production costs	**15,108**	**101,326**	**1,367**	**169,646**	**2,316**	**289,763**
Balance as of 31/12/2018	**(14,501)**	**(68,158)**	**(1,424)**	**(111,279)**	**(2,247)**	**(197,609)**
Amortization and impairments	**13,748**	**52,134**	**900**	**9,895**	**1**	**76,679**
Balance as of 1/1/2018	**(13,462)**	**(53,801)**	**(778)**	**(9,895)**	**(0)**	**(77,936)**
Foreign currency exchange effects	5	153	0	0	0	158
	(−17)	(−659)	(0)	(0)	(0)	(−675)
Changes in the group of entities consolidated	0	210	0	0	0	210
	(0)	(331)	(0)	(0)	(0)	(331)
Additions	155	8,608	147	0	0	8,910
	(464)	(6,773)	(131)	(0)	(1)	(7,369)
Impairment losses	0	1,195	0	0	0	1,195
	(0)	(0)	(0)	(0)	(0)	(0)
Disposals	272	2,429	240	0	0	2,942
	(161)	(8,127)	(9)	(0)	(0)	(8,297)
Transfers (+/-)	0	2	0	0	−2	0
	(0)	(16)	(0)	(0)	(0)	(16)
Amortization and impairments	**13,635**	**59,872**	**807**	**9,895**	**0**	**84,209**
Balance as of 31/12/2018	**(13,748)**	**(52,134)**	**(900)**	**(9,895)**	**(1)**	**(76,679)**
Net carrying amount as of 31/12/2018	**1,473**	**41,454**	**560**	**159,750**	**2,316**	**205,553**
	(753)	**(16,024)**	**(524)**	**(101,384)**	**(2,246)**	**(120,931)**

The figures in brackets relate to the prior year.

The changes in the group of entities consolidated included the additions from the acquisitions of Prodomax and the OTTO Group, as well as the effects from the final valuation of the intangible assets of Five Lakes Automation LLC identified as part of the purchase price allocation.

As the result of an impairment test, an impairment loss on customer relationships capitalized in the context of an acquisition was recognized in the sum of 1,195 thousand euros.

Disposals of patents, trademarks, software, and customer relationships primarily relate to intangible assets that were recorded in prior years within the context of acquisitions and which are written off in full at the end of their useful life.

As in the prior year, intangible assets were not subject to any disposal restrictions. The order commitments for intangible assets totaled 329 thousand euros (prior year: 545 thousand euros).

Additions to other intangible assets included capitalized expenses for internally generated assets in development in the sum of 632 thousand euros (prior year: 260 thousand euros), of which 417 thousand euros were attributable to development costs arising from internal development projects and 216 thousand euros to internally generated patents. Once the internal development projects have been completed or the patents granted, these were transferred to the corresponding groups of intangible assets.

Other than goodwill, there were no intangible assets with an indefinite useful life.

As of December 31, 2018 goodwill amounted to 159,750 thousand euros (prior year: 101,384 thousand euros). The additions to goodwill in the sum of 59,069 thousand euros resulted from the acquisitions of Prodomax and the OTTO Group as well as the finalization of the initial consolidation Five Lakes Automation LLC. The further change in the carrying amounts in the sum of minus 703 thousand euros was attributable exclusively to currency effects (prior year: minus 2,017 thousand euros).

As in the prior year, no impairments were required for goodwill in the 2018 fiscal year.

The following table summarizes the goodwill for each cash-generating unit according to segment:

in thousand euros	31/12/2018	31/12/2017
Optics & Life Science	42,759	42,661
Optical Systems	1,529	1,460
Healthcare & Industry	41,230	41,201
Mobility	109,071	50,802
Automotive	68,704	10,032
Traffic Solutions	40,367	40,770
Defense & Civil Systems	7,921	7,921
Total	**159,750**	**101,384**

The following table shows the allocation of goodwill to the segments by percentage:

in percent	31/12/2018	31/12/2017
Optics & Life Science	27	42
Mobility	68	50
Defense & Civil Systems	5	8
Total	**100**	**100**

The impairment test for goodwill was performed at the level of the cash-generating units benefiting from the synergies of the respective business combination and representing the lowest level at which goodwill is monitored for internal company management. If the carrying amounts of these cash-generating units exceeded their recoverable amounts, the goodwill allocated was correspondingly reduced. The determining factor for the impairment test was the recoverable amount, i.e. the higher of the two amounts derived from the fair value less costs to sell or value in use.

Jenoptik calculated the recoverable amount in the form of the value in use, based on a discounted cash flow method. The basis for this was the five-year corporate plan approved by the management and submitted to the Supervisory Board. This took past experience into consideration and was based on the management's best estimate of future development. The cash flows in the detailed planning phase were planned on the basis of differentiated growth rates. These took account of the development and dynamics of the relevant sectors and target markets.

In fiscal year 2018, Healthcare & Industry, as part of the Optics & Life Science segment, repeated the positive performance it achieved in the prior year. Sales growth was marked by a significant increase in profitability. The focus on the strategic market segments Bio-Imaging, Laser-based Therapy and Mobility, Industrial Automation & Security will secure the profitable business and contribute to sustainable growth.

The Automotive division, as part of the Mobility segment, posted a significant increase in revenue and profitability in the past fiscal year. Future growth will be driven by an expansion of its automotive customer business, as well as the increased offering of integrated production solutions and the development of other key industries on the international level. The corporate plan for the Automotive division takes only moderate growth into account. Additional synergy effects are expected as a result of the new acquisitions.

In fiscal year 2018, Traffic Solutions, as part of the Mobility segment, posted an increase in revenue and profitability. The focus of development over the coming years will be on the increasing level of internationalization, especially in the regions of the Americas, the Middle East/North Africa, and other European countries. The on-going continuation of structural and process optimizations as well as the increase in the creation of local and international value added, lead us to anticipate a sustained increase in revenue and profitability over the medium term.

Based on the expansion of the international business, sales are anticipated to continue growing across all segments. This is coupled with the assumption that part of the added value is relocated to the target regions in order to generate sustainable growth in profitability.

Differentiated ranges are used to determine the future development of the working capital. At the same time, the result of the respective planning year for determining the free cash flow is adjusted for non-cash expenses and income such as depreciation/amortization.

This assumes a perpetual annuity, the amount of which is individually determined for each cash-generating unit by management from the fifth year of the planning time frame. The perpetual annuity includes a growth component in the form of a deduction on the capitalization interest rate of between 0.9 and 1.1 percentage points (prior year 0.9 and 1.1 percentage points). Non-recurring effects in the last year of the plan are eliminated prior to calculating the perpetual annuity.

The weighted average cost of capital after taxes required for the impairment tests is determined by using the capital asset pricing model for determining the cost of equity. The components for calculating the cost of equity are a risk-free interest rate, the market risk premium, a beta factor customary in our industry determined from peer groups, and the average country risk of each cash-generating unit. Borrowing costs were determined by including a risk-free interest rate, the spread customary in our industry, and the standard average tax rate. The weighted costs of equity and borrowing costs resulted from applying the capital structure customary in our industry.

Impairment testing was conducted assuming a weighted average cost of capital after taxes at a rate of between 5.26 and 8.26 percent (prior year: 6.10 percent and 8.15 percent). This corresponded to the weighted average cost of capital before tax of between 6.47 percent and 11.67 percent (prior year: 7.85 percent and 10.68 percent).

The assumptions used to determine the values in use of the cash-generating unit are shown in the following table:

	Growth component in perpetual annuity	Weighted average cost of capital after taxes	Weighted average cost of capital before taxes
Optical Systems	1.10	7.51	10.45
	(1.00)	(7.30)	(10.65)
Healthcare & Industry	1.10	7.35	9.71
	(1.10)	(8.15)	(10.68)
Automotive	0.90	8.26	11.67
	(0.90)	(7.20)	(10.16)
Traffic Solutions	0.90	5.26	6.47
	(0.90)	(6.10)	(7.85)
Defense & Civil Systems	0.90	6.20	8.63
	(0.90)	(6.10)	(8.80)

The figures in brackets relate to the prior year.

Sensitivity analyses were conducted for all cash-generating units to which goodwill was allocated as of December 31, 2018.

An increase in the weighted cost of capital rates of more than 0.4 percentage points, or a reduction in the cash flow of more than 8.0 percent would have caused the recoverable amount to fall below the carrying amount of the cash-generating unit Automotive.

Sensitivity analyses for the other cash-generating units would not result in the recoverable amount being less than the carrying amount within the bandwidths considered possible by the management.

5.2 Property, plant and equipment

in thousand euros	Land, buildings	Technical equipment and machinery	Other equipment, operating and office equipment	Assets under construction	Total
Acquisition/production costs Balance as of 1/1/2018	**161,392**	**177,035**	**103,506**	**9,721**	**451,653**
	(154,950)	**(172,641)**	**(98,171)**	**(12,271)**	**(438,032)**
Foreign currency exchange effects	754	1,513	125	161	2,554
	(−2,434)	(−3,777)	(−825)	(−1,098)	(−8,133)
Changes in the group of entities consolidated	4,337	499	863	0	5,700
	(13)	(617)	(333)	(0)	(963)
Additions	5,917	10,304	8,273	13,373	37,867
	(8,128)	(4,484)	(8,248)	(12,871)	(33,730)
Disposals	62	3,978	4,923	223	9,185
	(4,648)	(2,794)	(4,964)	(345)	(12,751)
Transfers (+/-)	−1,263	9,257	−353	−7,594	47
	(5,382)	(5,864)	(2,542)	(−13,977)	(−189)
Acquisition/production costs Balance as of 31/12/2018	**171,075**	**194,631**	**107,491**	**15,438**	**488,635**
	(161,392)	**(177,035)**	**(103,506)**	**(9,721)**	**(451,653)**
Depreciation and impairments Balance as of 1/1/2018	**69,287**	**137,130**	**80,471**	**35**	**286,923**
	(70,554)	**(132,911)**	**(76,625)**	**(61)**	**(280,151)**
Foreign currency exchange effects	67	959	73	0	1,099
	(−900)	(−2,389)	(−609)	(0)	(−3,897)
Changes in the group of entities consolidated	225	107	269	0	602
	(10)	(468)	(237)	(0)	(714)
Additions	3,935	10,577	7,050	0	21,563
	(3,980)	(9,808)	(7,428)	(0)	(21,215)
Impairment losses	941	0	0	0	941
	(0)	(149)	(99)	(0)	(248)
Impairment reversal	0	−33	0	−35	−67
	(0)	(0)	(0)	(−26)	(−26)
Disposals	37	3,528	4,790	0	8,355
	(4,330)	(2,272)	(4,841)	(0)	(11,443)
Transfers (+/-)	−2,582	2,851	−270	0	−1
	(−26)	(−1,545)	(1,532)	(0)	(−39)
Depreciation and impairments Balance as of 31/12/2018	**71,836**	**148,064**	**82,805**	**0**	**302,705**
	(69,287)	**(137,130)**	**(80,471)**	**(35)**	**(286,923)**
Net carrying amount as of 31/12/2018	**99,239**	**46,567**	**24,686**	**15,438**	**185,930**
	(92,105)	**(39,905)**	**(23,034)**	**(9,686)**	**(164,730)**

The figures in brackets relate to the prior year.

Land and buildings of the Group in the amount of 99,239 thousand euros (prior year: 92,105 thousand euros) covered in particular the production and administrative buildings in Jena, Altenstadt, Huntsville (USA), Shanghai (China) and Rochester Hills (USA) with the Technology Campus for metrology and laser machines completed in 2017. During this year, a plot of land was acquired for 1,086 thousand euros by JENOPTIK Industrial Metrology Germany GmbH to be used for the construction of a new administrative building with adjacent production hall. The investments made for this purpose in 2018 amounted to 1,937 thousand euros and will be shown under assets under construction until the planned completion of the building complex in spring 2020. In addition, as part of the acquisition of the OTTO Group, the company purchased a building and land in Jena worth 1,039 thousand euros.

In addition, in the fiscal year just past, JENOPTIK Industrial Metrology France SA invested in a new company building in Bayeux (France). Production areas, office space and a modern metrology laboratory were built on an industrial site there. The land and building were capitalized at 2,233 thousand euros.

With the acquisition of 94 percent of the partnership interest in ASAM, the production hall and administrative building, already in use by JENOPTIK Polymer Systems GmbH in Triptis, including the land valued at 3,452 thousand euros was transferred to the Group's ownership.

Furthermore, the purchase of the 100 percent of the shares in the Canadian entity Prodomax led to an addition to buildings in the sum of 885 thousand euros.

In addition, production capacities were expanded in almost all business areas in the 2018 fiscal year, whilst the process of further automation was driven forward through the replacement of old and installation of new systems.

More detailed explanations on the investments made are contained in the Combined Management Report, under the section "Financial position" from page 96 on.

Order commitments for property, plant, and equipment in the sum of 10,146 thousand euros have increased significantly compared with the prior year (prior year: 7,965 thousand euros) and primarily resulted from replacement and new investment in technical equipment and machinery.

There were no investment grants recorded in the 2018 fiscal year. In the prior year, investment grants in the sum of 35 thousand euros were deducted from the acquisition costs for property, plant, and equipment.

As in fiscal year 2017, no property, plant and equipment was pledged as of the balance sheet date. Loans in the sum of 74 thousand euros were secured through registered charges against real property (prior year: 107 thousand euros). There were no further disposal restrictions for property, plant, and equipment.

5.3 Investment property

in thousand euros	Investment Property
Acquisition or production costs Balance at 1/1/2018	**10,397 (10,397)**
Additions	100 0
Disposals	2 (0)
Acquisition or production costs Balance at 31/12/2018	**10,495 (10,397)**
Depreciation Balance at 1/1/2018	**6,047 (5,953)**
Additions	97 (93)
Disposals	2 (0)
Depreciation Balance at 31/12/2018	**6,141 (6,047)**
Net carrying amount at 31/12/2018	**4,354 (4,350)**

The figures in brackets relate to the prior year.

The investment property as of December 31, 2018 primarily encompassed property in the Jena-Göschwitz Industrial Park.

The fair values totaled 4,476 thousand euros (prior year: 5,091 thousand euros). These were determined internally within the company on the basis of a discounted cash flow method. In this context, the net rents without utilities as well as the maintenance and other costs are estimated for the entire remaining useful lives of the properties and discounted over the remaining useful lives. Risk-adjusted interest rates are applied as the discount rate. As a result of the use of non-observable parameters such as interest rates, rents without utilities, as well as maintenance and ancillary expenses, the level 3 fair value in the hierarchy of fair values is assigned.

For 2018, rental income from investment property held at the end of the fiscal year amounted to 518 thousand euros (prior year: 516 thousand euros).

In fiscal year 2018, the direct operating expenses for property and movables accounted for at the end of the year for rented space, totaled 194 thousand euros (prior year: 547 thousand euros) and for non-rented space 55 thousand euros (prior year: 33 thousand euros).

5.4 Leasing

Finance leases

The Group as lessee. In fiscal year 2018, all technical equipment and machinery was lease financed. These were accounted for at a carrying amount of 3,658 thousand euros. The original acquisition and production costs totaled 4,101 thousand euros.

In addition, there are leases for other equipment, operating and office equipment. The carrying amount totaled 558 thousand euros (prior year: 416 thousand euros). The original acquisition and production costs for these assets totaled 668 thousand euros (prior year: 505 thousand euros). This essentially included technical testing equipment as well as a storage system in the IT environment.

The finance lease contracts in force as of the balance sheet date were based on a weighted average interest rate of 1.7 percent (prior year: 2.9 percent).

Of the lease payments in the sum of 749 thousand euros (prior year: 87 thousand euros), 36 thousand euros (prior year: 7 thousand euros) were recognized through profit or loss in the fiscal year 2018. This corresponds to the interest portion included in the lease payment.

The lease payments due in the future are shown in the following table:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Minimum lease payments	868 (193)	3,230 (705)	11 (0)	4,109 (898)
Interest portions included in payments	39 (12)	63 (15)	0 (0)	102 (27)
Present value	829 (180)	3,167 (690)	11 (0)	4,007 (871)

The figures in brackets relate to the prior year.

The Group as lessor. One group entity in the Mobility segment had concluded contracts for leasing traffic safety equipment to a client which were qualified as finance leases. The average total lease period for these contracts was 30 months.

Of the agreed minimum lease payments received in the fiscal year 2018 in the sum of 298 thousand euros (prior year: 468 thousand euros) none (prior year: 5 thousand euros) were recognized through profit or loss as no interest was due on the current portion due to the expiry of the contract in the current fiscal year.

As of December 31, 2018, there were no further outstanding minimum lease payments:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Minimum lease payments	0 (340)	0 (0)	0 (0)	0 (340)
Present value	0 (340)	0 (0)	0 (0)	0 (340)

The figures in brackets relate to the prior year.

All financial income arising from this lease business was recorded through profit or loss.

Operating leases

The Group as lessee. Operating leases mainly included lease agreements for commercial space as well as for office and data processing equipment and motor vehicles.

The payments arising from leases were recognized through profit or loss in the sum of 11,052 thousand euros (prior year: 9,767 thousand euros). As in the prior year, there were no contingent lease payments included.

As of the balance sheet date, there were open obligations arising from operating leases without a termination date, with the following maturities:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Minimum lease payments	10,107 (8,670)	30,494 (23,193)	25,397 (21,607)	65,999 (53,470)

The figures in brackets relate to the prior year.

The increase in the minimum lease payments in fiscal year 2018 was essentially attributable to the conclusion of a new long-term lease contract at JENOPTIK Holdings UK Ltd. following a relocation to a new company building.

The Group as lessor. Within the framework of operating leases the Group leases commercial property. Rental income from the leasing of property, plant, and equipment and from investment property in the reporting period amounted to 1,905 thousand euros (prior year: 2,013 thousand euros).

At the balance sheet date the following minimum lease payments had been contractually agreed with the tenants:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Minimum lease payments	475 (857)	1,381 (1,068)	7 (7)	1,864 (1,933)

The figures in brackets relate to the prior year.

Lease agreements without a termination date were recorded in rental income only up until the date of the earliest possible termination. The probability of leasing the space further or of granting extensions on the lease agreements was not included in the calculation.

