What connects us

Annual Report 2016

SICK

Sensor Intelligence.

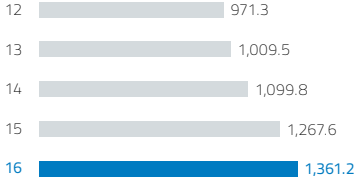
SICK at a glance

Key figures

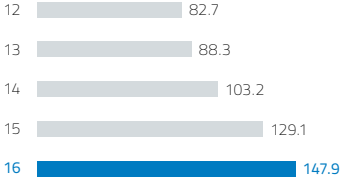
		2012[1]	2013	2014	2015	**2016**	Change in %
Sales	in EUR million	971.3	1,009.5	1,099.8	1,267.6	1,361.2	7.4
EBITDA	in EUR million	117.9	125.9	144.1	175.4	198.8	13.3
EBIT	in EUR million	82.7	88.3	103.2	129.1	147.9	14.6
Net income	in EUR million	58.5	59.2	69.8	90.8	104.0	14.5
Cash flow	in EUR million	76.6	81.9	83.8	112.1	122.8	9.5
Employees							
on December 31		6,302	6,597	6,957	7,417	8,044	8.5
annual average		6,154	6,506	6,820	7,239	7,806	7.8
trainees[2]		239	260	255	267	293	9.7
Personnel expenses	in EUR million	404.2	429.0	464.2	526.3	574.3	9.1
Investments[3]	in EUR million	52.1	65.7	82.4	83.8	82.8	-1.2
Depreciation	in EUR million	35.2	37.6	40.9	46.4	50.9	9.7
R&D expenditure	in EUR million	93.5	102.3	116.2	129.0	143.4	11.2
Total assets	in EUR million	611.5	649.2	762.9	862.9	950.1	10.1
Equity	in EUR million	282.9	321.6	374.6	451.8	522.0	15.5
Equity ratio	in %	46.3	49.5	49.1	52.4	54.9	
Net return on equity	in %	26.1	22.6	22.9	25.2	24.9	
ROCE	in %	19.5	19.2	19.1	21.1	21.8	
Net return on sales	in %	6.0	5.9	6.3	7.2	7.6	
Earnings per share	in EUR	2.23	2.26	2.66	3.47	3.97	14.4

[1] adjusted in accordance with IAS 19 revised
[2] annual average
[3] in property, plant and equipment and intangible assets

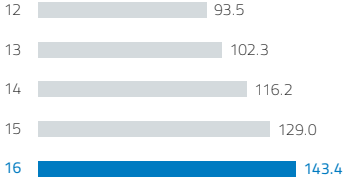
SALES IN EUR MILLION



EBIT IN EUR MILLION



R&D EXPENDITURE IN EUR MILLION



Our business fields

Factory automation

The automotive and consumer goods industries, mechanical engineering, the electronics and solar industries, and drive technology are the target industries within the factory automation business field. Non-contact sensors, camera systems, encoders, and distance measurement systems all serve to control manufacturing, packaging, and assembly processes, to carry out quality assurance, and to ensure machine safety.

Logistics automation

In the logistics automation business field, the focus is on airports, industrial vehicles, building management, building safety and security, ports, trade and distribution centers, courier, express, parcel and postal service providers, cranes, and the traffic sector. In all of these areas, SICK's sensors shape and optimize the entire logistics chain: Whether automating material flow processes or increasing the speed, efficiency, and reliability of sorting, picking, and warehousing processes.

Process automation

Within the process automation business field, SICK delivers sensors, customized systems, and services for analysis and process measurement technology. SICK thus provides smart solutions for waste incineration plants, power, steel and cement plants, oil and gas industry applications, as well as for chemical and petrochemical plants and refineries. Together, these solutions make an important contribution to protecting our environment.

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What connects us

Independence

Only those who think independently can also act independently. This is equally true of the people and the company. Only an independent head has the freedom to do something in the way he believes is right. Freedom, however, also means acting within limits, with an aim and clear rules.

Innovation

Innovations are noticeable improvements that bring benefits. By innovation, we understand not merely the invention and development of new products, production methods and organizational structures, but also their implementation. The commercial success of new products is thus indispensable, if only because innovations must also be financed.

Leadership

Leadership is shown by one becoming an orientation point for others. This applies for management personalities who can imbue teams with enthusiasm, as well as for companies that set standards on the world market. For us, leadership not only means technology and market leadership but also a leadership culture and optimum mastery of methods and processes.

Foreword by the Executive Board

DEAR SHAREHOLDERS,
BUSINESS ASSOCIATES, EMPLOYEES,
AND FRIENDS OF SICK,

The SICK Group continues to grow. Once again, we concluded the fiscal year 2016 with record figures. The volume of orders received exceeded last year's by more than ten percent, and at a good level of profitability, sales increased by over seven percent. Earnings before interest and tax amount to more than ten percent of sales. This result fills us with pride. It is testimony to our technological leadership in the area of industrial automation technology. At the same time, we take it as motivation to secure and further expand our success for the future.

We face great challenges ahead. Industry 4.0 and the Internet of Things are changing automation at a rapid pace. The industry finds itself in the midst of a fundamental transformation. In this context, the emphases of industrial manufacturing are shifting as well: Whereas until now industrial automation technology kept focusing above all on cost-effective mass production, Industry 4.0 will allow the highly efficient manufacture according to single, individual customer wishes. For us, the two worlds do not stand in contrast at all. Quite the contrary, they complement each other. Industry 4.0 is based on well-known technology, though increasingly using data to realize new solutions. In connection with mass production, industrial automation technology in turn falls back on the possibilities offered by the new world of data. Many companies with little or no experience at all in automation are trying to gain a foothold in this area. Therefore, competitive pressure will continue to grow considerably.

We are responding to that with a clear objective: We intend not only to keep pace with this change; we will actively help shape it, continuing to set standards. This applies to our entire traditional business: factory, logistics, and process automation – in short, to industrial automation. In this area alone, countless innovations are still possible in order to process sensor signals in intelligent ways. Sensor technology remains the central component for industrial applications. However, it also forms the basis for the new, data-based Industry 4.0. Our success in the core business provides us with an excellent starting position in this respect. What will matter in the future is to demonstrate inventiveness, persistence, and willingness to adapt equally in both areas. Our industrial experience and our technological and industry competence help us master the upcoming changes. Apart from that, courage, agility, and imaginativeness are required. It is a matter of developing new business models as well as recognizing and seizing opportunities.

All of this has been firmly anchored in our corporate culture and in our mission statement – ever since the founding of the company more than 70 years ago. Day after day, more than 8,000 employees breathe life into these values. They, the people behind the brand that is SICK, are our most important success factor. They are united by independence of thought and action, comprehensive know-how, pioneering spirit, and the striving towards creating innovations that offer real added value to our customers. Trainees, qualified employees, and managerial staff continuously work on new sensor solutions that connect people, machines, and data with each other. They give SICK a face. They make SICK strong. This holds true today just as it will tomorrow.

▸ **EXECUTIVE BOARD OF SICK AG:**
Reinhard Bösl, Markus Vatter,
Dr. Mats Gökstorp, Dr. Martin Krämer,
Dr. Robert Bauer (from left to right)

Consequently, it is no coincidence that the motto of the Annual Report 2016 is “What connects us.” Especially in times of change, it is important to realize what we stand for and what we represent. For only those who know their strengths will be able to succeed in the future as well. For us, this means remaining true to ourselves and to our values and continuing to trust in our employees and their extraordinary commitment. Moreover, with a good sense of upcoming trends and changes, we will keep on developing the best possible solutions for our customers in the future.

Sincerely yours,

Dr. Robert Bauer
(Chairman)

Reinhard Bösl

Dr. Mats Gökstorp

Dr. Martin Krämer

Markus Vatter

Report by the Supervisory Board

In 2016, SICK AG celebrated its 70-year company anniversary, with the motto being “70 years of innovation.” For this reason, the Supervisory Board of SICK AG is very pleased that the company managed to conclude the round-number birthday with yet another record result.

The company was founded in 1946 by Dr. h.c. Erwin Sick as an engineering firm in a shack near Munich. In the 70 years that followed, SICK gave important impulses in the development of automation technology, considerably influencing the industry with what sometimes constituted pioneering innovations. In the fiscal year 2016, too, the SICK Group worked intensively on the future. The Supervisory Board fully backs SICK AG’s strategy of using the technological competence and market position of the company toward helping decisively shape the data-based world of Industry 4.0. The Supervisory Board believes that in doing so, SICK is on the right track to master future challenges and sweeping changes in the market as well and to continue presenting solid results.