5.5 Financial investments

in thousand euros	31/12/2018	31/12/2017
Shares in associates	5,191	0
Shares in unconsolidated associates	411	610
Investment companies	1,158	2,202
Loans to unconsolidated associates and investment companies	10	730
Long-term loans	0	867
Total	**6,770**	**4,408**

Shares in associates

As of January 1, 2018 TELSTAR-HOMMEL CORPORATION, Ltd. of Pyeongtaek, Korea, was also included in the consolidated financial statements as an associated company using the at-equity method. The company is a long-standing partner for Jenoptik in the Korean market and sources components, amongst other things, from the Automotive division.

The carrying amount of the investment was reclassified as shares of an associated company and the difference between the proportional net assets to which Jenoptik is entitled and the carrying amount at the date of the initial at-equity consolidation was offset in the sum of 3,614 thousand euros against the retained earnings outside profit or loss.

The following table contains summarized financial information of the company:

in thousand euros	2018
Disclosures on Income Statement	
Revenue	40,179
Profit/loss from continuing operations	1,611
Other comprehensive income	55
Total comprehensive income	**1,666**
Amount of the shares in %	33.3 %
Group share of total comprehensive income	**555**
Disclosures on Statement of Financial Position and reconciliation to the at-equity carrying amount	
Non-current assets	13,460
Current assets	23,187
Non-current liabilities	16,790
Current liabilities	4,281
Equity	**15,575**
Amount of the shares in %	33.3 %
Share in equity = at equity carrying amount	**5,191**

The figures in brackets relate to the prior year.

The share of the company's profit due to Jenoptik is shown under other operating income.

Other financial investments

The reduction in shares in and loans to unconsolidated associates can be attributed to the initial consolidation of RADARLUX Radar Systems GmbH. As a result of the acquisition of shares in ASAM and its inclusion in the consolidated financial statements, the tenant loan accounted for as a long-term loan in the prior year was eliminated as part of the debt consolidation process.

The table below reflects the changes in the impairments to financial investments:

in thousand euros	2018	2017
Impairments at 1/1	**12,668**	**15,070**
Change in the group of consolidated entities	−2,213	0
Additions	656	763
Utilization	586	2,978
Reversal/derecognition	1	187
Impairments at 31/12	**10,523**	**12,668**

The reduction as a result of the change in the group of consolidated entities resulted from the loan granted to ASAM.

5.6 Other non-current financial assets

Other non-current financial assets include the following:

in thousand euros	31/12/2018	31/12/2017
Derivatives	1,828	1,957
Other non-current financial assets	363	363
Total	**2,191**	**2,319**

Other non-current financial assets were subject to disposal restrictions in the sum of 82 thousand euros (prior year: 86 thousand euros).

The aggregated item derivative financial instruments is explained in more detail in section 8.2 from page 191.

For details on receivables arising from lease contracts we refer to section 5.4 from page 171.

5.7 Other non-current non-financial assets

Other non-current, non-financial assets in the sum of 723 thousand euros (prior year: 586 thousand euros) essentially comprised the deferred charges for the syndicated loan in the amount of 343 thousand euros (prior year: 360 thousand euros).

5.8 Deferred taxes

The development of deferred taxes shown as an item in the statement of financial position is shown in section 4.11 from page 163.

5.9 Inventories

in thousand euros	31/12/2018	31/12/2017
Raw materials, consumables and supplies	71,697	69,675
Unfinished goods and work in progress	85,691	80,706
Finished goods and merchandise	18,214	18,244
Total	**175,602**	**168,625**

As of the end of the fiscal year 2018, accumulated impairment losses in the sum of 44,273 thousand euros (prior year 44,078 thousand euros) were taken into account in the carrying amount. The net realizable value of these inventories was 32,479 thousand euros (prior year: 25,492 thousand euros).

In fiscal year 2018, impairment losses were recognized in the sum of 3,016 thousand euros (prior year: 1,580 thousand euros). Impairment losses were reversed in the sum of 3,136 thousand euros (prior year: 2,662 thousand euros) as the reason for the impairment loss applied in prior years no longer existed.

The consumption of inventories affected expenses in the fiscal year in the sum of 272,495 thousand euros (prior year: 233,579 thousand euros), the table below shows the distribution:

in thousand euros	31/12/2018	31/12/2017
Cost of Sales	270,796	230,911
Research and development expenses	1,122	2,055
Selling expenses	296	356
Administrative expenses	280	257
Total	**272,495**	**233,579**

At the reporting dates there were no restrictions on the disposal of inventories.

5.10 Current trade receivables

in thousand euros	31/12/2018	31/12/2017
Trade receivables from third parties	126,219	120,978
Receivables from due requested advance payments	4,527	0
Trade receivables from unconsolidated associates	263	94
Trade receivables from investment companies	190	86
Receivables from construction contracts	0	14,859
Total	**131,198**	**136,017**

The fair values of trade receivables correspond to their carrying amounts as of the reporting date. With the first application of IFRS 15, the receivables from construction contracts are reclassified into contract assets and the receivables from due requested advance payments reported as trade receivables.

Trade receivables are non-interest bearing and are generally due within 30 to 90 days.

The following table shows the composition of the trade receivables:

in thousand euros	31/12/2018	31/12/2017
Gross amount of trade receivables from third parties	132,977	128,406
Trade receivables from due requested advance payments	4,527	0
Gross amount of trade receivables from unconsolidated associates	1,643	1,475
Gross amount of trade receivables from investment companies	259	155
Gross amount of trade receivables from construction contracts	0	14,859
Gross amount of trade receivables (total)	**139,406**	**144,895**
Cumulative impairments	−8,208	−8,879
Carrying amount of trade receivables	**131,198**	**136,017**

Default risks were determined through customer credit ratings via a scorecard. In addition to internal company data, this includes credit assessment by external credit bureaus. Based on the rating of customers' credit, lines of credit are granted to ensure the active management of business transactions. This means for example, amongst other things, that certain payment methods can be agreed with customers depending on their creditworthiness. In addition, outstanding receivables against customers are regularly monitored and measures are taken to mitigate overdue receivables.

The default risk is taken into account through corresponding impairments. The following table shows the changes in impairments to outstanding trade receivables:

in thousand euros	2018	2017
Impairments at 1/1	**8,879**	**7,084**
Change in the group of consolidated entities	809	0
Additions	3,640	3,308
Consumption	1,852	88
Reversal/derecognition	3,301	1,363
Foreign currency exchange effects	32	−62
Impairments at 31/12	**8,208**	**8,879**

The impairment requirement is analyzed at each closing date on the basis of an impairment matrix to determine anticipated loan losses. The impairment quotas are determined on the basis of the overdue period in days for different customer segments combined into groups with similar default patterns.

The amount of the impairment to trade receivables from third parties totaled 6,759 thousand euros (prior year: 7,428 thousand euros). The remaining impairment requirement relates mainly to receivables due from an unconsolidated entity in liquidation.

Overdue but unimpaired receivables were owed primarily by public sector contractors, companies in the automobile industry as well as their suppliers. As of 31/12/2018 there were no collaterals for unimpaired receivables in the form of bank guarantees (prior year: 660 thousand euros).

The table below shows the default risk position for trade receivables due from third parties as determined by an impairment matrix:

in thousand euros	Expected credit loss rate	Expected total gross carrying amount at default	Expected credit loss
Not due	0.35 %	87,352	305
	0.42 %	(88,966)	(371)
overdue < 30 days	0.35 %	23,011	81
	1.22 %	(16,497)	(202)
overdue 30 – 60 days	6.25 %	8,982	562
	3.52 %	(5,314)	(187)
overdue 61 – 120 days	13.57 %	4,106	557
	10.82 %	(4,682)	(507)
overdue 121 – 240 days	27.86 %	3,221	897
	22.51 %	(6,076)	(1,368)
overdue 241 – 360 days	40.75 %	1,419	578
	34.27 %	(1,861)	(638)
overdue > 360 days	77.30 %	4,887	3,778
	82.94 %	(5,010)	(4,156)
Total	5.08 %	132,977	6,759
	5.78 %	(128,406)	(7,428)

In the fiscal year 2017 the specific individual impairments to receivables of 1,944 thousand euros were higher than in the year just past (prior year: 3,732 thousand euros). These mainly concerned receivables with an overdue date of 360 days.

5.11 Contract assets

The balance sheet item was reported for the first time in the 2018 fiscal year based on the application of IFRS 15 and includes claims by the Group against customers for receipt of a consideration in exchange for goods or services that have already been transferred. These are grouped as follows:

in thousand euros	31/12/2018
Contract assets	**23,385**
Realization within one year	23,205
Realization within more than one year	180

The long-term share related to already fulfilled obligations arising from development services in the Defense & Civil Systems segment which will be billed to the customer via deliveries still be rendered in the future.

5.12 Other current financial assets

in thousand euros	31/12/2018	31/12/2017
Receivables from Mitarbeiter-treuhand e.V.	1,880	1,728
Derivatives	171	3,008
Receivables from lease agreements	0	340
Miscellaneous current financial assets	3,217	230
Total	**5,268**	**5,307**

As in the prior year, in 2018 there were no restrictions on disposals of other current financial assets.

For details on receivables arising from lease contracts we refer to the Notes, section 5.4 from page 171.

In the current fiscal year, other current financial assets included, in particular, a receivable due from a credit institution arising from the settlement of a foreign exchange forward transaction to hedge a foreign currency loan in the intercompany area.

Default risks are taken into account through impairments. The composition of the carrying amount of other current financial assets is as follows:

in thousand euros	31/12/2018	31/12/2017
Gross amount of other current financial assets	6,557	6,596
Cumulative impairments	− 1,289	− 1,289
Carrying amount of other current financial assets	**5,268**	**5,307**

The following table shows the changes in impairment losses on other current financial assets:

in thousand euros	2018	2017
Impairments at 1/1	**1,289**	**1,504**
Additions	0	7
Consumption	0	40
Reversal / derecognition	0	183
Impairments at 31/12	**1,289**	**1,289**

5.13 Other current non-financial assets

in thousand euros	31/12/2018	31/12/2017
Accruals	4,254	3,266
Receivables from other taxes	2,317	1,640
Receivables from income taxes	2,593	340
Receivables from subsidies and grants	226	176
Miscellaneous current non-financial assets	523	644
Total	**9,912**	**6,067**

As in the prior year, there were no restrictions on disposals of other current non-financial assets.

5.14 Current financial investments

in thousand euros	31/12/2018	31/12/2017
Fair value	59,476	64,577

The current financial investments primarily entailed cash deposits made in the sum of 59,476 thousand euros.

For financial investments valued at amortized acquisition costs, it is assumed that the fair values correspond to the carrying amounts, taking into account the impairments losses. A risk provision in the sum of 493 thousand euros was recognized for the first time as an impairment to cover the debtor's default risk, applying IFRS 9.

For further details on the financial instruments we refer to the Notes, section 8.2 from page 191.

5.15 Cash and cash equivalents

in thousand euros	31/12/2018	31/12/2017
Checks, cash on hand, bank balances and demand deposits with a maturity of less than 3 months	89,255	132,310

For further information on the change of cash and cash equivalents we refer to the section entitled "Details on the cash flow statement" from page 187. In addition, in application of IFRS 9, an impairment of 500 thousand euros was recorded on the bank deposits as a provision for the default risk in fiscal year 2018.

5.16 Equity

The development of the equity of Jenoptik is shown in the consolidated statement of changes in equity.

Share capital

Share capital amounts to 148,819 thousand euros and is divided into 57,238,115 registered no-par value shares.

At the beginning of July 2011 Thüringer Industriebeteiligungs GmbH & Co. KG, Erfurt, Thüringer Industriebeteiligungsgeschäftsführungs GmbH, Erfurt, bm-t beteiligungsmanagement thüringen GmbH, Erfurt, Stiftung für Unternehmensbeteiligungen und -förderungen in der gewerblichen Wirtschaft Thüringens (StUWT), Erfurt, Thüringer Aufbaubank Erfurt and the Free State of Thüringia, Erfurt, disclosed that they had exceeded the thresholds of 3, 5, and 10 percent of the voting rights in JENOPTIK AG on June 30, 2011 and that they had held 11.00 percent of the voting rights (6,296,193 voting rights) on that day. Thüringer Industriebeteiligungs GmbH & Co. KG acquired the voting rights from ECE Industriebeteiligungen GmbH.

On August 21, 2014, Deutsche Asset & Wealth Management Investment GmbH, Frankfurt, Germany, notified us that it had exceeded the threshold of 5 percent of the voting rights in JENOPTIK AG on August 19, 2014. Accordingly, Deutsche Asset & Wealth Management Investment GmbH directly held 5.20 percent of the voting rights (2,978,179 voting rights) in JENOPTIK AG on that day. Of which 5.06 percent of the voting rights (2,898,579 voting rights) were held directly by Deutsche Asset & Wealth Management Investment GmbH and 0.14 percent of the voting rights (79,600 voting rights) were attributable to it on this date in accordance with § 22 (1) (1) No. 6 of the WpHG (old version).

Capital Group Companies, Inc., Los Angeles, California, USA, notified us on December 12, 2018 that it had exceeded the threshold of 5 percent of the voting rights in JENOPTIK AG, Jena, Germany, on December 10, 2018. Accordingly, on that day Capital Group Companies, Inc. held 5.01 percent of the voting rights (2,867,000 voting rights) which were attributable to it indirectly in accordance with § 34 of the WpHG (new version). More than 3 percent of the voting rights are held by the SMALLCAP World Fund, Inc.

SMALLCAP World Fund, Inc., Baltimore, Maryland, USA, notified us on February 4, 2019 that it had exceeded the threshold of 5 percent of the voting rights in JENOPTIK AG, Jena, Germany, on January 31, 2019. Accordingly, on that day SMALLCAP World Fund, Inc. held 5.04 percent of the voting rights (2,885,141 voting rights) which were attributable to it directly in accordance with § 33 of the WpHG (new version).

Templeton Investment Counsel, LLC, Wilmington, Delaware, USA, notified us on June 21, 2018 that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG, Jena, Germany, on June 20, 2018. Accordingly, on that day Templeton Investment Counsel, LLC held 2.98 percent of the voting rights (1,707,585 voting rights) which were attributable to it indirectly in accordance with § 34 of the WpHG (new version).

BlackRock, Inc., Wilmington, USA, notified us on June 13, 2018 that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG, Jena, Germany, on June 8, 2018. Accordingly, BlackRock, Inc., held 3.17 percent of the voting rights (1,812,914 voting rights) on that day. 3.02 percent of the voting rights (1,721,197 voting rights) were attributable to BlackRock, Inc. indirectly in accordance with § 34 of the WpHG. 0.02 percent of the voting rights (2,052 voting rights) were attributable to instruments in accordance with § 38 (1) (1) of the WpHG (new version) and 0.15 percent of the voting rights (83,665 voting rights) to instruments in accordance with § 38 (1) (2) of the WpHG (new version).

The Ministry of Finance, Oslo, Norway, notified us on November 4, 2016 on behalf of the Norwegian state that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG on November 2, 2016. Accordingly, on that day the Ministry of Finance held 3.06 percent of the voting rights (1,752,411 voting rights) which were attributable to it in accordance with § 22 of the WpHG (old version). The voting rights are held directly by the Norges Bank, Oslo, Norway.

The Oppenheimer International Small-Mid Company Fund, Wilmington, Delaware, USA, notified us on January 30, 2018 that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG on January 25, 2018. Accordingly, the Oppenheimer International Small-Mid Company Fund held 3.16 percent of the voting rights (1,808,844 voting rights) on that day. Oppenheimer Funds, Inc., Denver, Colorado, USA has an indirect investment via the Oppenheimer International Small-Mid Company Fund.

The voting right notifications of recent years and the notifications of shareholders that had closed out their investments have been published on our Internet site www.jenoptik.com under Investors/Share/Voting rights announcements.

Authorized capital

An "Authorized Capital 2015" was created with the resolution passed by the Annual General Meeting on June 3, 2015 as follows: The Executive Board is authorized up to June 2, 2020, with the consent of the Supervisory Board, to increase the nominal capital of the company by up to 44,000 thousand euros through one or multiple issues of new, no-par value registered shares against cash and / or contribution in kind

("Authorized Capital 2015"). The new shares can be taken up by one or more banks with the obligation to offer these to shareholders (indirect subscription rights). With the consent of the Supervisory Board, the Executive Board is authorized to preclude subscription rights of shareholders in certain cases: a) for fractional amounts; b) capital increases against contributions in-kind, in particular also within the framework of corporate mergers or the acquisition of companies, parts of companies or investments in companies (including increasing existing investments) or other contributable assets in conjunction with such an intended acquisition, as well as claims against the entity; (c) in the event of capital increases against cash contributions, to the extent that the portion of the nominal capital attributable to the new shares, taking into account resolutions at the Annual General Meeting and/or the utilization of other authorizations to exclude the subscription right in direct or corresponding application of § 186 (3) (4) of the Stock Corporation Act (AktG) since the date on which such authorization becomes effective, neither exceeds a total of ten percent of the nominal capital as of the date of registration for such authorized capital, nor exceeds a total of ten percent of the nominal capital in existence as of the date of issuance of the new shares and the issue price of new shares is not significantly below the stock exchange price; d) issue of new shares to employees of the entity and to associates in which the entity holds a majority interest.

All aforementioned authorizations to exclude subscription rights are limited to a total of 20 percent of the nominal capital available at the time this authorization became effective – or, if this value is lower, to 20 percent of the nominal capital at the time this authorization is exercised. This limit of 20 percent includes shares that (i) are sold for the purpose of servicing option and/or convertible bonds that were or could still be issued during the period of validity of the authorized capital to the exclusion of subscription rights or (ii) are sold by the company as treasury shares during the period of validity of authorized capital to the exclusion of subscription rights.

Decisions on the details of the issuance of new shares, in particular their conditions and the content of rights of the new shares, are taken by the Executive Board, with the consent of the Supervisory Board.