▸ **KLAUS M. BUKENBERGER,**
Chairman of the Supervisory Board

COOPERATION BETWEEN EXECUTIVE BOARD AND SUPERVISORY BOARD

In the fiscal year 2016, the Supervisory Board comprehensively and carefully performed all duties incumbent upon it under the law, the articles of incorporation, and the rules of procedure. It advised the Executive Board on running the company on an ongoing basis and continually monitored and reviewed its management activities. It focused in particular on the legality, regularity, expediency, and the economic efficiency of the group-wide management activities carried out by the Executive Board. The Supervisory Board discussed the organization of the company and the business with the Executive Board to assure itself of the performance capabilities of this organization. In addition, the Executive Board and Supervisory Board agreed upon the strategic alignment of the company and discussed the respective status of strategy implementation at regular intervals. The Supervisory Board was directly involved in all decisions of fundamental significance to the company that were made by the Executive Board.

The Executive Board notified the Supervisory Board – both verbally and in writing – promptly, comprehensively, and on a regular basis. In this way, the Supervisory Board was kept informed throughout of the planning, the implementation of the strategy, the business situation and development of SICK AG and the Group, including the risk situation, risk management, compliance, and with respect to business activities of particular relevance to the company and the Group, respectively. In this context, the Executive Board also addressed instances in which the business development deviated from the set plans and targets and explained the reasons for these deviations.

The subject matter and scope of the reports submitted by the Executive Board complied fully with the requirements stipulated by the Supervisory Board. Apart from the reports, the Supervisory Board had the Executive Board provide additional information. In particular, the Executive Board took the opportunity of Supervisory Board meetings to explain any issues and answer any questions. The Supervisory Board reviewed the information provided by the Executive Board with respect to its plausibility, critically assessing and challenging it where necessary. Between the meetings of the Supervisory Board and its committees, the Chairman of the Supervisory Board and the Chairman of the Audit Committee were kept informed constantly and in detail of developments by the Executive Board as well. Thus, the Chairman of the Executive Board in particular held regular consultations with the Chairman of the Supervisory Board in order to discuss strategy, planning, the current business situation and development, including the risk situation, risk management, and compliance as well as key specific issues and decisions. The Chairman of the Supervisory Board was informed immediately of any important events that were of fundamental significance to the assessment of the business situation and development as well as to the management of the SICK Group.

During the reporting year, no conflicts of interest involving members of the Supervisory Board emerged in connection with the execution of their duties.

MEETINGS AND DECISIONS OF THE SUPERVISORY BOARD

In the fiscal year 2016, the Supervisory Board of SICK AG held four ordinary meetings at the company headquarters. At these meetings, the Board addressed all issues of relevance to the company and made the necessary decisions. Added to this were two decisions made by way of written circulation, one to approve construction projects that are subject to approval according to the rules of procedure and another one concerning an intragroup organizational issue related to company law. In the course of each meeting, the Supervisory Board convened with the Executive Board absent for part of the meeting, giving the Supervisory Board the opportunity to discuss points on the agenda which either concern the Executive Board itself or which require strictly internal discussion among the members of the Supervisory Board. At the Supervisory Board meetings, the following topics in particular were at the center of the consultations:

In the Supervisory Board meeting held on March 22, 2016, the Executive Board informed the Supervisory Board comprehensively and in detail about the business development in the year 2015. The members of the Boards jointly analyzed important changes and insights. Subsequently, with the auditor attending, the Supervisory Board dealt with the accounting and Group accounting of SICK AG for the fiscal year 2015, with the audits of the financial statements conducted by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft (EY), and with the Executive Board's proposal for the appropriation of the retained earnings generated in the fiscal year 2015. The Audit Committee reported on all subject areas for which it is responsible in the context of accounting and Group accounting of SICK AG, in particular on the nature and scope of its audit of the documents relating to the financial statements. The committee recommended to the entire Board that it approve these documents. Afterwards, the auditor explained its audit results and their discussion at the meeting of the Audit Committee held on March 17, 2016. The audit results were discussed with the Supervisory Board, and this included the answering of any questions by the auditor. The Supervisory Board approved the result of the audit of the financial statements. Following the final results of its own review, the Supervisory Board had no objections to raise and approved the accounting and Group accounting of SICK AG for the fiscal

year 2015. The Supervisory Board also reviewed the use for the retained earnings proposed by the Executive Board and approved this proposal on the recommendation of the Audit Committee. Furthermore, the Supervisory Board passed its decision proposals for the agenda of the Annual General Shareholders' Meeting on May 10, 2016. In the context of this meeting, the Supervisory Board also agreed to the conversion of the SICK Metering Systems NV joint venture in Kalmthout, Belgium, into a majority interest of SICK and its integration into the SICK Group. Likewise, the Supervisory Board addressed the planning for a technology acquisition.

At its meeting held on May 10, 2016, the Supervisory Board dealt with the current business development as well as with the compliance organization within the SICK Group. In addition to this, the Executive Board once again presented in detail two construction projects at the Reute and Waldkirch locations that had already been approved before by way of written circulation.

In addition to analyzing and discussing the current business situation, the meeting held from September 26 to 27, 2016 centered on detailed and comprehensive discussion of company strategy and operationalized company planning, risk planning, and financial planning in the medium term. In this context, the Board particularly discussed the consequences of the market changes known collectively as Industry 4.0 with regard to industrial production, the automation engineering industry, as well as the business model and market positioning of the SICK Group. The global production network of the Group and the pending investments at the headquarters of SICK AG in Waldkirch were subject to detailed discussion in this context. The Audit Committee reported on the plans for the audits of the financial statements for the fiscal year 2016.

At the ordinary meeting on December 20, 2016, the Executive Board reported on the state of business development and presented detailed planning of all Group units for the fiscal year 2017 on this basis. Together with the Executive Board, the Supervisory Board discussed in detail the targets, framework conditions, and assumptions contained in these plans, along with the inherent opportunities and risks. At this meeting, the Supervisory Board approved the acquisition of an interest in a company active in the area of Industry 4.0. Moreover, the Supervisory Board addressed the proposals of the Executive Board to restructure joint ventures in the Chinese market, approving the planned approach.

WORK IN THE SUPERVISORY BOARD COMMITTEES

The work of the Supervisory Board was supported by comprehensive preparation and monitoring of subject areas assigned to the appropriate committees. The Audit Committee and Human Resources Committee both met several times in the reporting year, while the Investment Committee met once. At each of the subsequent plenary sessions, the relevant committee chairs reported in detail on the work of the respective committees. As in previous years, it was not necessary to convene the Mediation Committee in accordance with Sec. 27 (3) MitbestG ("Mitbestimmungsgesetz": German Co-Determination Act). Owing to the extensive preparatory work carried out by the committees, the entire Board was able to rely on a broad and comprehensive information base concerning all of the fields assigned to the committees, enabling it to address the relevant subject areas thoroughly and efficiently.

The committees are composed of the following individuals:

- Audit Committee: Prof. Dr. Mark K. Binz, Mr. Klaus M. Bukenberger, Mr. Roberto Hernandez, Dr. Matthias Müller, and Mr. Franz Bausch as the committee chair.
- Human Resources Committee: Mr. Franz Bausch, Mr. Roberto Hernandez, Ms. Renate Sick-Glaser, Mr. Hermann Spieß, and Mr. Klaus M. Bukenberger as the committee chair.
- Investment Committee: Mr. Franz Bausch, Mr. Engelbert Herbstritt, Mr. Roland Schiller, and Mr. Klaus M. Bukenberger as the committee chair.
- Mediation Committee in accordance with Sec. 27 (3) MitbestG: Ms. Renate Sick-Glaser, Mr. Roberto Hernandez, Mr. Hermann Spieß, and Mr. Klaus M. Bukenberger as the committee chair.

In 2016, the committees focused on the following key areas:

- The Audit Committee concentrated on its assigned duties regarding the preparation of the audits of the financial statements and recommendations for the entire Board regarding the financial statements. It also dealt with the fields of compliance, risk management, Group taxes, and financing.
- The Human Resources Committee dealt in particular with the structure and composition of the Executive Board and the remuneration of the Executive Board members. In this context, the Human Resources Committee commissioned, according to schedule, an external remuneration study in the year 2016, the results of which were analyzed in the committee in detail.
- The Investment Committee's work focused on reviewing the investment plans for 2017 and the associated financial planning.