Conditional Capital

The shareholder resolution passed at the Annual General Meeting held on June 7, 2017, to contingently raise the share capital of the entity by up to 28,600 thousand euros through the issue of up to 11,000,000 new no-par value shares ("Conditional Capital 2017"). The conditional capital increase will only be executed to the extent that

- the creditors / owners of option and / or conversion rights arising from option and / or convertible bonds issued up to June 6, 2022 by the company or a domestic or foreign incorporated company in which the company has a direct or indirect majority stake, pursuant to the authorization resolution of the Annual General Meeting dated June 7, 2017, exercise their option or conversion rights and/or
- the creditors of the issued convertible bonds obliged to exercise their conversion rights which were issued by the company or a domestic or foreign incorporated company in which the company has a direct or indirect majority stake, on the basis of the resolution of the Annual General Meeting on June 7, 2017, fulfill their conversion obligation by June 6, 2022 and/or tenders for shares are issued and neither own shares are used nor payment is made in cash. The new shares participate in profits from the start of the fiscal year for which, on the date of their issue, no resolution has yet been passed by the Annual General Meeting in respect to the appropriation of profits. The Executive Board is authorized, with the consent of the Supervisory Board, to specify additional details on the issuance of the conditional capital increase.

If the authorization to issue option and/or convertible bonds to the exclusion of subscription rights is exercised, this authorization is limited in the sense that the pro rata amount of nominal capital corresponding to those shares that must be issued after exercising conversion and / or option rights / obligations may not account for more than 20 percent of the nominal capital existing at the time this authorization takes effect or – if the figure is lower – at the time use is made of the authorization. This 20 percent limit also applies to the sale of treasury shares that are excluded from subscription rights during the period of this authorization, and to shares issued during the period of this authorization under authorized capital and for which subscription rights are excluded.

Reserves

Capital reserve. The capital reserve contains the adjustments recognized within the framework of the first-time adoption of IFRS as well as the differences resulting from the capital consolidation being offset against reserves up to December 31, 2002.

Other reserves. A component of other reserves is retained earnings realized in the past by companies included in the consolidated financial statements less dividends paid.

Other reserves also contain value adjustments to be accounted for outside of profit or loss for

- equity instruments designated as at fair value through other comprehensive income,
- cash flow hedges,
- accumulated foreign currency exchange differences and
- actuarial gains/losses arising from the valuation of pensions and similar obligations.

In the 2018 fiscal year value adjustments to equity instruments measured through other comprehensive income amounted to minus 22 thousand euros (prior year: minus 270 thousand euros). The resultant deferred taxes totaled 6 thousand euros (prior year: minus 32 thousand euros). The effective portions of the change in the value of the derivatives to be recognized outside of profit or loss within the framework of the cash flow hedges were recognized at minus 4,760 thousand euros (prior year: 4,456 thousand euros) less deferred taxes in the sum of 1,413 thousand euros (prior year: minus 1,325 thousand euros). The accumulated foreign currency exchange differences encompass the effects arising from foreign currency conversions of the separate financial statements of subsidiaries whose operating currency deviates from that of the Group, as well as effects arising from foreign currency conversions of assets and liabilities held in foreign currencies in the total sum of 692 thousand euros (prior year: minus 8,016 thousand euros). The applicable deferred taxes changed in the sum of minus 258 thousand euros (prior year: 483 thousand euros).

Actuarial gains arising from the valuation of pensions are recognized in the sum of 599 thousand euros (prior year: 1,156 thousand euros). The resultant deferred taxes totaled minus 88 thousand euros (prior year minus 298 thousand euros).

In the 2018 fiscal year the change in deferred taxes recognized outside of profit or loss led to an increase in the reserves in the total sum of 1,073 thousand euros (prior year: reduced by 1,173 thousand euros). The amount of deferred tax assets in equity totaled 5,861 thousand euros (prior year: 4,788 thousand euros).

Treasury shares

On the basis of a resolution passed by the Annual General Meeting on June 5, 2018, the Executive Board is authorized up to June 4, 2023 to purchase treasury no-par value shares not exceeding a proportion of ten percent of the nominal capital existing at the time the resolution is adopted or – if this amount is lower – of the nominal capital existing at the time use is made of this authorization for purposes other than trading in treasury shares. The purchased treasury shares together with treasury shares that the entity had already purchased and still holds (including the attributable shares in accordance with §§ 71a et seq. AktG) may not exceed 10 percent of the share capital of the entity. The authorization may be exercised in whole or in part, on a one-off or repeat basis and for one or more authorized purposes. The purchase and sale of treasury shares may be exercised by the entity or, for specific authorized purposes, also by dependent companies, by companies in which the entity holds a majority interest, or by third parties for its or their account. At the decision of the Executive Board, acquisition is by purchase, subject to compliance with the principle of equal treatment (§ 53a of the AktG), on the stock exchange or by means of a public offering or a public invitation to the shareholders to submit an offer for sale. Further details regarding the buyback of treasury shares are described in the invitation under agenda item 9 to the Annual General Meeting 2018, accessible to the general public, on our website at www.jenoptik.de under the heading Annual General Meeting.

5.17 Non-controlling interests

This balance sheet item contains reconciliation items for shares of non-controlling shareholders in the capital to be consolidated, arising from the capital consolidation, as well as the profits and losses allocated to them.

As a result of the acquisition of shares of non-controlling shareholders, the amounts attributable to the acquired shares were reclassified as retained earnings in the fiscal year 2018.

5.18 Provisions for pensions and similar obligations

Provisions for pension obligations are set aside on the basis of pension plans for retirement, disability and survivor benefit commitments and exist in Germany and Switzerland. The benefits provided by the Group vary according to the legal, tax, and economic circumstances of the respective country and, as a rule, depend on the duration of employment and on the remuneration of the employee on commencement of retirement. The existing pension plans in Germany are closed, with the exception of the reinsured group provident fund. Within the Group, the occupational pension provision is provided both on the basis of defined contribution as well as defined benefit plans. In the case of defined contribution plans, the company pays contributions in accordance with statutory or contractual provisions, or voluntarily makes contributions to public or private pension insurers. Upon payment of the contributions, the company has no further benefit obligations.

Defined benefit plans

Most retirement schemes are based on defined benefit plans, wherein a distinction is made between pension schemes financed through provisions or externally financed pension schemes.

The company is exposed to various risks in conjunction with defined benefit plans. Along with general actuarial risks such as longevity risks and the risk of changes in interest rates, the company is exposed to foreign currency exchange as well as investment risks.

Pension plans in the form of a reinsured group provident fund were treated as defined benefit plans for the first time in 2017 due to the ongoing low interest rate phase and the associated claim risk arising from the subsidiary liability. In 2018, the determination of the existing risk was revised to the existing earned portion, resulting in a decrease in the obligation as well as the plan assets.

In accordance with IAS 19, pension provisions for the benefit commitments are determined in accordance with the projected unit credit method. In this context, the future obligations are valued on the basis of benefit claims acquired pro rata as of the balance sheet date, taking into account trend assumptions for the valuation parameters which affect the level of benefits. All benefit schemes require actuarial calculations.

Jenoptik determines the net interest expense (net interest income) by multiplying the net liability (net asset) at the commencement of the period by the underlying interest rate on commencement of the period, discounting the benefit-oriented gross pension obligation.

The actuarial effects cover, on the one side, the actuarial profits and losses arising from the valuation of the benefit-oriented gross pension obligation and on the other, the difference between the actual yield realized on plan assets and the typical yield assumed on commencement of the period.

In deviation from the previous year, pensioners in Switzerland will no longer be included in the determination of defined benefit plans as there will be no further claims against the company from the date they retire. The resulting effects on the pension obligations and plan assets were recognized in other comprehensive income in 2018.

The benefit commitment of the Group cover 1,167 entitled persons, including 482 active employees, 158 former employees, as well as 527 retirees and survivors.

In compliance with IAS 19, the assets held by the Mitarbeitertreuhand e. V., Jena, are offset as plan assets against pension obligations. The pension obligations of JENOPTIK Industrial Metrology Switzerland SA, JENOPTIK Advanced Systems GmbH and the commitments via the group provident fund are also covered by means of plan assets and are accordingly shown as a net amount. These plan assets are primarily managed by AXA Lebensversicherung AG and AXA Winterthur, Switzerland.

The change in the defined benefit obligations (DBO) is shown as follows:

in thousand euros	2018	2017
DBO at 1/1	**83,122**	**68,762**
Foreign currency exchange effects	443	−1,029
Current service cost	582	956
Contributions to the pension plans	133	133
Thereof by employees	133	133
Interest expenses	927	860
Actuarial gains (-) and losses (+)	−5,076	−74
Experience-based gains and losses	−4,833	−410
Changes from demographic assumptions	728	0
Changes from financial assumptions	−971	336
Transfers	0	256
Other changes	−3,856	15,792
Pension payments	−2,631	−2,533
DBO at 31/12	**73,644**	**83,122**

Experience-based gains and losses result in particular from the change regarding the inclusion of retirees in Switzerland.

Changes based on demographic assumptions are derived from the initial application of modified mortality tables for the existing pension obligations in Germany (Heubeck 2018 G).

The other changes relate to the reduction in the obligations arising from the reinsured provident fund; this reduction is also offset by a reduction in plan assets.

The effects of the expense recognized in the statement of income are summarized as follows:

in thousand euros	2018	2017
Current service costs	582	956
Net interest expenses	538	502
Total expenses	**1,120**	**1,458**

The amounts shown above are generally included in the personnel expenses of the functional areas. The interest charged on the obligation as well as the interest received on plan assets is recorded in the interest result.

Changes in plan assets are shown as follows:

in thousand euros	2018	2017
Plan assets at 1/1	**46,055**	**31,134**
Foreign currency exchange effects	296	−700
Interest income from plan assets	390	358
Return on plan assets less interest income	−4,572	1,354
Contributions	267	266
Employers	133	133
Employees	133	133
Transfers	0	256
Administrative expenses	−16	0
Other changes	−3,826	15,517
Pension payments	−2,290	−2,130
Plan assets at 31/12	**36,304**	**46,055**

The result of the plan assets includes the effects arising from the exclusion of the pensioners in Switzerland. The adjustment to the risk assessment arising from the reinsured provident fund is shown as other change.

The net obligation as of the balance sheet date is as follows:

in thousand euros	2018	2017
Present value of the obligation covered by plan assets	68,458	77,600
Plan assets	−36,304	−46,055
Net liability of the obligation covered by plan assets	32,154	31,545
Net liability of the obligation not covered by plan assets	5,186	5,521
Total	**37,339**	**37,066**

The portfolio structure of the plan assets is shown as follows:

in thousand euros	2018	2017
Loans rendered (loans and receivables)	2,930	4,407
Insurance contracts	16,981	24,536
Stocks and other securities	7,475	5,472
Investments	6,226	6,426
Cash equivalents	4,572	6,943
Other assets and liabilities	−1,880	−1,728
Total	**36,304**	**46,055**

There is an active market for the stocks and other securities held in plan assets.

Insurance contracts in the sum of 11,962 thousand euros relate to pension insurance policies with AXA Lebensversicherung AG. The insurance company’s investments were mainly in equities and investment assets, debenture loans and fixed-interest bearing securities. There are also existing insurance contracts in the sum of 4,267 thousand euros as a result of the pension plan of AXA Fondation LPP (Switzerland).

Other liabilities relate to repatriation obligations due to pension payments made in 2018 from the plan assets to JENOPTIK AG. The actuarial assumptions are shown in the table below. Where applicable, the above-mentioned assumptions allow for anticipated inflation.

in percent	2018	2017
Discount rate		
Germany	1.71	1.68
Switzerland	0.75	0.66
Expected salary increases		
Germany	2.75	2.67
Switzerland	1.75	0.35
Expected pension increases		
Germany	1.67	1.59
Switzerland	0	1.00

The discounting factor was applied accordingly to the yield from the plan assets in the fiscal year 2018 for calculating the DBO for the prior year at 390 thousand euros (prior year: 358 thousand euros). The actual yield from the plan assets was minus 4,182 thousand euros (prior year: 1,712 thousand euros) and includes in particular the effects arising from the change in the presentation of the pensioners in Switzerland.

A change in the key actuarial assumptions as of the balance sheet would influence the DBO as follows:

	Change in the DBO	
in thousand euros	Increase	Reduction
Discount rate – change by 0.5 percentage points	−8,552 (−6,763)	9,269 (6,026)
Expected salary increases – change by 1.0 percentage points	226 (162)	−229 (−69)
Expected pension increases – change by 1.0 percentage points	8,065 (8,642)	−5,818 (−7,217)

The figures in brackets relate to the prior year.

The sensitivity analysis shows the change in a DBO in the event of a change in an assumption. Since the changes do not have a straight-line effect on the calculation of DBO due to actuarial effects, the cumulative change in the DBO resulting from changes in a number of assumptions cannot be directly determined.

Actuarial gains or losses are the result of changes in pension beneficiaries and deviations from actual trends (e.g. increases in income or pensions) vis-á-vis calculation assumptions. In accordance with the regulations stated in IAS 19, this amount is offset against other comprehensive income in equity.

As of December 31, 2018, the weighted average remaining service period was 8 years and the weighted average remaining maturity of the obligation was 16 years.

The financing of the pension plans of JENOPTIK Advanced Systems GmbH, Wedel and JENOPTIK SSC GmbH, Jena, is performed by using a CTA model. The pension plan of JENOPTIK Industrial Metrology Switzerland SA provides for risk participation by the beneficiaries on transition to retirement. In this context, the pension plan is financed by contributions from both the employer and the employees.

The anticipated pension payments arising from the pension plans as of December 31, 2018 for the following fiscal year amount to 2,514 thousand euros (prior year: 2,579 thousand euros) and for the subsequent four fiscal years to a total of 12,191 thousand euros (prior year: 12,818 thousand euros).

Defined contribution plans

Within the framework of the defined contribution plans, expenses for 2018 totaled 19,512 thousand euros (prior year: 18,075 thousand euros), this figure including contributions to statutory pension insurance providers in the sum of 14,986 thousand euros (prior year: 13,893 thousand euros).

5.19 Tax provisions

in thousand euros	31/12/2018	31/12/2017
Provisions for income taxes	8,764	8,870
Provisions for other taxes	236	67
Total	**9,000**	**8,938**

Details on income tax expenses are provided in Note 4.11 from page 163.

5.20 Other provisions

The development of other provisions is as follows:

in thousand euros	Balance at 1/1/2018	Foreign currency exchange effects	Changes in the group of entities consolidated	Additions	Compound interest	Utilization	Reversals	Balance at 31/12/2018
Personnel	28,221	−20	1,192	25,178	37	−19,245	−2,363	33,001
Guarantee and warranty obligations	20,922	1	81	15,377	35	−5,836	−1,246	29,334
Trademark and license fees	3,261	0	0	0	0	0	−2,204	1,057
Onerous contracts	1,599	138	71	309	0	−1,010	−103	1,004
Price adjustments	1,423	0	0	375	39	0	−439	1,398
Restructuring	137	0	0	0	0	0	−137	0
Others	11,595	−1,686	24	3,008	113	−2,497	−1,365	9,192
Total	**67,159**	**−1,567**	**1,368**	**44,247**	**223**	**−28,588**	**−7,858**	**74,985**

Key items in the personnel provisions relate to performance bonuses, profit sharing, and similar commitments, as well as to the share-based payments for the Executive Board and some senior management personnel. Personnel provisions also include anniversary of service payments in the sum of 2,826 thousand euros (prior year: 2,627 thousand euros) and partial retirement obligations in the sum of 2,372 thousand euros (prior year: 1,286 thousand euros). Actuarial expert opinions were obtained for the partial retirement obligations with the assumption of income increasing by 2.8 percent (prior year: 2.7 percent). The amount of the liability for top-up payments already earned as of December 31, 2018 was 828 thousand euros (prior year: 609 thousand euros).

The provision for guarantee and warranty obligations include expenses for individual guaranty cases as well as for general guarantees. The calculation of the provision for general guarantee risks was based on empirical values which were determined as a guarantee cost ratio of revenue on a company or product group-specific basis and applied to revenues which are liable to guarantees. The amounts that were reversed in the 2018 fiscal year chiefly comprise guarantee and warranty provisions for specific individual cases for which the underlying obligations no longer existed.

The provision for trademark and license fees relate to risks in connection with potential patent infringement as well as license cost risks. The reversal resulted from the latest findings and the fact that on the basis of time passed the risk of a patent infringement action being filed was only considered to be low.

The provision for pending losses mainly included the liability overhang for individual customer projects. The utilization resulted mainly from a customer-specific project of the Mobility segment.

Provisions for price adjustments exist for customer contracts that were subject to the risk of subsequent changes in selling prices. Additions and reversals were made to revenue.

Other provisions included, amongst others, provisions for claims for damages. With the introduction of IFRS 15, the provisions for possible contractual penalties arising from customer orders were shown as contractual liabilities with effect from the 2018 fiscal year. Other provisions also included numerous identifiable specific risks as well as contingent liabilities, accounted for in the amount of the best possible estimate of the settlement sum. Additions in the 2018 fiscal year included, among other things, the Supervisory Board remuneration as well as expenses arising from decommissioning obligations.

The anticipated claims by maturity are shown below:

in thousand euros	up to 1 year	1 – 5 years	more than 5 years	2018
Personnel	25,729	5,540	1,731	33,001
Guarantee and warranty obligations	24,711	4,623	0	29,334
Trademark and license fees	1,048	9	0	1,057
Onerous contracts	660	344	0	1,004
Price adjustments	499	899	0	1,398
Others	6,059	1,534	1,598	9,192
Total	**58,706**	**12,949**	**3,329**	**74,985**

5.21 Share-based payments

As of December 31, 2018, the Jenoptik Group had at its disposal share-based payment instruments in the form of virtual shares for both active Executive Board members and some senior management personnel. In this context, a distinction must be drawn between Long Term Incentives of the Executive Board remuneration system that was applicable for Dr. Michael Mertin up to his date of departure and for Hans-Dieter Schumacher up to the end of 2017 and the remuneration system for some senior management personnel ("LTI") as well as the Performance Shares in accordance with the new Executive Board remuneration system.

The effect of the share-based payment on the statement of income as well as the statement of financial position in the 2018 fiscal year was as follows:

	Profit or loss		Statement of financial position	
in thousand euros	2018	2017	2018	2017
Virtual shares for the current year	−398	−646	398	646
Virtual shares for prior years	−1,184	−902	3,492	1,972
Total	**−1,582**	**−1,547**	**3,890**	**2,617**

The valuation basis used for determining the fair value of the LTI is the daily and volume-weighted, average share price of JENOPTIK AG over the last twelve months. The fair value of the performance shares is determined on the basis of a arbitrage-free valuation according to the Black/Scholes option pricing model.