ANNUAL AND GROUP ACCOUNTING FOR THE FISCAL YEAR 2016

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft (EY) was responsible for auditing the accounting and Group accounting of SICK AG for the fiscal year 2016. On May 10, 2016, EY was chosen as the auditor and Group auditor by the Annual General Shareholders' Meeting of SICK AG. In this regard, the Annual General Shareholders' Meeting followed the proposal of the Supervisory Board, which in turn corresponded to the recommendation from the Audit Committee. Prior to being proposed by the Supervisory Board for selection as the auditor to the Annual General Shareholders' Meeting, EY had confirmed that there were no circumstances that might compromise its independence as an auditor or justify any doubts as to its independence. In this context, EY also declared the scope of any services rendered to the company beyond the audit of the financial statements in the previous fiscal year and any services contractually agreed upon for the following year. EY audited the annual financial statements of SICK AG, which were prepared in accordance with the provisions of the HGB ("Handelsgesetzbuch": German Commercial Code), the consolidated financial statements, prepared in accordance with the International Financial Reporting Standards (IFRS), and the combined group management report and management report of SICK AG, and provided unqualified audit opinions. The auditor thus confirmed that, in its opinion and based on the findings of the audit in accordance with the applicable financial reporting framework, the annual financial statements and consolidated financial statements give a true and fair view of the net assets, financial position, and results of operations of SICK AG and the SICK Group. Moreover, the auditor confirmed that the group management report and management

report of SICK AG are consistent with the corresponding annual financial statements and the consolidated financial statements, as a whole provide a suitable view of the position of SICK AG and the SICK Group, and suitably present the opportunities and risks of future development. All Audit Committee and Supervisory Board members received the audit documents mentioned above, the audit reports prepared by EY, and the Executive Board's proposal concerning the appropriation of retained earnings in good time.

On February 13, 2017, the Executive Board of SICK AG finalized the accounting and Group accounting of SICK AG for the fiscal year 2016, comprising the annual financial statements, the consolidated financial statements, and the combined group management report and management report of SICK AG, and approved these documents for submission to the Supervisory Board.

At the meeting of the Audit Committee on March 16, 2017 and at the accounts meeting of the Supervisory Board on March 28, 2017, the Executive Board explained the accounting and Group accounting of SICK AG and its proposal concerning the appropriation of retained earnings. Furthermore, members of the Executive Board answered questions from members of the Audit Committee and the Supervisory Board.

After the Executive Board had explained them, the Audit Committee and the Supervisory Board reviewed the audit documents for the company and the Group in the light of EY's audit reports. The auditor who attended presented detailed reports on the audit and the results of the audit to each of the Audit Committee meeting and the Supervisory Board's accounts meeting and explained the audit reports. In this context, the auditor also reported that it had not found any material weaknesses in the company's internal control and risk management systems in relation to the accounting process. Both the Audit Committee and the Supervisory Board asked the auditor detailed questions about the results of the audit and about the form and scope of the auditing activities. The discussions with the auditor also dealt with the issue of the legality of the company management, of which the Supervisory Board has assured itself. Furthermore, the Audit Committee reported to the Supervisory Board on its own review of the accounting and Group accounting of SICK AG, its discussions with the Executive Board and with the auditor, and its supervision of the accounting process. It confirmed that as part of its supervisory function, it had addressed the effectiveness of the internal control, risk management, and internal auditing systems and found them to be effective.

The Audit Committee also reported that according to the information provided by EY, there were no circumstances that might give cause for concern about the auditor's impartiality. Moreover, the Committee reported on its examination of the auditor's independence, taking the non-audit services EY had rendered into consideration, and on the Committee's assessment that the auditor possessed the required degree of independence.

The Audit Committee and the Supervisory Board were able to satisfy themselves that EY had conducted the audit properly. In particular, they arrived at the conclusion that both the audit reports and the audit itself meet the legal requirements. The Supervisory Board discussed all audit documents for the company and the Group in addition to information from EY and, based on the Audit Committee's report and recommendation, it approved the result of the audit of the financial statements. Since it had no objections to raise following the final results of its own review, the Supervisory Board gave its consent to the annual financial statements, the consolidated financial statements, and the combined group management report and management report of SICK AG. The annual financial statements were thus formally adopted. The Supervisory Board agreed with the assessment of the situation of the company and the Group as set out by the Executive Board in the group management report and management report of SICK AG. The assessment of the Executive Board was also consistent with the reports submitted by the Executive Board to the Supervisory Board over the course of the year.

The Supervisory Board considered the proposal previously explained by the Executive Board concerning the appropriation of retained earnings, particularly with regard to the requirements of the dividend policy, the effects on the liquidity of the SICK Group, as well as the interests of the shareholders. The Supervisory Board then accepted and endorsed the Executive Board's proposal concerning the appropriation of retained earnings on the recommendation of the Audit Committee. Finally, the Supervisory Board adopted this report to the Annual General Shareholders' Meeting.

In addition, the Executive Board prepared a report on relationships with affiliated companies in the fiscal year 2016 (dependent company report) and presented it to the Supervisory Board together with the audit report prepared by the auditor. The dependent company report was audited by the auditor who rendered the following audit opinion thereon: "Based on our audit and assessment in accordance with our professional duties, we confirm that

1. the factual information in the report is correct and
2. the company's contribution with respect to the legal transactions referred to in the report was not inappropriately high."

The Supervisory Board reviewed the Executive Board's dependent company report and the auditor's audit report. In the Audit Committee meeting on March 16, 2017 and the Supervisory Board's accounts meeting on March 28, 2017, the Audit Committee and the Supervisory Board, respectively, had the members of the Executive Board explain the dependent company report. In this respect, too, the Executive Board also answered questions by members of the Audit Committee and the Supervisory Board. The auditor attended these meetings as well, reporting on its audit of the dependent company report and its essential auditing results, explaining its audit report and answering questions on this score. In this way, the Supervisory Board was able to satisfy itself as to the regularity of the dependent company report, the audit of the dependent company report, and the audit report. The Supervisory Board states that following the final results of its own review, no objections are to be raised with respect to the closing declaration of the Executive Board in the report on relationships with affiliated companies.

The Supervisory Board would like to thank the members of the Executive Board as well as all employees for their great commitment and performance during the fiscal year 2016.

Waldkirch, March 28, 2017

On behalf of the Supervisory Board

Klaus M. Bukenberger
(Chairman)

SICK world-wide


Sweden
China
Germany
Japan
Hungary
Malaysia
Italy
Singapore

The

▸ **JOSEF ZIMMERMANN** has a profound understanding of sensor technology for robots.

fences are coming down

Cobots – collaborative robots that work hand in hand with humans – are on the rise. This is partly due to experts such as Josef Zimmermann, who are well-connected with leading robot manufacturers and are blazing new trails together with these partners.

At the SICK site in Reute, Josef Zimmermann, Technical Industry Manager at SICK, is standing in front of a robot from the Danish manufacturer Universal Robots (UR). With effortless precision, the gripper picks up each finished 2D laser scanner from the conveyor belt in turn and passes it on to a final inspection machine. On successful completion of the functional test, the robot removes the sensors again and places them on a conveyor belt for transportation to the next work station. The necessary secure grip is ensured by an Inspector PIM60 2D vision sensor from SICK, functioning as a camera. “The camera works in unison with the robot as if it were part of the robot arm,” explains Josef Zimmermann. “What stands out about this solution is that the camera functions were already embedded in the robot’s automation system during the process of creating the software for the robot application.” This approach saves a lot of time when it comes to implementing the camera further down the line. “As soon as you switch on the camera, the robot opens its eyes and it can get going right away,” says Zimmermann.

Intelligent sensors for robots

Josef Zimmermann joined the SICK applications department as a freshly graduated engineer specializing in high-frequency technology and optoelectronics back in October 2000. After ten years, he switched to Technical Industry Management. Ever since then, robots have played a key role in his career – or to be precise: the sensors that are involved. The creation of human-machine networks really impresses him. “Robots are working their way into more and more areas and are conquering new industries, applications, and work scenarios. Requirements differ

▸ **CAMERAS AS EYES:** Thanks to sensor-aided guidance, the UR robot is able to detect and grip objects effortlessly.

everywhere and that calls for various types of robots," explains Zimmermann. Currently, there is a particular trend toward collaborative robots – or "cobots" for short. They do not merely share a workspace with humans but are always right at the heart of the action. Instead of being closed off by a protective fence, they stand side by side with their flesh-and-blood colleagues. The cobots provide assistance, make work easier, and enable humans and machines to collaborate safely. The hope is that future generations of robots will one day even be able to take decisions autonomously. They will optimize themselves, be connected to other robots, and will be able to coordinate processes with each other. For now, that is just a far-off dream. Nevertheless, human-robot interaction is still opening up multifaceted areas of work, particularly for sensors. "Here at SICK, we can offer everything that a 'seeing', intelligent, and self-safeguarding robot could possibly need by way of sensors – cameras, image processing and identification systems, motor feedback systems for safe drive monitoring, safety-related sensors, control solutions, and much more besides," asserts Zimmermann. "This means, on the other hand, that the market requirements must be fed into the company so that they can be translated into new product features or innovative product ideas."