Payment for the virtual shares granted to the Executive Board is generally made at the end of their four-year, contractually-defined term. However, this only applies to the performance shares if multi-year targets have been achieved on completion of the term. In the event of the departure of a member of the Executive Board before the end of the term, the LTI is paid out early in cash. In the event of departure, performance shares will also only be valued, allocated, and then paid out at the end of the respective performance period, depending on whether the targets have been achieved. In the 1st quarter of the fiscal year 2018 Performance Shares in a total of 24,854 units were allocated provisionally to the members of the Executive Board. The virtual shares allocated for the members of the Executive Board for fiscal years 2015 to 2018 were valued at the fair value as of the 2018 balance sheet date and recognized in provisions.

The development of the Executive Board's virtual shares is shown in the following tables:

in units	Number for 2018	Number for 2017
Dr. Stefan Traeger (Chairman of the Executive Board since May 1, 2017)		
1/1	11,284	0
Granted for period	14,202	11,284
31/12	25,486	11,284
Hans-Dieter Schumacher		
1/1	55,038	39,794
Granted for period	10,652	14,819
Granted for protection of existing shares in case of dividend payment	476	425
31/12	66,166	55,038
Dr. Michael Mertin (Chairman of the Executive Board up to April 30, 2017)		
1/1	0	283,154
Paid out	0	283,154
31/12	0	0

The expenses arising from share-based payments, recognized in fiscal year 2018 and apportioned to Dr. Stefan Traeger totaled 110 thousand euros (prior year: 292 thousand euros) and to Hans-Dieter Schumacher 567 thousand euros (prior year: 738 thousand euros).

For all further disclosures, we refer to the Remuneration Report in the section Corporate Governance which forms part of the Combined Management Report.

Virtual shares are also granted to some members of the top management. The number of virtual shares is usually determined on the basis of target achievement as well as on the volume-weighted average closing price of the Jenoptik share in the 4th quarter of the calendar year before the last. Payment is made at the end of the fourth subsequent year after allocation, based on the volume-weighted average closing price of the Jenoptik share in the full fourth subsequent year. In the event of an exit before the end of the term, the virtual shares may be forfeited, depending on the reasons for the departure.

The development of these virtual shares is shown in the following table:

in units	Number for 2018	Number for 2017
Members of the Executive Management Committee		
1/1	83,073	109,726
Granted for period	12,073	15,967
Granted for adjusted achievement of prior year's goals	−1,072	−644
Forfeited rights	0	−7,953
Paid out	−18,240	−34,023
31/12	75,834	83,073

5.22 Financial debt

The maturity periods for the financial debt are shown in the table below:

in thousand euros	Up to 1 year	1 to 5 years	Total
Liabilities to banks	9,294 (19,157)	108,227 (107,883)	117,521 (127,040)
Liabilities from finance leases	829 (180)	3,178 (690)	4,007 (871)
Total	**10,123** **(19,337)**	**111,405** **(108,573)**	**121,528** **(127,910)**

The figures in brackets relate to the prior year.

The liabilities to banks up to a term of one year mainly comprise the utilization of the revolving credit lines of the Chinese subsidiary in the sum of 5,718 thousand euros as well as the repayments, due in 2019, of the loan for financing the investments at the Michigan, USA, site in the sum of 1,747 thousand euros. The current liability to banks reported in the previous year also still includes the tranche of the debenture loan due in 2018.

The liabilities to banks with a term of one to five years include, in particular, further tranches of the debenture loans in the nominal amount of 103,000 thousand euros, as well as the non-current financial debt of JENOPTIK Automotive North America LLC.

As at the balance sheet date, the syndicated loan was utilized for guarantees in the sum of 17,023 thousand euros. Taking into account the other lines of financing not fully utilized as of the balance sheet date 220,179 thousand euros of guaranteed, existing lines of credit were unused.

The liabilities arising from financing leases include, in particular, the financing of technical equipment and machinery.

5.23 Other non-current financial liabilities

in thousand euros	31/12/2018	31/12/2017
Liabilities from acquiring associates	1,234	417
Derivatives	1,360	3
Non-current trade payables	69	0
Total	**2,664**	**420**

Liabilities arising from the acquisition of associated companies include the long-term portion of the conditional purchase price payment agreed as part of the acquisition of OTTO Vision Technology GmbH and OVITEC GmbH. The liability arising from the acquisition of Five Lakes Automation LLC was reclassified into the short-term liabilities in the current fiscal year.

Further disclosures on derivatives are provided in Note 8.2 from page 191.

5.24 Current trade payables

This item includes:

in thousand euros	31/12/2018	31/12/2017
Trade payables towards third parties	60,074	61,523
Trade payables towards unconsolidated associates and joint operations	16	116
Trade payables towards investment companies	11	18
Total	**60,102**	**61,657**

5.25 Other current financial liabilities

This item includes:

in thousand euros	31/12/2018	31/12/2017
Other liabilities towards unconsolidated associates and joint operations	2,127	2,854
Derivatives	1,857	676
Liabilities from acquiring associates	1,140	2,711
Interest payables	679	785
Miscellaneous current financial liabilities	1,779	1,628
Total	**7,582**	**8,654**

Liabilities to unconsolidated associates and joint operations primarily include liabilities to a joint operation in the sum of the non-consolidated portion of 2,124 thousand euros (prior year: 2,845 thousand euros). Standard market interest rates were agreed for liabilities.

In 2018, liabilities arising from the acquisition of associates related to the current portion of the conditional purchase price payment as well as the liabilities arising from the subsequent adjustment in the purchase price for the acquisition of the OTTO Group in the sum of 684 thousand euros. In addition, the acquisition of Five Lakes Automation LLC gave rise to an earn-out liability on the sum of 437 thousand euros (prior year: 2,085 thousand euros). In 2017, the acquisition of the Vysionics Group also gave rise to a liability from an agreed put option for the purchase of the remaining shares.

The item derivative financial instruments is explained in greater detail under Note 8.2 from page 191.

5.26 Contract liabilities

This balance sheet item was reported for the first time in the 2018 fiscal year as a result of the application of IFRS 15 and shows the Group's obligations to transfer goods or services to a customer from which it has received a consideration in return or for which a requested advance is due.

As at January 1, 2018 contract liabilities totaled 30,400 thousand euros, of which 23,420 thousand euros were realized in the fiscal year just past.

The scheduled fulfillment of the contract liabilities as of the balance sheet date December 31, 2018 is shown in the table below:

in thousand euros	31/12/2018
Contract liabilities	**53,273**
Realization within one year	45,314
Realization within more than one year	7,959

The long-term portion essentially includes advances received from customers of the Defense & Civil Systems segment for long-running contracts. There were no significant financing components.

The transaction price for all customer orders that have not yet been completed in full is reported as the order backlog. This shows the following due dates:

in thousand euros	31/12/2018
Transaction price of performance obligations not completely fulfiled	**521,497**
Realization within the next fiscal year	412,806
Realization within the next but one fiscal year	60,817
Realization within later fiscal years	47,874

5.27 Other current, non-financial liabilities

in thousand euros	31/12/2018	31/12/2017
Liabilities to employees	9,779	8,287
Accruals	1,768	2,816
Liabilities from other taxes	4,353	5,387
Liabilities from social security	1,382	1,307
Liabilities to employer's insurance association	1,283	1,065
Liabilities from advance payments received	0	28,169
Miscellaneous current non-financial liabilities	338	222
Total	**18,903**	**47,253**

Liabilities to employees included, amongst others, vacation entitlements and flextime credits.

Liabilities from other taxes essentially comprise liabilities arising from sales tax.

With the introduction of IFRS 15, liabilities from advances received were shown under contract liabilities.

6 Disclosures on Cash Flows

Liquid funds comprise the cash and cash equivalents recognized in the statement of financial position in the sum of 89,255 thousand euros (prior year: 132,310 thousand euros) after taking into account a provision for losses in the sum of 500 thousand euros to cover the debtor default risk. Liquid funds are defined as the sum of cash on hand and demand deposits at banks with a maturity of less than three months.

The statement of cash flows explains the flow of payments, divided between the inflows and outflows of cash from the current business, from investing and financing activities. Changes in the balance sheet items used for preparing the statement of cash flows cannot be directly derived from the statement of financial position because the effects arising from the foreign currency conversion and changes in the group of entities consolidated are non-cash transactions and are therefore eliminated. Cash flows from operating activities are indirectly derived from earnings before tax. Earnings before tax are adjusted for non-cash income and expenses. The cash flow from operating activities is determined by taking into account the changes in working capital, provisions, and other operating balance sheet items.

The cash flows from current operating activities in the fiscal year just past totaled 135,490 thousand euros (prior year: 96,347 thousand euros). The main reason for the change to the prior year were the reduced payments in the working capital as well as the improved operating profit.

Cash flows from investing activities totaled minus 117,527 thousand euros (prior year: minus 42,164 thousand euros), characterized primarily in fiscal year 2018 by corporate acquisitions. These mainly include the acquisitions of Prodomax at 74,936 thousand euros and OTTO Vision Technology GmbH as well as OVITEC GmbH at 4,299 thousand euros. These values correspond to the purchase price payments minus acquired cash on hand. The conditional purchase price payment within the framework of the acquisition of Five Lakes Automation LLC, also influenced the cash flow in the sum 2,165 thousand euros. For details on the corporate acquisitions we refer to the section Entities acquired and sold from page 148 on.

In addition, capital expenditure for property, plant, and equipment in the sum of 36,564 thousand euros (prior year: 30,340 thousand euros) had a negative impact on the investment cash flow. More detailed information on the investments is provided in the section Earnings, financial and asset position in the Combined Management Report from page 90 on.

In addition, the cash flow for investing activities included net payments from current cash deposits in the sum of 4,140 thousand euros. By contrast, in the prior year net payments to cash deposits in the sum of 14,460 thousand euros had a negative impact on the cash flow.

Cash flows from financing activities amounted to minus 60,896 thousand euros (prior year: minus 12,909 thousand euros). The cash outflows arising from the dividends paid increased over the previous year as a result of the higher dividend payment compared with 2017 of 0.30 euros per share (prior year: 0.25 euros per share). The payments from the repayment of bonds and loans in the year under review essentially included the cash outflows arising from the repayment of the tranche of the debenture loans in the sum of 11,000 thousand euros due in 2018, as well as from the repayment of Prodomax's bank loan in the sum of 22,870 thousand euros as part of the acquisition. The change in the group financing included payments from or to associated, unconsolidated companies and investments.

The changes in financial liabilities that will lead to cash flows from financing activities in the future, are shown in the following table:

			Non cash-effective change				
in thousand euros	Balance at 1/1/2018	Cash-effective change	Foreign currency exchange effects	Addition	Change in the fair value	Change in maturity	**Balance at 31/12**
Non-current financial debt	108,573	−16,193	216	21,490	208	−2,888	111,405
	(120,479)	(413)	(−966)	(723)	(222)	(−12,298)	(108,573)
Non-current liabilities to banks	107,883	−16,193	217	18,349	208	−2,237	108,227
	(120,434)	(475)	(−961)	(0)	(222)	(−12,287)	(107,883)
Non-current liabilities arising from finance leases	690	0	−2	3,141	0	−652	3,178
	(45)	(−62)	(−5)	(723)	(0)	(−11)	(690)
Current financial debt	19,337	−19,909	16	7,791	0	2,888	10,123
	(4,129)	(3,181)	(−454)	(182)	(0)	(12,298)	(19,337)
Current liabilities to banks	19,157	−19,200	17	7,083	0	2,237	9,294
	(4,088)	(3,236)	(−454)	(0)	(0)	(12,287)	(19,157)
Current liabilities arising from finance leases	180	−709	−1	708	0	652	829
	(41)	(−54)	(0)	(182)	(0)	(11)	(180)
Total	**127,910**	**−36,102**	**232**	**29,281**	**208**	**0**	**121,528**
	(124,608)	**(3,595)**	**(−1,420)**	**(905)**	**(222)**	**(0)**	**(127,910)**

The figures in brackets relate to the prior year.

The non cash-effective additions include additions from changes in the group of entities consolidated in the sum of 25,432 thousand euros (prior year: 0 thousand euros).

Information regarding the allocation of free cash flows to the segments is provided in the Segment Report from page 103.

The total amounts for cash flows from operating, investing and financing activities of the proportionately consolidated joint operation are of minor significance for Jenoptik.

Additional information on the consolidated statement of cash flows is provided in the Combined Management Report in the section Financial Position.

7 Disclosure on Segment Reporting

The segments are shown in accordance with the regulations laid down in IFRS 8 "Operating segments".

IFRS 8 follows the management approach. Accordingly, the external reporting is carried out for the attention of the chief operating decision makers on the basis of the internal group organizational and management structures as well as the internal reporting structure. The Executive Board analyzes the financial information using the key performance indicators which serve as a basis for decisions on allocating resources and assessing performance. The accounting policies and principles for the segments are the same as those described for Group in the basic accounting principles.

Since 2016, Jenoptik has been reporting on the Optics & Life Science, Mobility as well as Defense & Civil Systems segments. The mechatronics business of the Defense & Civil Systems division has been presented under the new VINCORION brand since autumn 2018. In the future the product offering and the expertise in the aviation, security and defense and rail markets will be combined under this brand. In addition, a strategic realignment was carried out in 2018 which will now cluster the business segments into three divisions from the 2019 fiscal year: "Light & Optics" (OEM business), "Light & Production" (industrial customer business) and "Light & Safety" (business with public sector contractors).

More information on the applicable organizational structure of the Jenoptik Group and the realignment with effect from 2019, is provided in the Combined Management Report in the section General Group Information from page 70.

The Optics & Life Science segment pools the activities in the Healthcare & Industry and Optical Systems businesses. In this field Jenoptik is one the few development and production partners worldwide for optical and micro-optic systems and precision components used in the semiconductor equipment industry, in IT and communication technologies, and for security and defense technology. In addition, the segment develops and manufactures specific system and application solutions for customers worldwide in the medical technology and life sciences sectors. It also offers industry high-performance opto-electronic components and modules as well as integrated solutions for laser, automotive and lighting applications.

The Mobility segment pools the activities in the automotive and traffic safety markets. Mobility and infrastructure are closely interlinked mega trends of the future. The components and system solutions of this segment increase the efficiency of products and production processes in the automotive market. In addition, the traffic flows in the global economic centers are daily becoming more complex. The solutions provided by the segment ensure that traffic infrastructure in the future will not only remain manageable but also become safer.

The Defense & Civil Systems segment develops, manufactures and markets mechatronic and sensor products for civilian and military markets. Its portfolio ranges from individual assemblies for customers to integrate in their systems, through to turnkey solutions and end products.

The activities of the holding company, the Shared Service Center and real estate management are summarized under Other.

The "Consolidation" column comprises the business relationships to be consolidated between the segments as well as the required reconciliations.

The business relationships between the entities of the Jenoptik Group segments are fundamentally based on prices that are also agreed with third parties.

Revenue in excess of 10 percent of the total revenue of the Jenoptik Group was generated with one customer of the Optics & Life Science segment (92,158 thousand euros). There were no
customer relationships with individual customers whose share of revenue is significant when measured against group revenue.

The analysis of revenue by region is conducted according to the country in which the customer has its legal seat.

7.1 Segment Report

in thousand euros	Optics & Life Science	Mobility	Defense & Civil Systems	Other	Consolidation	Group
Revenue	290,006 (259,379)	327,789 (270,072)	218,582 (219,319)	48,475 (36,454)	−50,281 (−37,296)	834,571 (747,929)
of which intra-group revenue	4,837 (4,298)	144 (48)	526 (164)	44,774 (32,787)	−50,281 (−37,296)	0 (0)
of which external revenue	285,169 (255,082)	327,644 (270,024)	218,056 (219,155)	3,701 (3,667)	0 (0)	834,571 (747,929)
Germany	56,251 (50,109)	96,720 (75,406)	83,970 (93,700)	3,541 (3,414)	0 (0)	240,483 (222,629)
Europe	107,142 (97,093)	71,360 (67,822)	66,196 (47,337)	0 (0)	0 (0)	244,698 (212,252)
of which Great Britain	2,239 (3,013)	15,713 (24,605)	16,123 (8,373)	0 (0)	0 (0)	34,075 (35,991)
of which the Netherlands	91,063 (81,173)	3,039 (3,355)	3,104 (2,847)	0 (0)	0 (0)	97,206 (87,375)
Americas	60,730 (48,161)	91,885 (65,535)	55,133 (59,927)	1 (2)	0 (0)	207,748 (173,625)
of which the USA	57,450 (46,815)	58,304 (49,728)	54,504 (58,558)	0 (0)	0 (0)	170,259 (155,100)
of which Canada	3,260 (1,322)	17,023 (7,881)	626 (1,367)	0 (0)	0 (0)	20,910 (10,570)
Middle East/Africa	15,149 (12,048)	17,578 (6,257)	8,088 (9,812)	0 (0)	0 (0)	40,815 (28,117)
Asia / Pacific	45,897 (47,671)	50,101 (55,004)	4,669 (8,379)	158 (251)	0 (0)	100,826 (111,304)
of which China	12,314 (9,507)	28,849 (28,414)	1,147 (808)	0 (0)	0 (0)	42,309 (38,729)
of which Singapore	23,169 (21,217)	470 (548)	326 (478)	0 (104)	0 (0)	23,966 (22,347)
EBITDA	69,943 (58,704)	40,529 (27,875)	24,374 (23,849)	−7,277 (−3,486)	−22 (2)	127,548 (106,944)
EBIT	62,317 (50,486)	27,696 (18,537)	20,110 (19,162)	−15,199 (−10,149)	−15 (9)	94,910 (78,044)
Research and development expenses	−15,736 (−13,449)	−17,492 (−16,391)	−14,201 (−12,577)	−252 (−713)	239 (51)	−47,443 (−43,078)
Free cash flow (before income taxes)	52,728 (47,471)	45,544 (10,125)	25,500 (22,281)	−14,054 (17,834)	−1,442 (−25,473)	108,276 (72,238)
Working capital	64,139 (55,808)	69,931 (68,915)	86,775 (96,179)	−4,155 (−6,035)	119 (−98)	216,810 (214,769)
Order intake	350,792 (295,460)	319,334 (303,655)	203,513 (206,175)	48,751 (36,350)	−48,667 (−38,738)	873,723 (802,902)
Frame contracts	11,849 (11,128)	19,203 (30,150)	31,417 (46,334)	0 (0)	0 (0)	62,468 (87,612)
Assets	208,455 (181,248)	358,410 (241,019)	177,066 (179,056)	843,755 (779,719)	−601,777 (−491,916)	985,908 (889,126)
Liabilities	75,625 (53,913)	269,854 (183,062)	123,607 (125,838)	171,227 (174,647)	−252,356 (−178,265)	387,957 (359,194)
Additions to intangible assets, property, plant, and equipment and investment property	16,446 (11,276)	13,780 (17,480)	5,655 (4,488)	6,636 (4,658)	0 (0)	42,516 (37,902)

in thousand euros	Optics & Life Science	Mobility	Defense & Civil Systems	Other	Consolidation	Group
Scheduled depreciation/amortization	−7,661	−11,670	−4,265	−6,982	7	−30,569
	(−7,996)	(−9,338)	(−4,688)	(−6,664)	(7)	(−28,678)
Impairment losses	0	−1,195	0	−941	0	−2,136
	(−248)	(0)	(0)	(0)	(0)	(−248)
Number of employees on average excluding trainees	1,163	1,359	855	337	0	3,714
	(1,097)	(1,259)	(837)	(307)	(0)	(3,500)

EBITDA = Earnings before interest, taxes, depreciation and amortization
EBIT = Earnings before interest and taxes
The figures in brackets relate to the prior year.