Deliberately getting off the beaten track is an important principle in the robotics industry. "It is the only way we will ever manage to create the new generations of robots that are required by the Smart Factories of Industry 4.0, namely networked robots that are also means of production capable of autonomous decision-making," says Josef Zimmermann. "According to experts, the other market where there is huge potential for growth is mobile collaborative robotics. By offering compact and flexible solutions, suppliers are now increasingly reaching small and medium-sized businesses that have no use for conventional single-function robots." However, it is not just robot applications that are opening up new markets and opportunities for SICK, but also the networking with manufacturers and integrators at the software control level.

A question of networking, not just adding

Up until now, there have only been two scenarios for robotic sensor technology. Conventional robots are "blind," their functions are preprogrammed, and the operational environment is clearly defined. In such cases, a specific object (e. g., a parcel) is preplaced in a particular position with a defined alignment so that the robot can grip it without "looking." Newer generations of robots have "eyes" in

▸ **HUMANS AND MACHINES** work increasingly close together.

the form of cameras. They can identify objects and distinguish between them; they also detect positions – all with the aid of the sensor-assisted robot guidance system. This means, for example, that parcels can be located in various positions on a conveyor belt and the robot can still pick them up with its gripper. The "eyes" of the robot – usually image processing systems and cameras – are add-on components. These are mounted mechanically and, in addition, the associated control software has to be implemented in the robot's main program. "And it is precisely here that we are joining forces with Universal Robots, for example, to pioneer robots with integrated sensor technology," explains Josef Zimmermann. "We have opened up the software for the camera that is being used in Reute. And UR has now made an open-source version of the product available in its Universal Robots+ online showroom." It is no longer the connector that serves as the interface, but the software and system designs. Developers working with the control software of a UR robot can design the camera directly into the robot, so to speak, and connect the camera using the software. That means the camera becomes a plug-and-work solution. All control processes, such as the calibration of the sensor or of objects, measurements, and inspections, can run directly in the robot control interface. The programming can be done in a matter of minutes and at the touch of a button – or by guiding the UR robot manually to its waypoints.

A future without fences

According to Josef Zimmermann, this is just the beginning: "If you took things through to their logical conclusion, it would also make sense to integrate safety sensor technology into the robots through networking. Once integrated into the robot controller, robots and cobots would then already be equipped with their own safety strategies on installation or would be able to plug into existing ones. In addition, manufacturers and integrators would (depending on the type of robot and application) be able to combine ready-to-use and easy-to-commission sensor packages with image processing, camera technology, and safe sensor and control technology – including monitored robot drives." Thus, a future without fences lies ahead for autonomous machines, a future in which they can be used more flexibly than ever before. "Robots ready to use, cobots ready to collaborate" – we are already well on the way to achieving this. Particularly as detection, optimization, and interrobot communication no longer pose any obstacle thanks to industrial-standard identification and communication technologies.

▸ **ALL CONTROL PROCESS** are able to run directly in the UR robot's control interface.

Smart networker

Michael Kaspar has been in charge of the Smart Sensors portfolio at SICK for four years. As product manager from the Presence Detection division he is certain of one thing: Industry 4.0 will be utterly impossible without intelligent and communicative sensors.

For Michael Kaspar, the cafeteria at the SICK Group headquarters in Waldkirch is an important meeting place. And not just at lunchtime. "It is the ideal location to compare notes with colleagues from all the different areas," explains Kaspar. "It's where everyone meets up: from the trainees to the members of the Executive Board." Networking is vital to his role as a product manager within the Presence Detection division. It was back in 2013 that he began reorganizing the company's portfolio of intelligent and communication-enabled sensors. "But I didn't do it all on my own," he stresses. "I was part of a motivated team and was supported by extensive networks within the company and external networks involving our markets and regions."

Product development is like running a marathon

Kaspar, who is only 33 years old, is representative of many of his colleagues at SICK: motivated, well-educated, with good communication skills, and with an affinity for technology and the Internet. Nowadays, you have to do more than just tinker around to come up with innovations. There is a need for technology strategists who do not only work in splendid isolation. "Product development is a multifaceted challenge," says Michael Kaspar with conviction. "Customers have all kinds of requirements and you have to meet them where they're at. At the same time, it is a question of identifying new technological possibilities so that you can come up with innovations that, in turn, are relevant to the customers. The same principle applies when collaborating with colleagues from development and production, sales, and Solution Centers. Without their knowledge and support you are not going to get anywhere." What it ultimately comes down to, is collaborating to make working practices, tools, and structures more efficient and agile. After all, the market never sleeps. "If we want to extend our lead, we have to be quicker and more innovative than our competitors," asserts Kaspar. His field of work could be described as a kind of technological race with various disciplines, calling for the same kind of endurance that is necessary when running a marathon. There are hurdles to overcome just like on an obstacle course. Then, when the launch of a new product appears on the horizon, the qualities of a sprinter are sometimes required.

▸ **MICHAEL KASPAR**
looks after SICK's
Smart Sensor portfolio.

Michael Kaspar did not end up in his job by accident. While training as a mechatronics engineer, he caught up on his education by completing a vocational baccalaureate diploma. After that, he studied to become an industrial engineer. As a working student, he got his first taste of what a product manager does and from that moment he knew: "This is what I want to do for a career." After completing his degree, he started working at SICK. What he found particularly surprising was the level of freedom and responsibility that he was given as a newcomer from day one. "Far from being treated as a drudge, I had my own responsibilities right from the start. Being able to develop ideas, discuss them with colleagues and customers, and ultimately convert them into product innovations – still until today, that is the greatest motivation for me."

"Thinking" sensors for Smart Factories

From the moment he was entrusted with building up the Smart Sensors portfolio for SICK back in 2013, Michael Kaspar was hooked. After taking up his new role, he was immediately gripped by the vitality of the megatrend that is Industry 4.0. The Smart Factory has already become a reality to some extent, with work stations now being able to coordinate their processes and functions with one another in some settings. In other scenarios, production structures are based on autonomous, self-organizing, and self-optimizing units. And Michael Kaspar is right in the middle of all that: "His" Smart Sensors are the key to implementing Industry 4.0. Smart Factories need the kind of data that only "thinking," intelligent, and communication-enabled sensors are really capable of delivering. "The term communication-enabled refers to the ability to exchange sensor data with a machine control or with a cloud-based application," explains Michael Kaspar. "For instance, this means that sensor parameters can be automatically adapted to new production orders in a matter of seconds. Alternatively, a photoelectric sensor can detect contamination on its optics and report this directly to the control center."

Best-in-class sensors

SICK is currently one of only a handful of suppliers that have anything substantial to offer in the field of sensor intelligence. This is why the company's core brand promise has been: "Sensor Intelligence." since 2004 already. "As far as detection technology is concerned, our Smart Sensors are best in class. Not only that, but they also support the IO-Link communication standard that SICK played a key role in developing," explains Michael Kaspar. "That provides the basis. What makes them smart – and this is our unique selling point – are the extensive options they offer for self-diagnostics and process diagnostics as well as the integrated logic functions for signal processing directly in the sensor. This is the difference between us and other suppliers and also the reason why we are one step ahead of them."

But what does intelligence based on diagnostic capabilities and integrated functions really mean when it comes to using the sensors in Smart Factories? "Smart photoelectric proximity sensors can, for example, detect patterns in the structure of an object and any changes to it. This process is performed autonomously and directly in the sensor, not in the PLC. This speeds up the machine processes and makes for a leaner control program. The benefits for customers are greater plant efficiency and lower costs. The extensive diagnostic functions of the Smart Sensors make it possible to detect and resolve critical situations promptly before

▸ **NETWORKING** is an indispensable part of Michael Kaspar's job as a product manager.

unscheduled machine downtime has a chance to occur. This increases operational safety and, in turn, the productivity of the entire plant." For an example of how proven technology can also be "upgraded" to a Smart Sensor by adding the necessary intelligence, you need look no further than at the company's inductive sensors. "Our portfolio includes inductive Smart Sensors, which – for example – are used to detect the distance between the object and the sensor," remarks Michael Kaspar. "In this way, we can detect when machine processes deviate from normal conditions and can output a warning in good time, or even make statements about the quality of the product itself."