7.2 Non-current assets by regions

in thousand euros	31/12/2018	31/12/2017
Group	396,560	290,597
Germany	214,996	194,752
Europe	48,773	45,520
thereof Great Britain	43,187	42,425
Americas	126,073	43,202
thereof USA	43,446	43,202
thereof Canada	82,628	0
Asia/Pacific	6,718	7,123

Non-current assets comprise intangible assets, property, plant, and equipment, investment property, as well as non-current non-financial assets. The assets are allocated to the individual regions according to the countries in which the consolidated entities have their legal seat.

8 Other Disclosures

8.1 Capital management

The aim of Jenoptik's capital management is to maintain a strong capital base in order to retain the trust of the shareholders, creditors and capital markets, as well as to ensure the sustained, successful development of the company. The Executive Board monitors in particular the equity ratio and the net debt as part of the regular management reporting. In the event of significant deteriorations in the parameters, alternative courses of action are worked out and the corresponding measures implemented.

As of December 31, 2018, Jenoptik Group has concluded a syndicated loan in the sum of 230,000 thousand euros and several debenture loans in the total amount of 103,000 thousand euros as material financing contracts. Further details can be found in the Notes under item 8.2.3 Liquidity risk (see page 194 f.). For the existing debenture loans, no agreement was reached on compliance with certain financial ratios. In the case of the syndicated loan, compliance with certain ratios with regard to gearing (gross financial debt to equity) and equity was agreed. These financial ratios were complied with at all times in the 2018 fiscal year.

8.2 Financial instruments

General

Within the framework of its operating activities, the Jenoptik Group is exposed to credit, default, liquidity and market risks. The market risks include in particular risks of fluctuations in interest rates and foreign currency exchange rates.

Detailed information on the risk management and control of risks is shown in the Combined Management Report in section Risk and Opportunity Report (see page 113). Additional information on capital management disclosures is provided in the Economic Report in the chapter Financial Position (see page 96).

The risks described above impact on the financial assets and liabilities which are shown below.

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Financial assets:

in thousand euros	Valuation category in accordance with IFRS 9 resp. IAS 39 [1]	Carrying amounts 31/12/2018	Valuation in statement of financial position in accordance with IFRS 9 resp. IAS 39: Amortized acquisition costs	Fair value – through other comprehensive income	Fair value – through profit or loss	Valuation in accordance with IAS 17
Financial investments						
Current cash deposits	AC	59,476 (64,169)	59,476 (64,169)			
Shares in unconsolidated associates and investments	FVTOCI	1,569 (2,812)		1,569 (2,812)		
Shares in entities which are subject to the equity valuation	AC	5,191 (0)	5,191 (0)			
Available-for-sale financial assets	AC	0 (867)	0 (867)			
Loans granted	AC	10 (730)	10 (730)			
Financial assets to be held to maturity	AC	0 (408)	0 (408)			
Trade receivables	AC	131,198 (136,017)	131,198 (136,017)			
Other financial assets						
Receivables from finance leases	–	0 (340)				0 (340)
Derivatives with hedging relations						
Forward exchange transactions/ currency swaps	–	128 (2,962)		128 (2,962)		
Derivatives without hedging relations						
Interest and currency swap	FVTPL	101 (225)			101 (225)	
Forward exchange transactions/ currency swaps	FVTPL	1,770 (1,778)			1,770 (1,778)	
Other financial assets	AC	5,460 (2,322)	5,460 (2,322)			
Cash and cash equivalents	AC	89,255 (132,310)	89,255 (132,310)			
Total		**294,158** **(344,937)**	**290,590** **(336,821)**	**1,697** **(5,773)**	**1,871** **(2,003)**	**0** **(340)**

The figures in brackets relate to the prior year.
[1] AC = Amortized acquisition costs
FVTPL = Fair value through Profit & Loss
FVTOCI = Fair value through other comprehensive income

Financial liabilities:

in thousand euros	Valuation category in accordance with IFRS 9 resp. IAS 39 [1]	Carrying amounts 31/12/2018	Valuation in statement of financial position in accordance with IFRS 9 resp. IAS 39: Amortized acquisition costs	Fair value – through other comprehensive income	Fair value – through profit or loss	Valuation in accordance with IAS 17
Financial debt						
Liabilities to banks	AC	117,521 (127,040)	117,521 (127,040)			
Liabilities arising from finance leases	–	4,007 (871)				4,007 (871)
Trade payables	AC	62,595 (61,657)	62,595 (61,657)			

in thousand euros	Valuation category in accordance with IFRS 9 resp. IAS 39 [1]	Carrying amounts 31/12/2018	Valuation in statement of financial position in accordance with IFRS 9 resp. IAS 39: Amortized acquisition costs	Fair value – through other comprehensive income	Fair value – through profit or loss	Valuation in accordance with IAS 17
Other financial liabilities						
Contingent liabilities	FVTPL	1,671 (3,128)			1,671 (3,128)	
Derivatives with hedging relations						
Forward exchange transactions/ currency swaps	–	3,169 (486)		3,169 (486)		
Derivatives without hedging relations						
Interest swap	FVTPL	0 (182)			0 (182)	
Interest and currency swap	FVTPL	0 (0)			0 (0)	
Forward exchange transactions/ currency swaps	FVTPL	48 (11)			48 (11)	
Other financial liabilities	AC	5,288 (5,266)	5,288 (5,266)			
Total		**194,300** **(198,642)**	**185,404** **(193,963)**	**3,169** **(486)**	**1,719** **(3,322)**	**4,007** **(871)**

The figures in brackets relate to the prior year.
[1] AC = Amortized acquisition costs
FVTPL = Fair value through Profit & Loss

The classification of the fair values for the financial assets and liabilities is taken from the following overview:

in thousand euros	Carrying amounts 31/12/2018	Level 1	Level 2	Level 3
Shares in unconsolidated associates and investments	1,569 (2,812)	0 (0)	0 (0)	1,569 (2,812)
Available-for-sale financial assets	0 (867)	0 (0)	0 (0)	0 (867)
Derivatives with hedging relations (assets)	128 (2,962)	0 (0)	128 (2,962)	0 (0)
Derivatives without hedging relations (assets)	1,871 (2,003)	0 (0)	1,871 (2,003)	0 (0)
Contingent liabilities	1,671 (3,128)	0 (0)	0 (0)	1,671 (3,128)
Derivatives with hedging relations (liabilities)	3,169 (486)	0 (0)	3,169 (486)	0 (0)
Derivatives without hedging relations (liabilities)	48 (194)	0 (0)	48 (194)	0 (0)

The figures in brackets relate to the prior year.

Fair values which are available as quoted market prices at all times, are allocated to level 1. Fair values determined on the basis of direct or indirect observable parameters are allocated to level 2. Level 3 is based on measurement parameters that are not based upon observable market data.

Fair values of available-for-sale financial assets are determined on the basis of stock exchange prices (level 1), respectively, discounted cash flows (level 3).

The fair values of all derivatives are determined using the generally recognized cash value method. In this context, the future cash flows determined via the agreed forward rate or interest rate are discounted using current market data. The market data used in this context is taken from leading financial information systems, such as, for example, Reuters. If an interpolation of market data is applied, this is done on a straight-line basis.

The fair value of contingent liabilities was measured by taking the expected and discounted payment outflows at the reporting date into consideration.

The development of the financial assets and liabilities which are valued at fair value and assigned to Level 3, can be found in the table below:

in thousand euros	Shares in unconsolidated associates and investments	Available-for-sale financial assets	Contin-gent liabilities
Balance at 1/1/2018	**2,812**	**867**	**3,128**
Change in valuation category according to IFRS 9	0	−867	0
Additions	0	0	1,234
Disposals	0	0	−2,754
Change in the group of entities consolidated	−1,225	0	0
Gains and losses recognized in operating result	0	0	−5
Gains and losses recognized in financial result	0	0	−33
Foreign currency exchange effects	−18	0	100
Balance at 31/12/2018	**1,569**	**0**	**1,671**

The additions are the result of the variable components of the purchase price agreed within the framework of the acquisition of the OTTO Group that were recognized as a liability at the fair value in the sum of 1,234 thousand euros. Payment of these variable purchase price components is due in 2020. For materiality reasons, the figure was not discounted. Disposals in the sum of 2,754 thousand euros are the result of the payment of the first tranche of the variable purchase price components agreed in connection with the acquisition of Five Lakes Automation LLC, as well as from the exercising of the agreed put option for the purchase of the remaining non-controlling interests in the British Vysionics Group.

Credit and default risks

The credit or default risk is the risk of a customer or a contract partner of the Jenoptik Group failing to fulfill its contractual obligations. This results in both the risk of creditworthiness-related impairment losses to financial instruments as well as the risk of a partial or a complete default on contractually agreed payments.

Credit and default risks primarily exist for trade receivables. These risks are countered by active receivables management and, if required, taken into account by creating impairment provisions. In addition, the Jenoptik Group is exposed to credit and default risks for cash and cash equivalents as well as current cash deposits. These risks are taken into account through constant monitoring of the creditworthiness of our business partners based on the analysis of credit ratings and credit default swaps (CDS), as well as through spreading the cash deposits between a number of banks within defined limits. In accordance with IFRS 9, impairments were also applied to cash and cash equivalents as well as to short-term cash deposits for the first time in 2018.

The maximum default risk corresponds to the carrying amount of the financial assets as of the reporting date in the sum of 294,158 thousand euros (prior year: 344,937 thousand euros). For further explanations we refer to Note 8.2 from page 192.

Impairment losses were recorded in the fiscal year for the following financial assets:

in thousand euros	2018	2017
Financial investments	935	763
Trade receivables	3,445	3,308
Other financial assets	0	7
Cash and cash equivalents	132	0
Total	**4,511**	**4,077**

Liquidity risk

The liquidity risk entails the possibility of the Group being unable to meet its financial obligations. In order to ensure our ability to pay as well as our financial flexibility at all times, the lines of credit, and level of utilization as well as the net cash and cash equivalents are planned by means of a five-year financial plan as well as a monthly, rolling 12 week liquidity forecast. The liquidity risk is also limited by effective cash and working capital management.

As of the balance sheet date the liquidity reserves are divided into cash and cash equivalents in the sum of 89,255 thousand euros (prior year: 132,310 thousand euros) and short-term cash deposits in the sum of 59,476 thousand euros (prior year: 64,169 thousand euros). In addition, the Group has a secured and unused line of credit available in the sum of 220,179 thousand euros (prior year: 232,220 thousand euros) which is mainly attributable to a syndicated loan of 230,000 thousand euros agreed up to March 2022 and only a small portion of which has currently been utilized.

	Interest rates	Carrying amounts	Cash outflows			
in thousand euros	(range in %)	31/12/2018	Total	Up to 1 year	1 to 5 years	More than 5 years
Variable interest-bearing liabilities to banks	0.8 – 5.29	32,285	33,193	6,287	26,906	0
	(0.8 – 6.12)	(33,002)	(34,049)	(6,860)	(27,189)	(0)
Fixed interest-bearing liabilities to banks	1.0 – 3.9	85,236	88,217	3,395	84,823	0
	(1.0 – 4.4)	(94,038)	(100,416)	(14,795)	(85,621)	(0)
Fixed interest-bearing liabilities from lease agreements	0.9 – 7.6	3,902	4,109	868	3,230	11
	(0.9 – 7.6)	(871)	(898)	(193)	(705)	(0)
Total		**121,422**	**125,520**	**10,550**	**114,959**	**11**
		(127,910)	**(135,363)**	**(21,848)**	**(113,515)**	**(0)**

The figures in brackets relate to the prior year.

Outstanding debenture loans in the sum of 103,000 thousand euros (prior year: 114,000 thousand euros) will be repaid in the years 2020 resp. 2022.

Cash outflows up to one year mainly include interest and redemption payments from short-term lines of credit for the operational business in China, as well as from the real estate financing conclude in 2016 in the United States. This item also includes interest payments for existing debenture loans.

The cash outflows in the time frame of between one to five years mainly include the repayments of the debenture loans with original terms of five and seven years.

Further details are provided under Note 5.22 on page 185.

Interest rate fluctuation risk

The Jenoptik Group is fundamentally exposed to the risks of changes in interest rates due to fluctuations in market interest rates, for all interest-bearing financial assets and liabilities. In the fiscal year 2018, this essentially related to debenture loans issued in the sum of 103,000 thousand euros (prior year: 114,000 thousand euros) as well as short-term cash deposits in the sum of 59,476 thousand euros (prior year: 64,169 thousand euros), as well as a portion of the cash and cash equivalents in the sum of 89,255 thousand euros (prior year: 132,310 thousand euros) at the respective balance sheet. Despite the current negative interest rate environment for short-term euro cash deposits, the Group has succeed in avoiding negative interests being applied to all interest-bearing financial assets.

	Carrying amounts	
in thousand euros	31/12/2018	31/12/2017
Interest-bearing financial assets	65,623	87,368
Variable interest	21,147	3,946
Fixed interest	44,476	83,421
Interest-bearing financial liabilities	121,422	127,910
Variable interest	32,285	33,002
Fixed interest	89,138	94,909

The constructed gains and losses arising from a change in the market interest rate as of December 31, 2018 within a bandwidth of 100 basis points are shown in the following table:

in thousand euros	31/12/2018	31/12/2017
Increase by 100 basis points		
Interest-bearing financial assets	656	874
Interest-bearing financial liabilities	−1,214	−1,279
Effect on earnings before tax	**−558**	**−405**
Reduction by 100 basis points		
Interest-bearing financial assets	−656	−874
Interest-bearing financial liabilities	1,214	1,279
Effect on earnings before tax	**558**	**405**

As part of the management of interest rate risks, Jenoptik relies on a mix of fixed and variable interest-bearing assets and liabilities, as well as various interest rate hedging transactions. These include for example interest swaps, interest caps and floors, as well as combined interest and currency swaps. After an interest rate swap with a nominal volume of 8,000 thousand euros became due in October 2018, there was only one combined interest rate and currency swap in place as of the balance sheet date of December 31, 2018 with the following structure:

Interest and currency swap	
Nominal amount	CNY 17,980 thousand
Term	March 12, 2015 to March 12, 2025
Fixed interest rate	5.10 percent p. a.
Variable interest rate	6-month Euribor

This hedging transaction is used to secure an intra-group loan for real estate financing in Shanghai (China). The change in its market value of minus 123 thousand euros was recorded through profit or loss in the statement of income.

The following payments are anticipated from this interest rate hedging instruments:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Interest swaps	0 (183)	0 (0)	0 (0)	0 (183)
Interest and currency swap	120 (121)	459 (448)	180 (259)	759 (827)

The figures in brackets relate to the prior year.

Foreign currency exchange risk

Currency risks are divided into two types: conversion risk and transaction risk.

The conversion risk arises from fluctuations caused by changes in exchange rates resulting from the conversion of existing foreign currency financial assets and liabilities into the balance sheet currency. Since this is not associated with any cash flows, no hedging is currently applied.

In connection with the acquisition of Prodomax Automation Ltd. in Canada, JENOPTIK AG issued two intra-group loans. A loan of 93,018 thousand Canadian dollars was issued to Prodomax Automation Ltd. itself. A second loan in the sum of 47,127 thousand USD was issued to its parent company, JENOPTIK North America Inc. Both loans have been declared as a “Net investment in a foreign operation” in accordance with the accounting principles, as no repayment of these loans is expected in the short term. Based on the aforementioned allocation for accounting purposes, the changes in the value of the loan receivables resulting from fluctuating exchange rates at the respective balance sheet dates, are recorded in equity outside of profit or loss. That is also the reason why no hedging was applied.

The transaction risk arise from the fluctuation of cash flows in foreign currencies caused by changes in currency exchange rates. Derivative financial instruments, primarily forward exchange transactions and currency swaps, are used to hedge this risk.

Hedging is provided for significant cash flows in foreign currencies arising from its operational business (revenue). Contractually agreed cash flows are hedged 1:1 via so-called micro-hedges. Planned cash flows are secured proportionally as part of the anticipatory hedging.

JENOPTIK AG also hedges the anticipated cash flows from intra-group loans in foreign currencies which have not been declared as a “Net investment in a foreign operation” (mainly GBP), using derivative financial instruments.

As of the balance sheet date, existing forward exchange transactions and currency swaps totaled a nominal value of 134,762 thousand euros (prior year: 118,621 thousand euros). A so-called cash flow hedge relationship with the respective underlying transaction was documented for the vast majority of these transactions. Where these are proven effective, their changes do not have to be recorded through profit or loss. In order to measure the effectiveness, a prospective, quality-related effectiveness test has been conducted, on the designation date as well as on an ongoing basis, normally as of the balance sheet date, on the basis of the IFRS 9 “Financial instruments” accounting document which has been applicable since January 1, 2018.