Ultimately, end consumers also benefit from intelligent sensors and dynamic, interactive production processes. "Batch size 1" is another keyword that springs to Michael Kaspar's mind in this context. "Lots of people are looking for ways to express their individuality. They want products that are perfectly tailored to their individual requirements," says the product manager. "Genuine one-of-a-kind items like this are either impossible to achieve with conventional production structures or are very expensive." This is where the innovation potential of Smart Sensors becomes evident. For instance, furniture can now be configured over the Internet. The dimensions, design elements, type of wood, or colors can be freely selected, combined, and ordered. The customer order is then sent to the production control system and machines via the Internet. If these are equipped with intelligent sensors that the control can configure as appropriate for the product, the desired piece of furniture can be manufactured automatically. It is produced, checked, packed, and dispatched in accordance with the dimensions, materials, and colors specified in the order. No intermediate steps have to be performed manually at any point. "The customer receives his or her personalized unique item for the price of a mass-produced product," says Kaspar as he gets to the heart of the matter.

»The customer receives his or her personalized unique item for the price of a mass-produced product.«

However, we are still a long way from tapping the full potential of Smart Sensors. "An increase in autonomous structures, networked plants and factories, software and IT in production and in products – all of this can already be noticed today and makes Smart Sensors a highly relevant technology for SICK with regard to the future. Therefore, this will lead to greater demand for flexibility – not only from our sensor solutions but also from us as a company. Industry 4.0 shaped by individual needs is becoming a reality on the ground at our customers' sites. We have to be able to respond to their specific requirements exactly and quickly. The consequence of this will be a constant flow of new functionalities for Smart Sensors," says Michael Kaspar with absolute certainty. "Our task is to anticipate the future, identify trends early on, and develop scenarios," believes Kaspar. "The key for this is to develop a high level of customer intimacy, have a lively exchange of ideas, and establish good links within the company." But what we need above all are "smart" product managers and networkers like him.

A comprehensive service package

With its team of around 600 service employees, SICK has a close relationship with its customers all over the world. Markus Schmid and Matthias Wölker are members of the team. They are responsible for the largest service contract that SICK has so far been awarded in Europe: installing 76 track and trace systems for Swiss Post.

▸ **MARKUS SCHMID AND MATTHIAS WÖLKER** work closely together on installing the track and trace systems at the Swiss Post parcel center in Härkingen, Switzerland.

As soon as the gates open at the parcel center in Härkingen, things suddenly get going very fast. A truck full of parcels and small packages has parked and is unloaded immediately. The conveyor belts promptly spring into action, taking parcels of all shapes and sizes a little closer to their destination.

Every parcel finds its way to the right delivery truck after passing through the labyrinth of conveyor belts. “One important factor for the correct delivery is identifying the parcels as they arrive. Our track and trace solution assists with this,” says Matthias Wölker.

Changeover during ongoing operation

SICK is equipping three of Swiss Post’s parcel centers with 23, 26 and 27 systems, respectively. The particular challenge involved is the changeover to the new systems during operation. The old systems are dismantled and the new ones installed overnight. On the following day, Matthias and Markus have until 4 p.m. to set up the system correctly. “When the customer awarded us the contract, it was very important to them that their day-to-day business would not be affected,” says Matthias Wölker. “Swiss Post handles around 18 million parcels every day, so it’s crucial that everything continues to function smoothly even during the installation work.”

Dimensioning, weighing, scanning

Given the volume of mail items that Swiss Post processes, it is obvious that the company needs a highly efficient solution for identifying the incoming parcels entrusted to

▸ **MARKUS SCHMID AND MATTHIAS WÖLKER** make sure that all the system components – cameras, scanners, and scale – are carefully coordinated.

it. “Our track and trace solution is a so-called DWS system that carries out several tasks at once. In one step it measures the dimensions of the parcels, weighs them, and scans the bar codes that are stuck or printed on them,” explains Matthias Wölker. “It almost doesn’t matter how the parcel is positioned on the conveyor belt. Our cameras are installed in a way that enables them to identify the parcels from above and from the sides.” Smaller packages are transported in totes to prevent them from slipping into the gaps between the belts and the rollers or from being damaged. The camera installed underneath the conveyor belt identifies the parcel sleeves and reports them to the system. When the parcels are weighed, the weight of the parcel sleeve that is stored in the system is deducted from the total weight of the package. By recording the exact weight and volume of the parcels, Swiss Post can automatically check, for example, whether they have the correct stamps. The captured data is transferred to Swiss Post’s IT system via an Ethernet interface for further processing. The track and trace system can also be accessed remotely to provide highly efficient control and maintenance services.

Experts on-site

Markus Schmid and Matthias Wölker make sure that all the components are carefully coordinated before the system goes live in the evening. They adjust the cameras, scanners, and scale – apparently impervious to the bustle and the parcels constantly traveling along the conveyor belt above their heads. They work alternately at the parcel center on installing and commissioning the systems.

Matthias Wölker is an international service engineer at SICK. His work involves a large amount of travel, but he describes it as his dream job with a lot of responsibility. “I like being on-site with the customer because I enjoy the variety. Every assignment is different, which means that I need to be flexible and prepared to take on a great deal of responsibility. Practically, the service engineers are the face of the company.” He says that the challenges of the job are apparent. “SICK supplies so many different products and system solutions and you have to be very familiar with them if you want customers to take you seriously as a specialist in the field. Moreover, we generally work to very tight deadlines, so there’s no margin for error.”

The installation is scheduled to take seven to eight weeks at each parcel center, which comes down to installing four systems per week. This is an ambitious time frame which exceeded Swiss Post’s expectations when SICK was awarded the contract. Markus Schmid spends most of his time in Härkingen. As a service engineer at SICK AG Switzerland, he has already worked on other projects for Swiss Post. “This is the biggest service

▸ **FOUR SYSTEMS PER WEEK –** without meticulous documentation and forward planning, this would be an impossible task.

contract in Europe in SICK's history. I am really honored to be playing a central role in it. It is particularly rewarding to work on such a large project that is also based on a long-term relationship with the customer."

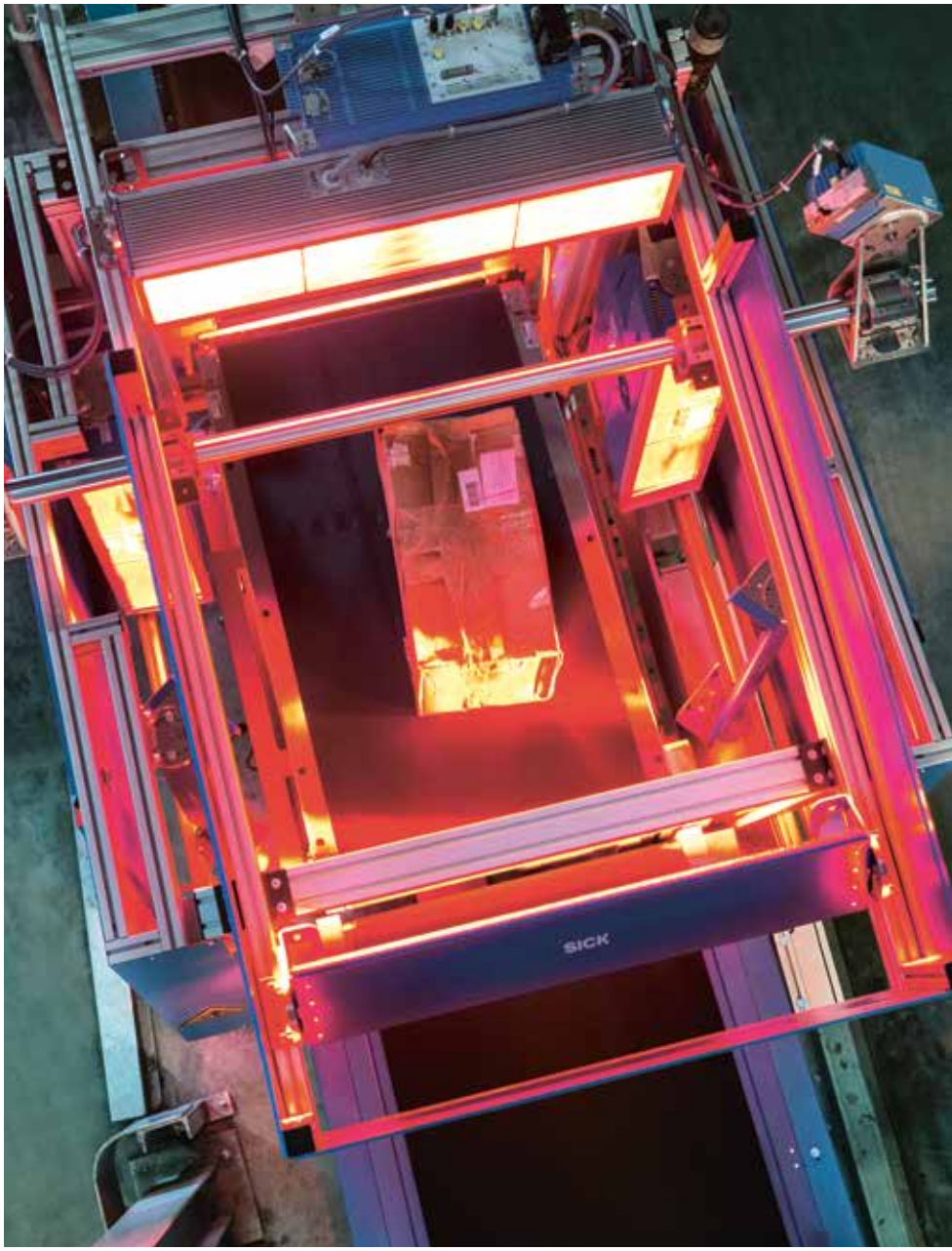
»This is the biggest service contract in Europe in SICK's history.«