Forward exchange transactions and currency swaps are grouped according to sales and purchases in foreign currencies (against the EUR respectively) as follows:

in thousand euros	31/12/2018	31/12/2017
USD sale	111,267	87,893
USD purchase	67	5,776
GBP sale	21,402	22,498
CNY sale	990	103
KRW sale	572	0
JPY sale	465	983
JPY purchase	0	466
AUD sale	0	902
Total foreign currency sales	**134,695**	**112,379**
Total foreign currency purchases	**67**	**6,242**

These forward exchange transactions and currency swaps produce the following market values:

in thousand euros	31/12/2018	31/12/2017
Positive market values		
Derivatives with hedging relations		
non-current	37	50
current	91	2,912
Derivatives without hedging relations		
non-current	1,828	1,907
current	43	97
Total positive market values	**1,999**	**4,965**
Negative market values		
Derivatives with hedging relations		
non-current	1,402	0
current	1,767	486
Derivatives without hedging relations		
non-current	7	3
current	40	191
Total negative market values	**3,217**	**680**

The market values for hedging transactions for intra-group loans are included in the derivatives without hedges as the underlying transaction comprising intra-group receivables and liabilities is deconsolidated. As of the balance sheet date the positive market values of these derivatives totaled 1,745 thousand euros (prior year: 1,778 thousand euros), the negative market values totaled 47 thousand euros (prior year: 11 thousand euros). The overall change led to a loss of 69 thousand euros (prior year: earnings of 553 thousand euros) which was recognized in the financial result through profit or loss.

Cumulative profits and losses in hedged derivatives in the sum of 2,556 thousand euros (prior year: minus 2,204 thousand euros) were recognized in equity outside profit or loss as at December 31, 2018. Of the profits and losses recognized in equity outside profit or loss as at December 31, 2017, in 2018 a reclassification in the sum of minus 1,537 thousand euros (prior year: minus 2,252 thousand euros) was carried out from equity to profit or loss. This type of reclassification is normally associated with the recognition of the underlying transaction (for example recognition of revenue and booking of the corresponding receivable on billing) through profit or loss so that the intended balancing effect of concluding the hedge transaction is seen in the statement of income.

The foreign currency hedging transactions hedge against foreign currency risks in the sum of 70,477 thousand euros with a time frame up to the end of 2019. Foreign currency risks in the sum of 64,151 thousand euros are hedged with a time frame up to the end of 2021.

The main foreign exchange transactions of the Jenoptik Group involve US dollars. The table below shows a breakdown of the USD-based translation and transaction risks, as well as the Group's net risk position:

in thousand euros	31/12/2018	31/12/2017
Financial assets	52,106	20,071
Financial liabilities	2,820	2,005
Translation risk	**49,287**	**18,066**
Planned cash flows	135,023	68,594
Cash flows hedged by derivatives	111,199	82,117
Transaction risk	**23,823**	**−13,523**
Net risk item	**73,110**	**4,543**

The increase in financial assets held in US dollars compared to the prior year is mainly attributable to the cash available from the acquisition of Prodomax Automation Ltd., the increased cash and cash equivalents in US dollars at JENOPTIK AG, as well as to an increase in group-wide trade receivables in US dollars. In addition to international growth, the significant increase in the planned cash flows in US dollars compared to the prior year is attributable to currency-differentiated planning being applied for the first time.

As of the balance sheet date there was a US dollar-based net risk item in the sum of 73,110 thousand euros (prior year: 4,543 thousand euros). A change in the US dollar exchange rate would have the following consequences:

	EUR/USD-rate	Change in the net risk item (in thousand euros)
Reporting date exchange rate 31/12/2018	1.1450 (1.1993)	
Increase by 5 percent	1.2023 (1.2593)	3,481 (216)
Decrease by 5 percent	1.0878 (1.1393)	−3,848 (−239)
Increase by 10 percent	1.2595 (1.3192)	6,646 (413)
Decrease by 10 percent	1,0305 (1.0794)	−8,123 (−505)

The figures in brackets relate to the prior year.

8.3 Contingent liabilities and contingent payables

As at December 31, 2018 there were no longer any guarantees in place (prior year: 4,750 thousand euros). The guarantee obligations in the prior year resulted from a warranty bond for a unconsolidated associated entity in connection with a construction project. Insofar as a claim under the bond was anticipated, corresponding provisions had been set aside.

8.4 Other financial obligations

The financial obligations resulting from rental contracts or lease agreements are shown from page 170.

In addition to the order commitments for intangible assets and property, plant and equipment in the sum of 10,475 thousand euros (prior year: 8,510 thousand euros) there were other financial liabilities in the sum of 108,605 thousand euros (prior year: 102,149 thousand euros), in particular for order commitments for inventories in the sum of 83,454 thousand euros (prior year: 65,996 thousand euros). In addition, the other financial obligations resulted from a service contract for building management services which has been in force for all German Jenoptik sites since April 2018 and has a contract term of four years.

Loan commitments to unconsolidated associated entities in the sum of 154 thousand euros (prior year: 1,147 thousand euros) were not used.

8.5 Legal disputes

JENOPTIK AG and its Group entities are involved in court or arbitration proceedings. Provisions for litigation risks, respectively litigation expenses, were set aside in the appropriate amounts in order to meet any possible financial burdens resulting from any court decisions or arbitration proceedings (see section 5.20 from page 183).

8.6 Related party disclosures in accordance with IAS 24

Related parties are defined in IAS 24 “Related party disclosures” as being entities or persons that have control over or are controlled by the Jenoptik Group to the extent that they have not already been included in the consolidated financial statements as consolidated entities as well as entities or persons that, on the basis of the Articles of Association or by contractual agreements, are able to significantly influence the financial and corporate policies of the management of JENOPTIK AG or participate in the joint management of JENOPTIK AG. Control applies if a shareholder holds more than half of the voting rights in JENOPTIK AG. The largest single shareholder of JENOPTIK AG is Thüringer Industriebeteiligungs GmbH & Co. KG, Erfurt, which directly holds in total 11 percent of the voting rights and thus does not have control over JENOPTIK AG.

Members of the Executive Board and of the Supervisory Board of JENOPTIK AG also qualify as related parties. In the 2018 fiscal year no exchange of goods or of services was transacted between the entity and members of these two bodies.

The breakdown of the total remuneration of the members of the management in key positions (Executive Board and Supervisory Board) is shown in the following table.

in thousand euros	2018	2017
Short-term benefits	2,836	3,126
Post-employment benefits	360	397
Share-based payments	677	1,042
Total	**3,873**	**4,565**

Detailed information on the disclosure of the remuneration of the members of the Executive Board and the Supervisory Board as required by IAS 24.9 has been published in the Remuneration Report as part of the Combined Management Report in the section Corporate Governance on pages 45 ff. as well as in the section Required and Supplementary Disclosures under HGB in the Notes to the Consolidated Financial Statements on pages 201 and 204.

The following table shows the composition of the business relationships with non-consolidated entities and with the joint operation considered to be other related parties.

		Thereof with	
in thousand euros	Total	Unconsolidated entities	Joint operation
Revenue	2,441 (3,500)	1,858 (3,121)	583 (379)
Purchased services	1,355 (1,474)	812 (1,064)	543 (410)
Receivables from operations	453 (179)	432 (175)	21 (4)
Liabilities from operations	2,155 (2,988)	30 (107)	2,125 (2,881)
Loans	10 (730)	10 (730)	0 (0)

The figures in brackets relate to the prior year.

There were no group guarantees to related entities as of December 31, 2018 (prior year: 4,750 thousand euros).

9 Events after the balance sheet date

On March 7, 2019, the JENOPTIK AG Executive Board approved the submission of these Consolidated Financial Statements to the Supervisory Board. The Supervisory Board is responsible for reviewing and approving the Consolidated Financial Statements at its March 20, 2019 meeting.

Dividends. According to the Stock Corporation Act, the amount available for a dividend payment to the shareholders is based on the accumulated profit of the parent company JENOPTIK AG, as determined by the regulations of the HGB. For the 2018 fiscal year, JENOPTIK AG's accumulated profit totaled 118,963,445.04 euros, comprising net profit for the 2018 fiscal year in the sum of 78,963,445.04 euros plus retained profits of 40,000,000.00 euros.

Based on the good annual result for the fiscal year 2018 just past, the Executive Board recommends to the Supervisory Board that for the fiscal year 2018 an increase in the dividend of 17 percent to 0.35 euros per qualifying no-par value share be proposed to the 2019 Annual General Meeting (prior year: 0.30 euros). This means that an amount of 20,033,340.25 euros from JENOPTIK AG's accumulated profit in the 2018 fiscal year will be distributed. From the remaining accumulated profit of JENOPTIK AG an amount of 68,930,104.79 euros is to be allocated to other revenue reserves and an amount of 30,000,000.00 euros will be carried forward to the new account.

No further events of significance occurred after December 31, 2018.

10 Required Disclosures and Supplementary Information under HGB

10.1 Required disclosures in accordance with § 315e and § 264 (3) or § 264b of the HGB

The Consolidated Financial Statements of JENOPTIK AG were prepared in accordance with § 315e of the HGB, exempting an entity from preparing consolidated financial statements under HGB in accordance with the guidelines of the IASB. At the same time, the Consolidated Financial Statements and Combined Management Report are in conformity with the European Union Consolidated Accounts Directive (2013/34/EU). In order to achieve comparability with a set of consolidated financial statements prepared in accordance with the commercial regulations of the HGB, all of the required disclosures and explanations under the HGB as well as any required disclosures above and beyond those needed to be in compliance with IFRS are to be published.

Through having been included in the Consolidated Financial Statements of JENOPTIK AG, the following fully consolidated German associates have made use of the simplification relief measures defined in § 264 (3) or § 264b of the HGB:

- JENOPTIK Advanced Systems GmbH, Altenstadt
- JENOPTIK Automatisierungstechnik GmbH, Jena
- JENOPTIK Diode Lab GmbH, Berlin
- JENOPTIK Industrial Metrology Germany GmbH, Villingen-Schwenningen
- JENOPTIK Laser GmbH, Jena
- JENOPTIK Optical Systems GmbH, Jena
- JENOPTIK Power Systems GmbH, Altenstadt
- JENOPTIK Polymer Systems GmbH, Triptis
- JENOPTIK Robot GmbH, Monheim am Rhein
- JENOPTIK SSC GmbH, Jena
- SAALEAUE Immobilien Verwaltungsgesellschaft mbH & Co. Vermietungs KG, in liquidation, Pullach im Isartal

10.2 Number of employees

The breakdown of the average number of employees is presented in the following table:

	2018	2017
Employees	3,714	3,500
Trainees	103	108
Total	**3,817**	**3,608**

Of whom in the fiscal year 2018, an average of 33 (prior year: 35) employees were employed in the proportionately consolidated entity.

10.3 Cost of materials and personnel expenses

in thousand euros	2018	2017
Cost of materials		
Expenditures for raw materials, consumables and merchandise	276,360	234,158
Expenditures for services purchased	79,729	75,185
Total	**356,089**	**309,343**
Personnel expenses		
Wages and salaries	244,879	228,722
Social security, pension contributions and retirement benefits	33,468	29,554
Total	**278,347**	**258,275**

10.4 Financial statement auditor fees

The fees for the services received rendered by our auditor, as well as by its affiliates and network companies, amounted to:

in thousand euros	2018	2017
Financial statement audit services	911	958
Fees for other services	27	37
Other attestation services	23	23
Tax consulting services	5	7
Total	**965**	**1,025**

The fees for financial statement audit services relate to expenses for the audit of the Consolidated Financial Statements of the Jenoptik Group as well as the statutory annual financial statements of the subsidiaries and joint operations included in the Consolidated Financial Statements. Additional services rendered in connection with enforcement proceedings were included in the prior year.

The other services rendered by the auditor relate in particular to permissible consulting services in matters relating to accounting in accordance with IFRS 16. Other attestation services were rendered as part of the attestation of key financial figures, attestations under the Renewable Energies Act as well as under the European Market Infrastructure Regulation (EMIR) and a verification of an increase in capital for a Swiss subsidiary.

Of the total expenses, financial statement audit services in the sum of 725 thousand euros (prior year: 821 thousand euros), other services in the sum of 27 thousand euros (prior year: 37 thousand euros) and other attestation services in the sum of 20 thousand euros (prior year: 23 thousand euros) were attributable to the auditors of the consolidate financial statements Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Germany.

11 Corporate Governance

11.1 German Corporate Governance Code

In December 2018, the Executive Board and Supervisory Board of JENOPTIK AG submitted a declaration of conformity in accordance with § 161 of the German Stock Corporation Act as required by the recommendations of the Government Commission's German Corporate Governance Code in the version dated February 7, 2017. The declaration is reproduced in the Corporate Governance Report from page 36 and has been made permanently available to shareholders on the JENOPTIK AG website under www.jenoptik.com in the section Investors/Corporate Governance. The declaration can also be viewed in the offices of JENOPTIK AG (Carl-Zeiss-Straße 1, 07743 Jena).

11.2 Executive Board

The following persons were appointed as members of the Executive Board in the 2018 fiscal year:

	weitere Mandate bei:
Dr. Stefan Traeger President & CEO of JENOPTIK AG	JENOPTIK North America, Inc., US (GI; chairman, CCB) JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd; China (GI; chairman, CCB, since April 2018) JENOPTIK (Shanghai) International Trading Co., Ltd., China (GI, member CCB, since December 25, 2018) Prodomax Automation Ltd., Canada (GI, member CCB, since June 2018) JENOPTIK Korea Corp., Ltd., Korea (GI, member CCB, since July 2018) JENOPTIK JAPAN Co. Ltd., Japan (GI, member CCB, since March 2018) TELSTAR-HOMMEL Co., Ltd., Korea (GI, member CCB, since July 2018)
Hans-Dieter Schumacher Member of the Executive Board of JENOPTIK AG	Prodomax Automation Ltd., Canada (GI, member, CCB, since June 2018) JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd; China (GI, member CCB, since April 2018) JENOPTIK (Shanghai) International Trading Co., Ltd., China (GI, member CCB, since December 25, 2018)

Abbreviations: CCB Comparable controlling body, GI – Group internal appointment

The following overview shows the remuneration of the Executive Board for the 2018 fiscal year. In addition to direct or indirect remuneration components earned, this overview includes the fair value of the share-based remuneration instruments (performance shares). A detailed description of the remuneration system can be found in the Remuneration Report on pages 45 of the Combined Management Report in the chapter Corporate Governance.

Fringe benefits consist of contributions to the accident insurance as well as the provision of company cars.

Retirement benefits were paid to former Executive Board members in the sum of 181 thousand euros (prior year: 181 thousand euros). As at the balance sheet date, the pension provisions for former Executive Board members totaled 3,142 thousand euros (prior year: 3,423 thousand euros). The expenses recorded for these existing provisions in the 2018 fiscal year comprised interest costs in the sum of 52 thousand euros (prior year: 51 thousand euros).

In 2018 bridging payments in the sum of 810 thousand euros were paid to the former President and CEO Dr. Michael Mertin.

In the 2018 fiscal year – as in the preceding years – no loans or advances were granted to the members of either the Executive Board or the Supervisory Board. Consequently, there were no loan redemption payments.

	Dr. Stefan Traeger (President & CEO since May 1, 2017)		Hans-Dieter Schumacher (Member of Executive Board)	
in thousand euros	2018	2017	2018	2017
Fixed remuneration	600.0	400.0	437.5	400.0
Variable remuneration	521.7	200.0	347.8	235.3
LTI/performance shares of fiscal year – measured at fair value	324.3	266.7	243.2	235.3
Granted for protection of existing shares	n. a.	n. a.	14.7	9.9
Retirement benefits	200.0	116.7	160.0	160.0
Fringe benefits	15.0	9.8	18.3	13.8
Total remuneration	**1,660.9**	**993.1**	**1,221.5**	**1,054.4**

11.3 Supervisory Board

The following persons were appointed members of the Supervisory Board in the 2018 fiscal year:

	Member of	Other mandates with
Matthias Wierlacher (Chairman) Chairman of the Board of the Thüringer Aufbaubank Appointed in 2012, Chairman since July 2015	• Personnel Committee (Chairman) • Investment Committee (Chairman since March 22, 2018) • Nominations Committee (Chairman) • Mediation Committee (Chairman)	• Mittelständische Beteiligungsgesellschaft Thüringen mbH (SB member) • bm-t beteiligungsmanagement thüringen GmbH (GI, SB chair) • ThüringenForst – Anstalt öffentlichen Rechts – (SB member)
Michael Ebenau[1)] (Vice Chairman) Secretary of the IG Metall Union, District Management Mitte Appointed in 2007	• Personnel Committee • Investment Committee (since March 22, 2018) • Mediation Committee	• Samag Saalfelder Werkzeugmaschinen GmbH (CCB)
Astrid Biesterfeldt[1)] Vice President Business Unit Energy & Drive bei der JENOPTIK Advanced Systems GmbH Appointed in 2014	• Audit Committee	None
Evert Dudok Executive Vice President CIS Airbus Defence & Space Appointed in 2015		• Dornier Consulting International GmbH (GI, SB Chairman up to January 2018) • EURASSPACE Gesellschaft für Raumfahrttechnik mbH (GI, SB Member)
Elke Eckstein Executive Advisor & Board Consultant Appointed in 2017	• Investment Committee (since March 22, 2018)	• Karl Mayer Textilmaschinenfabrik GmbH (CCB) • Enics AG, Switzerland (CCB) • Saferoad SRH Holding AS, Norway (CCB, since October 2018) • Weidmüller S.A., Spain (CCB, GI, until August 31, 2018) • Weidmüller & IZ, proizvodnja prenapetostnih zascit, d.o.o., Slovenia (CCB, GI, until August 31, 2018) • Weidmüller Interface (Shanghai) Co., Ltd., China (CCB, GI, until August 31, 2018) • Weidmüller Interface (Suzhou) Co., Ltd., China (CCB, GI, until August 31, 2018) • Weidmüller Interconnections, LLC., USA (CCB, GI, until August 31, 2018)
Thomas Klippstein[1)] Chairman of the Works Council of Jenoptik Appointed in 1996	• Personnel Committee • Audit Committee	None

	Member of	Other mandates with
Dörthe Knips[1] Production Control employee at JENOPTIK Laser GmbH Appointed in 2017	• Investment Committee (since March 22, 2018)	None
Dieter Kröhn[1] Production planner at JENOPTIK Advanced Systems GmbH Appointed in October 1999 to June 2007, reappointed since December 2010	• Investment Committee (since March 22, 2018) • Mediation Committee	None
Doreen Nowotne Independent corporate management consultant Appointed in 2015	• Audit Committee (Vice Chairman) • Investment Committee (since March 22, 2018)	• Brenntag AG (SB member) • Lufthansa Technik AG (SB member) • Franz Haniel & Cie. GmbH (SB member since April 28, 2018)
Heinrich Reimitz Member of the Management of HPS Holding GmbH, Austria Appointed in 2008	• Audit Committee (Chairman) • Personnel Committee • Nominations Committee	• Ühinenud Farmid AS, Estonia (CCB member)
Stefan Schaumburg[1] Head of the Functional Department and Secretary of the Management Board of the IG Metall Union, Frankfurt Appointed in 2012	• Personnel Committee	• GKN Holdings Deutschland GmbH (SB Vice Chairman; CCB)
Prof. Dr. rer. nat. habil., Master in Physics Andreas Tünnermann Director of the Institute for Applied Physics and university lecturer in applied physics at the Friedrich Schiller University Jena, and Head of the Fraunhofer Institute for Applied Optics and Precision Mechanics, Jena Appointed in 2007	• Personnel Committee • Mediation Committee • Nominations Committee	• Docter Optics SE (CCB member)

[1] Employee representative
Abbreviations: SB – Supervisory Board, CCB – Comparable controlling body, GI – Group internal appointment, Dep. – Deputy

Supervisory Board remuneration

For the 2018 fiscal year the members of the Supervisory Board received the following remuneration in total:

		of which		
in thousand euros	Total earnings	Fixed annual remuneration 2018	Meeting allowances (plus reimbursement of expenses)	Sales tax [1]
Matthias Wierlacher (Chairman)	126.9	116.4	10.5	20.3
Michael Ebenau (Vice Chairman)	91.5	82.0	9.5	14.6
Astrid Biesterfeldt	71.6	59.5	12.1	11.4
Evert Dudok	54.4	47.6	6.8	8.7
Elke Eckstein	60.8	52.2	8.5	9.7
Thomas Klippstein	79.7	65.4	14.3	12.7
Dörthe Knips	60.6	52.2	8.3	9.7
Dieter Kröhn	60.6	52.2	8.3	9.7
Doreen Nowotne	84.8	70.1	14.7	13.5
Heinrich Reimitz	82.1	65.0	17.1	–
Stefan Schaumburg	60.6	53.6	7.0	9.7
Prof. Dr. rer. nat. habil. Andreas Tünnermann	61.7	53.6	8.1	9.8
Total	**895.4**	**769.9**	**125.5**	**129.9**

[1] Included in total remuneration, fixed remuneration and meeting allowances; Mr. Mag. Heinrich Reimitz has a limited tax liability in Germany due to his place of residence being abroad; since his remuneration is subject to a withholding tax in accordance with § 50 a (1) No. 4 of the German Income Tax Act, no sales tax was incurred.