Everything under control

When Markus Schmid arrives at work in the morning, the system has been assembled and is ready and waiting for him. To save time, the system brackets are delivered pre-assembled in Härkingen, put in position overnight, and fitted with the individual components. "I have until the afternoon to set up all the system components so that they work together perfectly and so that the cameras, scanners, and scale form a reliable track and trace system at the end. Swiss Post then sends a trigger signal to the system and we carry out a joint check to make sure that the data transfer is working. When the first truck arrives, the system goes straight into live operation."

The next day, Markus Schmid and his mobile office move on to the next conveyor belt. He concentrates on monitoring all the system settings. If he has to adjust the components, he simply climbs onto the conveyor belt or sometimes lies on his back underneath it. "I know the system like the back of my hand. It's really important that I do because the installation process lays the foundation for the system or the product to go into live operation."

During the course of the day, Markus Schmid tests and fine-tunes the performance of the track and trace system several times. He has brought a sample parcel with him for this purpose. The square wooden box, which is covered with various test labels, travels along the conveyor belt again and again. After only a few runs, everything has been coordinated and set up correctly. But Markus Schmid is a perfectionist and he wants the pictures taken by the high-resolution cameras to be perfect as well. This means that the little wooden parcel has to take a few more trips along the conveyor belt.



▸ **AROUND 18 MILLION PARCELS** are processed by Swiss Post every single day – also the aid of track and trace solutions from SICK.

»Sensor intelligence is the gateway to the world of Industry 4.0«

▸ **FOR YEARS NOW,** SICK has been gradually converting its production and logistics systems to Industry 4.0.

Everyone talks about Industry 4.0, but very few people actually know what it is about. Bernhard Müller, Management Board member responsible for Industry 4.0, and Dr. Kay Fürstenberg, Head of Central Research and Development, discuss the chances and challenges that accompany the fourth industrial revolution.

How important are sensors for the success of Industry 4.0?

Bernhard Müller: Industry 4.0 describes the complete digitization in production and logistics. In the not too distant future, machines will be able to operate autonomously and optimize themselves. This is impossible without intelligent sensors – they are the eyes and ears of such machines.

Dr. Kay Fürstenberg: Intelligence in sensors, as we have been implementing it rigorously in more and more product versions since 2004, is the key to Industry 4.0. The customer will no longer just buy a sensor, but a device which uses its computing and storage capacity to preprocess a multitude of sensor data to form information. This makes it possible to not only control machines but also to prepare suggestions for optimizing production processes, for example.

What exactly is meant by intelligence?

Bernhard Müller: A key aspect of intelligence in our sensors is the system expertise from SICK as well as our application experience in a variety of industries. This is not just a unique selling point; it also proves our competitive edge in terms of technology. We currently have arguably the widest portfolio of all suppliers.

Dr. Kay Fürstenberg: Only linking application knowledge with the flexibility of modern software architectures, and thus gaining the option to process data in the sensor and in the cloud, is what lifts sensor technology to the next level. The intelligent sensor is the gateway to the world of Industry 4.0, so to speak.

To what extent has Industry 4.0 already been implemented at present?

Dr. Kay Fürstenberg: The subject is at the very top of the agenda in industry. So far, there are no factories where Industry 4.0 has been fully implemented. However, various lighthouse projects at universities, institutes, and in industry clearly show the added value that can be achieved with transparent, highly flexible, and variable production and logistics.

Bernhard Müller: I am sure that, in this day and age, no one would plan a new factory that did not incorporate the ideas and aims of Industry 4.0. It will get interesting when these ideas are integrated into existing production or logistics structures. When companies carry out an upgrade like this, they want to enter a new world but without leaving behind everything that has worked up to now, such as existing machines. This is where sensor technology offers access to both worlds: the old world of control communication and the new world of cloud computing.

▸ **BERNHARD MÜLLER** has been the Management Board member of SICK AG in charge of Industry 4.0 since July 2015.

Dr. Kay Fürstenberg: As a matter of fact, Industry 4.0 represents a completely different control concept in the final development stage. Control functions can then be represented locally using intelligent, networked sensors and actuators. Already today, it is possible to perform functions on two levels: those which must be carried out in real time in the sensor and those requiring a great deal of time and computing power on networked computers – ultimately, that is all the cloud is.

What does Industry 4.0 mean for SICK as a market player?

Dr. Kay Fürstenberg: Industry 4.0 allows the physical and virtual worlds in production and logistics to merge in order to form so-called cyber-physical systems, which communicate via the Internet of Things in a highly connected way. Particularly intelligent sensors and systems deliver the required data. The user can then process, sort, and evaluate these data on higher levels. This creates transparency in the processes and, along with the collective application knowledge that SICK possesses, gives us the huge opportunity to tap into new business fields with the help of smart data analysis.

Bernhard Müller: By strategically organized industry management, SICK has, in fact, developed a level of expert knowledge which is unparalleled in the industry. What's more, for many years we have been implementing projects in our own production and logistics departments which are oriented toward the very ideal of Industry 4.0 – the Smart Factory. We are currently in the process of converting an assembly line fully in accordance with Industry 4.0. All of this makes us a premium partner that can accompany its customers proficiently when it comes to implementing Industry 4.0.

What risks come along with these opportunities?

Bernhard Müller: It is crucial for companies to have their own data under control anywhere and at all times. Moreover, there must be rules for when a company uses either third-party data or a third-party cloud to store its own data. Without a policy like this, it won't work. This is why SICK has become actively involved as one of the founding members of the Industrial Data Space Association. One of the most important tasks performed by the association is ensuring secure data exchange between certified participants.

Dr. Kay Fürstenberg: It is all about digital sovereignty. Therefore, only companies certified by Industrial Data Space can participate in a data exchange. They have full control over their data in the cloud and

determine independently who can use it when, in which way, and for how long. Only uniform and transparent ownership and usage conditions like these, as well as efficient, hierarchical safety precautions, create the necessary level of trust. This network is thus becoming the foundation for data-based services, which will also considerably expand our business model in the long run.

To what extent will new work scenarios arise?

Bernhard Müller: If the concepts and structures associated with Industry 4.0 find their way into production and logistics, the work will be allocated differently and, at the same time, will add considerably more value. Already today, it is evident that strenuous or potentially harmful tasks, for example, are increasingly being performed by robots. Thereby, it will become more and more common that these do not work separately behind a safety fence, but as collaborating robots, hand-in-hand with people – thanks to intelligent and networked safety sensors.

Dr. Kay Fürstenberg: Human-robot collaboration creates jobs of a new quality for which, in turn, well-trained specialists are needed. There will be new tasks which will have much less of a preparatory or executive nature, but, instead, will particularly require decision-making abilities. And that is what humans can do particularly well.

What needs to happen for Industry 4.0 to accelerate even further?

Dr. Kay Fürstenberg: The human imagination is often a limiting factor, particularly when it comes to what can be done with smart data. New ways of thinking are just as necessary as looking beyond the horizon. At the same time, however, you also need to know which areas require attention from a user's viewpoint. Only all of this taken together opens up paths to new business fields, which can then quickly become lucrative.