For a more detailed explanation of the Supervisory Board remuneration system we refer to the chapter on Corporate Governance in the Remuneration Report which forms part of the Combined Management Report.

12 List of Shareholdings in the Jenoptik Group as at December 31, 2018 in accordance with § 313 Para 2 HGB

No.	Name and registered office of the entity	Share of Jenoptik or the direct shareholder in %	Equity 31/12/2018 in thousand euros	Result for 2018 in thousand euros
	1.1. Consolidated associates – direct investments			
1	JENOPTIK Robot GmbH, Monheim am Rhein, Germany	100		
2	JENOPTIK Industrial Metrology Germany GmbH, Villingen-Schwenningen, Germany	100		
3	JENOPTIK Automatisierungstechnik GmbH, Jena, Germany	100		
4	JENOPTIK Advanced Systems GmbH, Wedel, Germany	100		
5	JENOPTIK Optical Systems GmbH, Jena, Germany	100		
6	JENOPTIK Laser GmbH, Jena, Germany	100		
7	JENOPTIK Polymer Systems GmbH, Triptis, Germany	100		
8	SAALEAUE Immobilien Verwaltungsgesellschaft mbH & Co. Vermietungs KG, Jena, Germany, i.L. [5]	100		
9	JENOPTIK SSC GmbH, Jena, Germany	100		
10	JENOPTIK North America, Inc., Jupiter (FL), USA	100		
11	JENOPTIK Asia-Pacific Pte. Ltd., Singapore, Singapore	100		
	– indirect shareholdings			
12	JENOPTIK Traffic Solutions Switzerland AG, Uster, Switzerland	100		
13	RADARLUX Radar Systems GmbH, Leverkusen, Germany	100		
14	JENOPTIK ROBOT MALAYSIA SDN BHD, Kuala Lumpur, Malaysia	100		
15	ROBOT Nederland B.V., Riel, Netherlands	100		
16	JENOPTIK Holdings UK Ltd., Milton Keynes, Great Britain	100		
17	Vysionics ITS Holdings Ltd., Milton Keynes, Great Britain	100		
18	JENOPTIK Traffic Solutions UK Ltd., Camberley, Great Britain	100		
19	Computer Recognition Systems Ltd., Milton Keynes, Great Britain	100		
20	Domestic and Commercial Security Ltd., Saltesh, Great Britain	100		
21	JENOPTIK Industrial Metrology Switzerland SA, Peseux, Switzerland	100		
22	JENOPTIK Industrial Metrology France SAS, Bayeux Cedex, France	100		
23	OTTO Vision Technology GmbH, Jena, Germany	100		
24	OVITEC GmbH, Jena, Germany	100		
25	JENOPTIK Power Systems GmbH, Altenstadt, Germany	100		
26	PHOTONIC SENSE GmbH, Eisenach, Germany	100		
27	Asam Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz, Germany	94		
28	JENOPTIK Diode Lab GmbH, Berlin, Germany	100		
29	Traffipax, LLC, Jupiter (FL), USA	100		
30	JENOPTIK Automotive North America, LLC, Rochester Hills (MI), USA	100		
31	JENOPTIK INDUSTRIAL METROLOGY DE MEXICO, S. DE R.L. DE C.V., Saltillo, Mexico	100		
32	Five Lakes Automation, LLC, Novi (MI), USA	100		
33	JENOPTIK Optical Systems, LLC, Jupiter (FL), USA	100		
34	JENOPTIK Advanced Systems, LLC, El Paso (TX), USA	100		
35	Prodomax Automation Ltd., Barrie, Canada	100		
36	JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd., Shanghai, China	100		

No.	Name and registered office of the entity	Share of Jenoptik or the direct shareholder in %	Equity 31/12/2018 in thousand euros	Result for 2018 in thousand euros
37	JENOPTIK Australia Pty Ltd, Sydney, Australia	100		
38	JENOPTIK Korea Corporation, Ltd., Pyeongtaek, Korea	66.6		
39	JENOPTIK JAPAN CO. Ltd., Yokohama, Japan	66.58		
40	JENOPTIK India Private Limited, Bangalore, India	100		
	1.2 Unconsolidated associates			
	– direct investments			
41	JENOPTIK Einundsiebzigste Verwaltungsgesellschaft mbH, Jena, Deutschland, i.l. [5]	100	23	[3]
42	JENOPTIK MedProjekt GmbH i.l., Jena, Germany, i.l. [5]	100	−4,024 [1]	16 [1]
43	FIRMICUS Verwaltungsgesellschaft mbH, Jena, Germany	100	50 [1]	3 [1]
44	SAALEAUE Immobilien Verwaltungsgesellschaft mbH, Jena, Germany, i.l. [5]	100	30 [1]	1 [1]
45	LEUTRA SAALE Gewerbegrundstücksverwaltungsgesellschaft mbH, Grünwald, Germany, i.l. [5]	100	25 [1]	−1 [1]
	– indirect shareholdings			
46	AD-Beteiligungs GmbH, Monheim am Rhein, Germany	100	224 [1]	−2 [1]
47	Traffipax do Brasil Ltda., Sao Paulo, Brazil	100	−1,008 [1]	−132 [1]
48	PHOTONIC SENSE, INC., Nashua (NH), USA	100	1	1
49	JENOPTIK do Brasil Instrumentos de Precisão e Equipamentos Ltda., Sao Paulo, Brazil	100	144 [1]	−148 [1]
50	JENOPTIK Saudi Arabia, LLC, Jeddah, Saudi-Arabia, i.l. [5]	90	50 [1]	−43 [1]
51	JENOPTIK (Shanghai) International Trading Co., Ltd., Shanghai, China	100	[2]	[2]
	2. Joint operations			
52	HILLOS GmbH, Jena, Germany	50		
	3. Associated entities valued at equity			
53	TELSTAR-HOMMEL CORPORATION, Ltd., Pyeongtaek, Korea	33.4	15,575	1,611
	4. Investments			
	– direct shareholdings			
54	JENAER BILDUNGSZENTRUM gGmbH SCHOTT CARL ZEISS JENOPTIK, Jena, Germany	33.33	701 [1]	0 [1]
	– indirect shareholdings			
55	JT Optical Engine Verwaltungs GmbH, Jena, Germany, i.l. [5]	50 [4]	24	0
56	JT Optical Engine GmbH + Co. KG, Jena, Germany, i.l. [5]	50 [4]	509	−1
57	JENOPTIK Robot Algérie SARL, Algier, Algeria	49	96 [1]	−12 [1]
58	HOMMEL CS s.r.o., Teplice, Czech Republic	40	908	118
59	Zenteris GmbH, Jena, Germany, i.I. [6]	24.9 [4]	[2]	[2]

1) Details for 2017 financial statements
2) Details not available
3) Profit transfer agreement (HGB) with the parent company
4) Deviating fiscal year as of June 30
5) i.L. = in liquidation
6) i.I. = in insolvency

Jena, March 7, 2019
JENOPTIK AG

The Executive Board

Further Informationen

» in short «

Jenoptik will invite its shareholders to attend

on June 12, 2019

the Annual General Meeting in Weimar.

Assurance from the Legal Representatives

We give our assurance that, to the best of our knowledge and in accordance with the applicable accounting principles, the consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the Group and that the course of business, including the business result and the position of the Group, are portrayed in such a way in the Combined Management Report that a true and accurate picture is conveyed and that the significant opportunities and risks of the Group's future development are fairly described.

Jena, March 7, 2019

Dr. Stefan Traeger
President & CEO

Hans-Dieter Schumacher
Chief Financial Officer

Independent auditor's report

To JENOPTIK AG

Report on the audit of the consolidated financial statements and of the combined management report

Opinions

We have audited the consolidated financial statements of JENOPTIK AG, Jena, and its subsidiaries (the Group), which comprise the consolidated statement of comprehensive income for the fiscal year from 1 January to 31 December 2018, the consolidated statement of financial position as of 31 December 2018, the consolidated statement of cash flows and the consolidated statement of changes in equity for the fiscal year from 1 January to 31 December 2018, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of JENOPTIK AG, which has been combined with the management report of the Company, for the fiscal year from 1 January to 31 December 2018.

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

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB ["Handelsgesetzbuch": German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as of 31 December 2018, and of its financial performance for the fiscal year from 1 January to 31 December 2018, and
- the accompanying group management report, which has been combined with the management report of the Company, as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 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 consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities 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 Art. 10 (2) f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Art. 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 opinions on the consolidated financial statements and on the group management report.

Key audit matters in the audit of the consolidated financial statements

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

Below, we describe what we consider to be the key audit matters:

1. Testing goodwill for impairment

Reasons why the matter was determined to be a key audit matter

Goodwill recognized in the consolidated financial statements of JENOPTIK AG is subject to an annual impairment test pursuant to IAS 36.

The result of the valuations depends chiefly on the estimated future cash inflows as well as the discount rate used. The impairment test is therefore inherently subject to judgment and uncertainties, which is why we determined this to be a key audit matter.

Auditor’s response

We discussed the method used to perform the impairment test with the Company’s executive directors and assessed its compliance with the requirements of IAS 36. We verified the individual components used to determine the discount rate with the support of our internal valuation experts, in particular by analyzing the peer group, comparing market data with external evidence and examining the calculation. We examined the clerical accuracy of the valuation model on a sample basis.

We checked on a test basis that the planning assumptions used in the detailed forecasts of each of the cash-generating units are in line with the business plan of the Company approved by the Executive Board and Supervisory Board. In addition, we verified the growth rates for income and expenses used to roll forward the budget by comparing internal and external data. We also analyzed the forecasts with regard to adherence to the budget in the past, compared it with the prior-year forecast, discussed it with the Company’s executive directors and obtained evidence substantiating the individual assumptions of the forecasts.

We verified the significant assumptions used in the sensitivity calculations prepared by the Company in order to estimate any potential impairment risk associated with a change in one of the significant assumptions used in the valuation.

We do not have any significant reservations regarding the impairment of goodwill.

Reference to related disclosures

Additional disclosures on the impairment of goodwill as well as the associated judgments are contained in note 5.1 “Intangible Assets” of the Company’s notes to the consolidated financial statements.

2. Write-downs of inventories

Reasons why the matter was determined to be a key audit matter

The complex and heterogeneous production processes as well as a rapidly changing market on account of the technical progress result in increased inventory risks and uncertainties surrounding the measurement of inventories.

Corresponding valuation allowances take into account inventory risks arising from the period of storage and/or reduced usability. In particular, the calculation of the write-down rates using the Company's IT-supported write-down procedure as well as the additional manual adjustments to write-downs, where necessary, which are not taken into account in this write-down procedure, are subject to the estimates made by the executive directors of the Company.

Auditor's response

In our audit, we first examined the procedures for determining write-downs recognized for slow-moving goods and marketability and checked the corresponding controls.

We verified the suitability of the IT-supported write-down procedure for the assessment of inventory risks for saleability, range and net realizable value. We assessed the system-based implementation of the write-down procedure in IT with the assistance of internal IT experts. If there were any changes to the write-down procedure in the current year, we examined these changes. We compared the computational logic of the model with the accounting and measurement policies used by the Company and arithmetically verified it on a test basis. We further assessed the write-downs calculated based on past experience through analytical comparisons with the write-downs carried out in prior years.

The results of the IT-supported write-down procedure are in line with our expectations. We discussed additional manual adjustments to write-downs with the Company's executive directors, obtained evidence and performed further audit procedures in particular cases, which did not lead to any significant objections with regard to the valuation of manual adjustments.

Reference to related disclosures

Additional disclosures on the measurement of inventories are contained in note 5.9 "Inventories" of the notes to the consolidated financial statements.

3. Measurement of deferred tax assets on loss carryforwards

Reasons why the matter was determined to be a key audit matter

The deferred tax assets recognized in the consolidated financial statements of JENOPTIK AG primarily relate to tax loss carryforwards in Germany. The measurement of deferred tax assets on loss carryforwards mainly depends on the estimated future taxable income. The measurement is therefore inherently subject to judgment and uncertainties, which is why we determined this to be a key audit matter.

Auditor's response

We discussed the method used to measure deferred tax assets with the Company's executive directors and assessed its compliance with the rules of IAS 12.

We scrutinized the executive directors' forecasts of estimated future taxable income and compared these to the internal planning on a sample basis. We also engaged internal tax specialists to assist us with assessing the reconciliation of planned earnings to the expected taxable income. Furthermore, we confirmed the assumptions of the tax planning based on the taxable income generated in the past.

We do not have any significant reservations regarding the deferred tax assets on loss carryforwards.

Reference to related disclosures

Additional disclosures on the recoverability of deferred tax assets on loss carryforwards are contained in note 4.11 "Income Taxes" of the notes to the consolidated financial statements.

4. Acquisition of Prodomax Automation Ltd.

Reasons why the matter was determined to be a key audit matter

On 23 July 2017, the Jenoptik Group acquired 100% of the shares in Prodomax Automation Ltd., Barrie (Ontario), Canada ("Prodomax"). Jenoptik discloses the business combination pursuant to IFRS 3 Business Combinations. The recognition of this transaction was a key audit matter in our audit due to its scope and complexity as well as the assumptions and estimates required by the executive directors as part of the purchase price allocation and the related risk of material misstatements.

Auditor's response

Our audit procedures in relation to the preliminary purchase price allocation involved assessing the methodology used by the external appraiser engaged by the executive directors to identify the acquired assets as well as the conceptual assessment of the measurement models, taking into account the rules in IFRS 3. We also assessed the appraiser's competency, skills and objectivity, gained an understanding of the appraiser's work and evaluated the appropriateness of the appraisal, which was commissioned by the executive directors to determine the fair values as evidence for our audit.

With the assistance of our internal valuation specialists, we verified the methods used to measure fair value with regard to the resulting requirements of IFRS 13. We also analyzed the assumptions and estimates based on judgment (for example growth rates, cost of capital rates or royalty rates) made to determine the fair values of the acquired identifiable assets as well as of the liabilities (including contingent liabilities) assumed on the acquisition date in order to check whether they correspond to general and industry-specific market expectations. Moreover, we verified the clerical accuracy of the models.

We also examined the application of uniform accounting policies and the presentation of the first-time consolidation of Prodomax in the basis of consolidation. Additionally, we assessed the disclosures in the notes to the consolidated financial statements on the acquisition of the shares in Prodomax based on the requirements stemming from the rules in IFRS 3.

Our audit procedures did not lead to any significant reservations as regards the accounting for the acquisition.

Reference to related disclosures

Additional disclosures on the acquisition of the shares in Prodomax are contained in section 2.4 "Entities Acquired and Sold" of the notes to the consolidated financial statements.

Other information

The Supervisory Board is responsible for the Report of the Supervisory Board. In all other respects, the executive directors are responsible for the other information. The other information comprises the following reporting sections in the Annual Report, of which we received a copy of by the time this independent auditor's report was issued: the disclosures made in sections 1, 2 and 7 of the Annual Report, "More Light", "Management" and "Other Information", the "Corporate Governance Report", the "Separate Combined Non-financial Report in accordance with the CSR Directive Implementation Act" as well as the "Assurance by the Legal Representatives".

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an 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 consolidated financial statements, with the group 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 consolidated financial statements and the group management report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group’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 unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group’s position and is, in all material respects, consistent with the consolidated 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 group 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 group management report.

The Supervisory Board is responsible for overseeing the Group’s financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor’s responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group’s position and, in all material respects, is consistent with the consolidated 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 opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 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 consolidated financial statements and this group 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 consolidated financial statements and of the group 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 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 control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- 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 Group’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 consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective 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 Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group’s position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group 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 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 consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other legal and regulatory requirements

Further information pursuant to Art. 10 of the EU Audit Regulation

We were elected as group auditor by the Annual General Meeting on 5 June 2018. We were engaged by the Supervisory Board on 7 August 2018. We have been the group auditor of JENOPTIK AG without interruption since fiscal year 2016.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Art. 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 Mr. Michael Blesch.