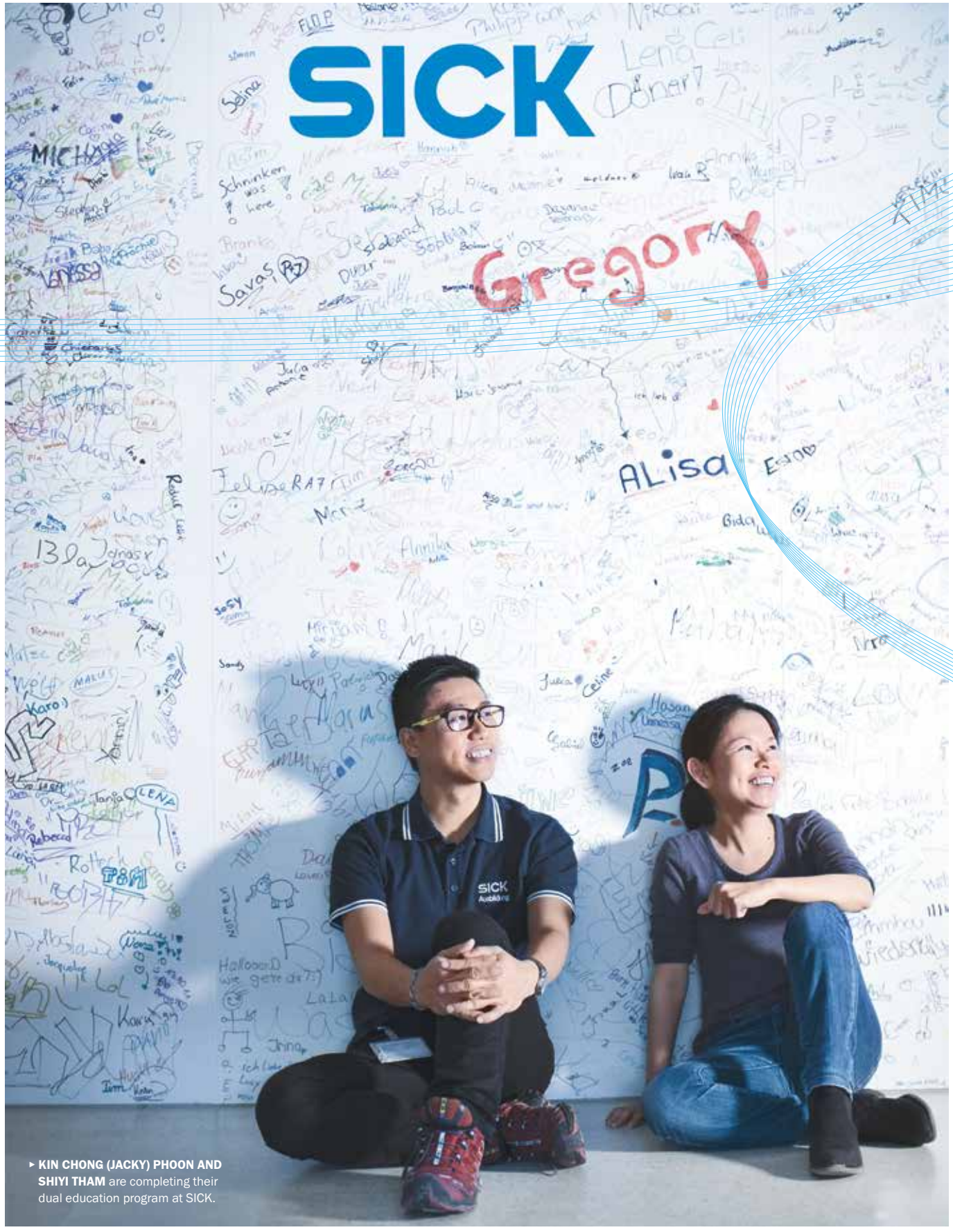
Bernhard Müller: In many cases, an unwillingness to take risks is definitely an obstacle in industry and with possible investors. At the same time, we need to accept that not every project leads to a profitable business idea straight away. Without creativity – but most importantly, without capital – Industry 4.0 will only move forward in small steps in economic terms.

What experience in this respect have you had at SICK?

Dr. Kay Fürstenberg: At SICK, we are definitely in an excellent starting position. For many years, the company has invested around ten percent of its annual sales in research and development. At the same time, there is great emphasis on free thinking. This is the prerequisite for creative research and development. The large network of experts in the company accompanies our ideas on the path to innovation.

Bernhard Müller: Industry 4.0 requires a great deal of patience from those who implement the topic and those who provide the technologies required. Specifically, this means enduring reliability on the company's part when it comes to goals and decisions. You must be able to see where you are heading; a hesitant approach will not lead to success. SICK fully meets these requirements.

▸ **DR. KAY FÜRSTENBERG** has been helping to shape research and development at SICK since 1999.

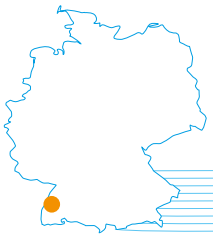


▸ **KIN CHONG (JACKY) PHOON AND SHIYI THAM** are completing their dual education program at SICK.

Life in the dream-land for engineers

ShiYi and Jacky came to the country of tinkerers and inventors two years ago to embark on their dual education program. SICK had already prepared them for their stay in Germany when they were still in Singapore. They are completing the practical phases of the program in Waldkirch and Reute.

10.342 km
Singapore ✈ Waldkirch



It is just after 8 a.m. and all is quiet in the SICK trainee workshop. All the trainees and students are concentrating hard at their desks and are deeply engrossed in their tasks. In the bright glow of their work lamps, they are busy connecting up brightly colored cables or are engaged in switching, soldering, design, and programming work. Sitting among them are ShiYi Tham and Kin Chong (Jacky) Phoon from Singapore. They are on a study program that allows them to follow a dual course of study in Germany thanks to the cooperation of German companies and the Government of Singapore. SICK is one of the first companies to get involved in the initiative.

"As a globally active company, we consider it very important to cultivate competencies all over the world. With sites in Malaysia and Singapore, we want to build up competencies on a long-term basis there, too. That is why we are supporting students like ShiYi and Jacky in their dual education program. In the same way that we enable our German students to go abroad," explains Benno Bohn, Training Manager at SICK.

ShiYi is studying electrical engineering while Jacky has opted for mechanical engineering instead. The three-year program comprises alternating theoretical and practical phases at Baden-Wuerttemberg Cooperative State University (DHBW) and at the company. ShiYi and Jacky are gaining a lot of varied experience at the SICK sites in Waldkirch and Reute, where they are able to put the theory they have learned directly into practice.

From simulated sunlight to global databases

Currently, Jacky is concentrating on presence detection for objects in particular. For instance, he has developed a new mounting concept to enable the customized integration of magnetic cylinder sensors. Another one of his projects focused on the international rollout of a quality assurance database. Jacky translated the operating principles of the database for his SICK colleagues in Malaysia and trained them remotely via a telephone conference call with screen sharing. "Having

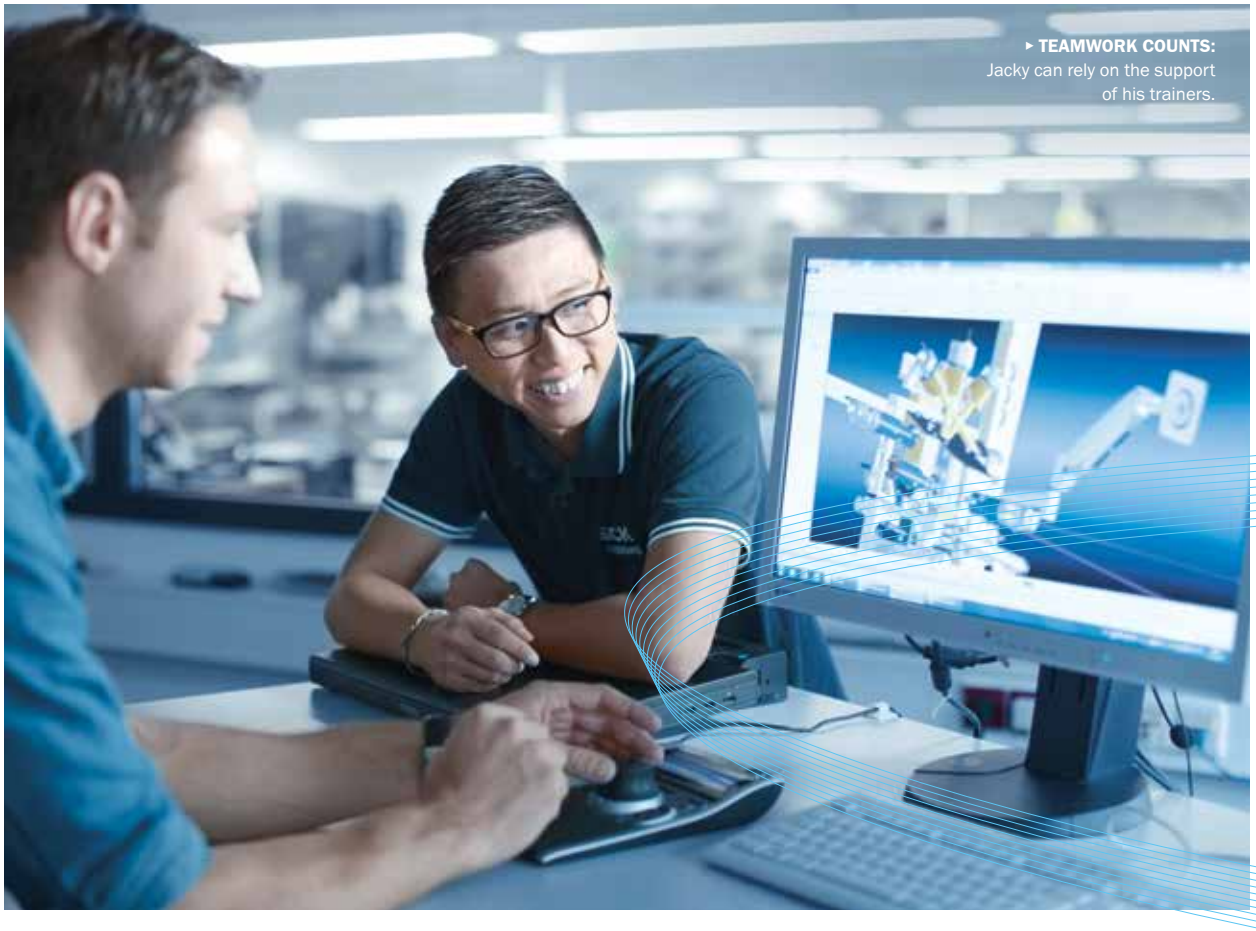
▸ **SHIYI** loves the high level of innovation and the freedom to work independently at SICK.