Stuttgart, March 7, 2019

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Blesch	Pester
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

Independent Practitioner's Report on a Limited Assurance Engagement on Non-financial Reporting [1]

To Jenoptik AG, Jena

We have performed a limited assurance engagement on the separate combined non-financial report pursuant to §§ (Articles) 289b Abs. (paragraph) 3 and 315b Abs. 3 HGB ("Handelsgesetzbuch": "German Commercial Code") of Jenoptik AG, Jena, (hereinafter the "Company") for the period from 1 January to 31 December 2018 (hereinafter the "Non-financial Report").

Responsibilities of the Executive Directors

The executive directors of the Company are responsible for the preparation of the Non-financial Report in accordance with §§ 315b and 315c in conjunction with 289b to 289e HGB.

This responsibility of Company's executive directors includes the selection and application of appropriate methods of non-financial reporting as well as making assumptions and estimates related to individual non-financial disclosures which are reasonable in the circumstances. Furthermore, the executive directors are responsible for such internal control as they have considered necessary to enable the preparation of a Non-financial Report that is free from material misstatement whether due to fraud or error.

Independence and Quality Control of the Audit Firm

We have complied with the German professional provisions regarding independence as well as other ethical requirements.

Our audit firm applies the national legal requirements and professional standards – in particular the Professional Code for German Public Auditors and German Chartered Auditors ("Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer": "BS WP/vBP") as well as the Standard on Quality Control 1 published by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany; IDW): Requirements to quality control for audit firms (IDW Qualitätssicherungsstandard 1: Anforderungen an die Qualitätssicherung in der Wirtschaftsprüferpraxis – IDW QS 1) – and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Practitioner´s Responsibility

Our responsibility is to express a limited assurance conclusion on the Non-financial Report based on the assurance engagement we have performed.

1) PricewaterhouseCoopers GmbH has performed a limited assurance engagement on the German version of the separate non-financial report and issued an independent assurance report in German language, which is authoritative. The following text is a translation of the independent assurance report.

Within the scope of our engagement we did not perform an audit on external sources of information or expert opinions, referred to in the Non-financial Report.

We conducted our assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the IAASB. This Standard requires that we plan and perform the assurance engagement to allow us to conclude with limited assurance that nothing has come to our attention that causes us to believe that the Company's Non-financial Report for the period from 1 January to 31 December 2018 has not been prepared, in all material aspects, in accordance with §§ 315b and 315c in conjunction with 289b to 289e HGB.

In a limited assurance engagement the assurance procedures are less in extent than for a reasonable assurance engagement, and therefore a substantially lower level of assurance is obtained. The assurance procedures selected depend on the practitioner's judgment.

Within the scope of our assurance engagement, we performed amongst others the following assurance procedures and further activities:

- Obtaining an understanding of the structure of the sustainability organization
- Inquiries of management and relevant personnel involved in the preparation of the Non-financial Report regarding the preparation process, the internal control system relating to this process and selected disclosures in the Non-financial Report
- Identification of the likely risks of material misstatement of the Non-financial Report
- Analytical evaluation of selected disclosures in the Non-financial Report
- Comparison of selected disclosures with corresponding data in the consolidated financial statements and in the combined group management report
- Evaluation of the presentation of the non-financial information

Assurance Conclusion

Based on the assurance procedures performed and assurance evidence obtained, nothing has come to our attention that causes us to believe that the Company's Non-financial Report for the period from 1 January to 31 December 2019 has not been prepared, in all material aspects, in accordance with §§ 315b and 315c in conjunction with 289b to 289e HGB.

Intended Use of the Assurance Report

We issue this report on the basis of the engagement agreed with the Company. The assurance engagement has been performed for purposes of the Company and the report is solely intended to inform the Company about the results of the limited assurance engagement. The report is not intended for any third parties to base any (financial) decision thereon. Our responsibility lies only with the Company. We do not assume any responsibility towards third parties.

Munich, 7 March 2019

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Hendrik Fink ppa. Barbara Wieler
Wirtschaftsprüfer
(German public auditor)

Executive Board

Dr. Stefan Traeger
President & CEO

Dr. Stefan Traeger has been President & CEO of JENOPTIK AG since May 1, 2017. He is responsible for the operational business and the regions as well as for the areas of Corporate Development and Mergers & Acquisitions, Corporate Communication & Marketing, Investor Relations, Legal and IP, Compliance & Risk, ESG (Environment, Social, Governance) & CSR (Corporate Social Responsibility) and, as Human Resources Director, for HR.

Hans-Dieter Schumacher
Chief Financial Officer

Hans-Dieter Schumacher has been Chief Financial Officer (CFO) of JENOPTIK AG since April 1, 2015. He is responsible for the areas of Finance & Controlling (Corporate & Divisional), Strategic Procurement, Treasury, IT & Data Security, Tax, as well as Corporate Real Estate Management and Internal Audit.

Executive Management Committee

Dr. Stefan Traeger
President & CEO

Hans-Dieter Schumacher
Chief Financial Officer

Kevin Chevis
Head of Light & Safety division

Maria Koller
Head of Global HR

Martin Kuhnhen
Head of Light & Production division

Dr. Ralf Kuschnereit
Head of Light & Optics division

Henrik Leps
Chief Controlling Officer

Albert Miranda
President Jenoptik North America

Steffen Müller
Vice President Corporate Development and M & A

Jonathan Qu
President Jenoptik Asia

Dr. Stefan Stenzel
Head of VINCORION division

Glossary

B

Book-to-bill ratio – Ratio of order intake to revenue for a fiscal year. A ratio of over 1.00 indicates that the order intake surpassed revenue for the fiscal year, likely leading to an increase in order backlog.

B2B – Business activities with the capital goods industry.

B2G – Business activities with the public sector.

D

Debenture loan – In addition to bank loans and bonds, another form of (long-term) external financing for companies. The borrower is granted a loan against a debenture by large financial intermediaries (in general credit institutions) without having to access the organized capital market.

E

EBIT – Income from operations – earnings before interest and taxes.

EBITDA – Earnings before interest, taxes, depreciation and amortization (including impairment losses and reversals of impairment losses).

EBIT margin – Return on revenue – EBIT divided by revenue.

EBITDA margin – Return on revenue = EBITDA divided by revenue

Equity ratio – Indicator used in capital structure analysis stating the relative proportion of equity in total equity and liabilities (equity in relation to total equity and liabilities).

F

Frame contracts – These are contracts or framework agreements the amount and probability of which cannot yet be determined exactly.

Free cash flow – Available cash flow. The free cash flow is regarded by financing institutions as an indicator of the ability to repay loans and is therefore often used as a basis to calculate financing capacity. It is calculated from the cash flows from operating activities before income tax payments less capital expenditure in and income from the sale of property, plant, equipment and intangible assets.

G

Goodwill – Difference between the purchase price of a newly acquired company and its equity (assets minus liabilities).

Gross margin – The gross margin indicates how much (in percent of revenue) a company is earning after deducting cost of sales. The indicator helps to assess how efficiently a company is operating.

M

Market capitalization – Number of shares multiplied by the share price.

N

Net debt – Calculated by deducting cash and securities from the total of non-current and current financial debt.

O

OEM – An Original Equipment Manufacturer which markets its components/products to another company instead of selling by retail.

P

Performance Shares – Share-based, performance-related remuneration which is based, on the one hand, on the achievement of certain operational targets, and on the other hand on the share price as an indicator for the increase in the company's value. It is paid out in cash after the end of the performance period.

PoC / Percentage of completion method – Procedure in accordance with IAS 11 which computes revenue, order costs and order results on a long-term customer-specific contract relative to the degree to which the project is completed.

R

Relative total shareholder return – Difference in percentage points between the change in the share price of the Jenoptik share including reinvested dividends and the change in the TecDax Performance Index.

ROCE (return on capital employed) – Is calculated by dividing income from operations (EBIT) by the average tied operating capital. The total tied operating capital is calculated on the basis of the non-finance related capital in the non-current assets (such as intangible assets including goodwill, property, plant and equipment and investment properties) plus the capital tied up in current assets (primarily inventories, receivables from the operating business activities and other current receivables). non-interest-bearing borrowings (such as provisions – excluding pensions and taxes, liabilities from the operating business activities and other non-interest-bearing liabilities) are subtracted from this figure. The calculation of the average takes into account twelve month-end balances and the opening balance at the start of the year, which corresponds to the closing balance of the prior year.

S

Swap – An agreement between two companies to exchange cash flows. In the case of an interest swap, fixed interest payments are swapped for floating payments for a nominal fee.

Syndicated loan – The syndicated loan is a credit granted jointly by several banks (members of a consortium) to one debtor. One or several banks may take the lead.

W

Working capital – The total of trade receivables and receivables from construction contracts as well as inventories minus trade payables and payables from construction contracts as well as advance payments received.

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Historical Summary of Financial Data

		2012 [1]	2013	2014	2015	2016	2017	2018
Statement of Income								
Revenue	million euros	585.0	600.3	590.2	668.6	684.8	747.9	834.6
Optics & Life Science	million euros	n/a	n/a	n/a	213.7	221.5	259.4	290.0
Mobility	million euros	n/a	n/a	n/a	244.6	247.7	270.1	327.8
Defense & Civil Systems	million euros	n/a	n/a	n/a	211.4	218.3	219.3	218.6
Foreign revenue	million euros	376.9	371.9	379.1	450.8	458.3	525.3	594.1
of revenue	%	64.4	62.0	64.2	67.4	66.9	70.2	71.2
Cost of sales	million euros	381.6	394.6	384.7	442.5	446.9	484.0	541.5
Gross profit	million euros	203.4	205.7	205.5	226.2	237.9	263.9	293.1
Gross margin	%	34.8	34.3	34.8	33.8	34.7	35.3	35.1
R+D expenses	million euros	36.0	39.8	39.4	41.8	42.3	43.1	47.4
Selling expenses	million euros	65.1	66.6	67.5	72.6	73.6	80.3	87.0
Administrative expenses	million euros	42.6	46.4	51.1	54.0	57.6	55.8	56.1
EBIT	million euros	54.8	52.7	51.6	61.2	68.5	78.0	94.9
Optics & Life Science	million euros	n/a	n/a	n/a	19.7	33.4	50.5	62.3
Mobility	million euros	n/a	n/a	n/a	27.0	24.4	18.5	27.7
Defense & Civil Systems	million euros	n/a	n/a	n/a	17.9	19.1	19.2	20.1
EBIT margin	%	9.4	8.8	8.7	9.2	10.0	10.4	11.4
Optics & Life Science	%	n/a	n/a	n/a	9.2	15.1	19.5	21.5
Mobility	%	n/a	n/a	n/a	11.0	9.9	6.9	8.4
Defense & Civil Systems	%	n/a	n/a	n/a	8.5	8.8	8.7	9.2
EBT	million euros	46.1	47.2	46.1	57.4	64.7	80.1	91.4
EBT margin	%	7.9	7.9	7.8	8.6	9.5	10.8	11.0
Earnings after tax	million euros	50.2	47.2	41.6	49.9	57.5	72.7	87.4
EPS	euros	0.88	0.82	0.73	0.87	1.00	1.27	1.53
Cost of materials (incl. external services)	million euros	242.0	250.9	253.6	281.5	284.6	309.3	365.1
Material intensity	%	40.3	40.7	41.3	40.4	40.2	40.2	41.6
R+D output	million euros	50.6	52.2	50.4	53.1	57.4	66.6	69.1
R+D ratio	%	8.6	8.7	8.5	7.9	8.4	8.9	8.3
EBITDA	million euros	77.7	74.8	76.1	88.8	96.9	106.9	127.5
Financial result	million euros	−8.7	−5.5	−5.5	−3.8	−3.7	2.0	−3.5
Cash Flows and Capital Expenditure								
Cash flows from operating activities	million euros	66.6	60.6	46.3	85.1	100.1	96.3	135.5
Free cash flow (before income tax)	million euros	43.7	47.0	22.5	71.8	80.4	72.2	108.3
Capital expenditures	million euros	31.2	24.4	29.9	24.7	27.5	37.9 [2]	42.5
Personnel								
Employees on average		3,066	3,233	3,375	3,421	3,404	3,500	3,714
Revenue per employee	thousand euros	190.8	185.7	174.9	195.4	201.2	213.7	224.7
Personnel expenses	million euros	201.2	210.9	219.7	239.6	246.1	258.3	278.3
Personnel intensity	%	34.4	35.1	37.2	35.8	35.9	34.5	33.4

		2012 [1]	2013	2014	2015	2016	2017	2018
Statement of Financial Position								
Non-current assets	million euros	333.8	329.8	389.5	382.8	371.9	376.2	491.8
Intangible assets and property, plant and equipment	million euros	213.9	216.0	274.0	278.4	269.2	285.7	391.5
Investment property	million euros	19.6	19.1	16.4	4.5	4.4	4.4	4.4
Financial investments	million euros	27.2	20.1	21.1	21.7	19.0	4.4	6.8
Other non-current assets	million euros	4.8	4.4	1.8	4.5	5.0	2.9	2.9
Deferred tax assets	million euros	68.4	70.3	76.3	73.6	74.2	78.9	86.3
Current assets	million euros	335.8	362.6	382.2	386.3	441.2	512.9	494.1
Inventories	million euros	169.3	165.1	179.0	167.1	159.3	168.6	175.6
Trade and other receivables	million euros	120.7	125.3	133.4	135.0	139.3	147.4	173.6
Current financial assets and cash	million euros	45.9	72.2	69.8	84.2	142.5	196.9	148.7
Equity	million euros	330.3	367.1	386.6	435.1	476.4	529.9	598.0
Share capital	million euros	148.8	148.8	148.8	148.8	148.8	148.8	148.8
Non-current liabilities	million euros	177.6	173.1	216.6	169.5	175.4	162.1	170.3
Pension provisions	million euros	31.2	28.2	41.0	36.1	37.6	37.1	37.3
Other non-current provisions	million euros	12.1	11.0	10.0	10.3	12.3	15.9	16.3
Non-current financial liabilities	million euros	115.8	115.2	156.8	113.2	120.5	108.6	111.4
Other non-current liabilities	million euros	15.4	16.9	7.0	7.9	4.8	0.4	2.8
Deferred tax liabilities	million euros	3.1	1.8	1.7	2.0	0.1	0.1	2.5
Current liabilities	million euros	161.7	152.3	168.5	164.5	161.3	197.1	217.7
Tax provisions	million euros	6.1	4.8	5.7	3.3	3.4	8.9	9.0
Other current provisions	million euros	52.1	37.4	37.7	42.7	46.2 [3]	51.2	58.7
Current financial liabilities	million euros	4.7	1.2	5.1	14.9	4.1	19.3	10.1
Trade payables and other liabilities	million euros	98.9	109.0	120.0	103.6	107.7	117.6	139.9
Total equity and liabilities	million euros	669.6	692.4	771.7	769.2	813.1	889.1	985.9
Balance sheet ratios								
Equity ratio	%	49.3	53.0	50.1	56.6	58.6	59.6	60.6
Asset coverage		230.7	261.0	256.5	279.5	301.7	321.7	321.6
Gross debt	million euros	120.5	116.4	161.9	128.1	124.6	127.9	121.5
Net debt	million euros	74.5	44.1	92.1	43.9	−17.9	−69.0	−27.2
Working capital	million euros	202.8	195.6	217.5	215.5	209.9	214.8	216.8
Working capital ratio	%	34.7	32.6	36.9	32.2	30.7	28.7	26.0
Debt to equity ratio		1.0	0.9	1.0	0.8	0.7	0.7	0.6
Total return on investment based on EBT	%	6.9	6.8	6.0	7.5	8.0	9.0	9.3
Return on equity based on EBT	%	14.0	12.9	11.9	13.2	13.6	15.1	15.3
ROCE		15.6	14.0	13.0	13.5	15.6 [2]	18.2 [2]	20.2
Dividend key figures								
Dividend per share	EUR	0.18	0.20	0.20	0.22	0.25	0.30	0.35
Pay out ratio on earnings attributable to shareholders	%	20.5	24.3	27.5	25.4	24.9	23.7	22.9
Dividend yield based on year-end stock exchange price	%	2.4	1.6	1.9	1.5	1.5	1.1	1.5

[1] Adjusted to initial application of 19R
[2] Including discontinued operations
[3] Subject to the approval by the annual general meeting

Summary by Quarter 2018

		1st quarter 1/1 – 31/3	2nd quarter 1/4 – 30/6	3rd quarter 1/7 – 30/9	4th quarter 1/10 – 31/12
Revenue	**million euros**	**189.9**	**194.8**	**208.7**	**241.2**
Optics & Life Science	million euros	68.8	70.8	71.7	78.8
Mobility	million euros	72.3	66.2	84.9	104.4
Defense & Civil Systems	million euros	49.7	58.6	52.7	57.6
Other [1]	million euros	–0.8	– 0.7	–0.6	0.3
EBIT	**million euros**	**20.8**	**21.9**	**23.9**	**28.2**
Optics & Life Science	million euros	14.1	14.6	16.8	16.8
Mobility	million euros	6.1	5.8	5.1	10.8
Defense & Civil Systems	million euros	3.8	5.7	5.9	4.7
Other [1]	million euros	–3.1	–4.2	–3.8	–4,1
EBIT margin	%	**11.0**	**11.3**	**11.5**	**11.7**
Optics & Life Science	%	20.5	20.7	23.5	21.3
Mobility	%	8.4	8.8	6.0	10.3
Defense & Civil Systems	%	7.7	9.7	11.1	8.2
Order intake	**million euros**	**199.2**	**197.9**	**191.2**	**285.3**
Optics & Life Science	million euros	87.1	70.5	75.9	117.4
Mobility	million euros	68.7	71.5	72.1	107.1
Defense & Civil Systems	million euros	44.1	56.3	43.6	59.5
Other [1]	million euros	–0.6	–0.3	–0.3	1.4

[1] including consolidation

Dates

March 21, 2019
Publication of Financial Statements 2018

May 9, 2019
Publication of Interim Report January – March 2019

June 12, 2019
Annual General Meeting of JENOPTIK AG 2019

August 9, 2019
Publication of Interim Report January – June 2019

November 12, 2019
Publication of Interim Report January – September 2019

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The contents of this publication adress men an women equally.
For better readability, the masculine forms are used normally.

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