▸ **PRECISION** is required in fine adjustment work.

»It is absolutely astonishing what an amount of work and effort goes into a high-quality sensor.«

something explained to you in your native language is always an advantage," says Jacky, who – after two years in Germany – is clearly speaking from own experience. "I was really happy to be able to help in this regard." He himself speaks fluent English, Malay, Mandarin, and Cantonese – and now German as well.

As part of her responsibilities, ShiYi has to test the functional capabilities of laser scanners. The devices have to work perfectly under various ambient conditions, including sunlight. To ensure reliable results, ShiYi started by calculating the radiant intensity of sunlight, which she is now simulating in product tests with the aid of specially adjusted LED lamps: "It is absolutely astonishing what an amount of work and effort goes into a high-quality sensor." At present, ShiYi is also developing a printed circuit board to help power a long range distance sensor via Ethernet. "If data transmission and power supply can be combined in a single cable, it will drastically reduce cabling efforts for our customers, e.g., in production or logistics environments. The technology is fascinating and it's a really exciting project to work on."



▸ **TEAMWORK COUNTS:**
Jacky can rely on the support of his trainers.

»For us in Singapore, Germany is a dreamland for engineers.«

293
young people were in training at SICK in 2016.

What ShiYi and Jacky particularly like about working at SICK is the good cooperation between colleagues and the cross-divisional teams. They also appreciate the level of trust that their trainers place in students and their capabilities. “We have a high level of autonomy over our tasks. It’s not like that in Singapore. Over here, I am allowed to think things through for myself and solve problems on my own,” explains ShiYi. “Of course, my colleagues are there to advise and assist me whenever I need it. But I think it’s good to be given the overall responsibility. Knowing exactly what you can contribute to the success of a project is an incredible source of motivation.”

A trip home

While their fellow students from Germany enjoy discovering different cultures as part of a three-month semester abroad, ShiYi and Jacky will be spending this time back home in Singapore. “For us, it works the opposite way around: We study abroad for most of the time and can now spend a semester at home,” says Jacky enthusiastically. “We will be completing the next practical phase of the program at SICK in Singapore. That is where we already did the preparatory courses before starting to study in Germany; we’ll then be able to see our old colleagues again. And it will also be an opportunity to visit our families, of course.”

16
vocational trainings and dual study programs are available at SICK.

However, neither of the two can be described as homesick. ShiYi is a big fan of skiing: “It’s great fun and I like the German winter. In Singapore, it’s summer all year round.” Meanwhile, Jacky is being introduced to the traditions of the Baden region by his host father, who – coincidentally – also happens to be a SICK employee. “My host family operates a vineyard and there’s always a lot to do. Naturally, I help out with the grape harvest. And I’ve also learned a good deal about the subsequent fermentation process.”

The right choice

After almost two years, ShiYi and Jacky are absolutely certain that they made the right choice when they opted to study in Germany and decided on SICK as their training company. “For us in Singapore, Germany is a dreamland for engineers,” admits ShiYi. “That is why we felt we could learn so much by coming here.” For ShiYi, the determining factor in the decision for SICK was the high level of innovation. She also thinks that the concept of the dual education program makes perfect sense: “This concept does not exist in Singapore. Although it is possible to study while working, night classes are the only option.” For Jacky, the key factor was the harmonious mix of interesting products and sound corporate culture: “I think it’s great how much SICK cares about its employees. Take, for example, the health courses it offers or the cafeteria. Also, our trainers support us really well.” Conversely, the trainers are just as pleased with ShiYi and Jacky. “Those two are our first ever students from Singapore,” explains Benno Bohn. “They are a true asset to our company. We would be delighted to carry on working with them at the end of their studies – either here or in Singapore. Their success at SICK and in their academic studies confirms us in our belief that, starting from day one, international networking between our employees is of great importance.”

▸ **TINKER, TINKER, AND TINKER SOME MORE:** ShiYi is currently working on a new printed circuit board.

Combined group management report and management report for SICK AG

Combined group management report and management report for SICK AG

for the fiscal year 2016

Pursuant to Sec. 315 (3) HGB ("Handelsgesetzbuch": German Commercial Code) in conjunction with Sec. 298 (2) HGB, the SICK group management report has been combined with the management report for SICK AG again this year. The management report is therefore referred to in the following as the combined management report. The financial statements of SICK AG, prepared in accordance with HGB provisions, and the combined management report will be published in the German Federal Gazette ("Bundesanzeiger") at the same time. Unless stated otherwise, the information provided below applies equally to the SICK Group and to SICK AG. Sections that contain information relating only to SICK AG are designated accordingly. Due to rounding differences, figures may differ slightly from the actual figures. The basis of consolidation is presented in detail in the IFRS notes to the consolidated financial statements.

The combined management report for the SICK Group and SICK AG for the fiscal year 2016 is presented below as of the end of the reporting period December 31, 2016:

FUNDAMENTAL INFORMATION ABOUT THE GROUP

BUSINESS MODEL

ORGANIZATIONAL STRUCTURE OF THE GROUP

The organizational structure of the Group reflects the complex structure of the customers and markets. As a result, competence and production centers are located all over the world. The sales function is generally performed by the Group's own sales and service companies in all key industrial countries. The product-generating entities are controlled from the German locations. Products for regional markets are developed and manufactured in the Savage / Eagle Creek and Stoughton locations in the USA; there are also production facilities in Singapre and Johor Bahru (Malaysia). At the same time, these locations also have competence and application organizations for the respective region. This results in the following breakdown of the operating business: A total of four sales regions, namely Germany; Europe, Middle East and Africa (EMEA); Asia-Pacific and North, Central and South America (Americas), form the structure in which the Group operates. The largest manufacturing and development location is the Group's headquarters in Waldkirch near Freiburg. It is from this head office that SICK AG carries out the tasks of group management. It is managed by an Executive Board that comprises five members. A twelve-member Supervisory Board with equal numbers of employer and employee representative forms the oversight body.

BUSINESS PROCESSES AND PRODUCTS

In line with its brand claim "Sensor Intelligence.", the SICK Group focuses on the development, production, and distribution of sensors, systems, and services for industrial automation technology. The company was founded by Dr. Erwin Sick in Vaterstetten near Munich in 1946 and celebrated its 70th anniversary in the past fiscal year. Business activities center on creating added value for customers from a wide range of target industries with intelligent sensor solutions. SICK offers these solutions globally in the form of components, systems including software, or individual services. The SICK Group divides its business activities into factory automation, logistics automation, and process automation business fields.

BUSINESS FIELDS

The factory automation business field is represented in many industries. In addition to the automotive industry and the field of consumer goods, these include the mechanical engineering, electronics and solar industries as well as drive technology. The most important tasks performed by the non-contact sensors and camera systems as well as the encoders and distance measurement systems in this field include controlling manufacturing, packaging, and assembly procedures as well as quality assurance. With special sensors that reliably detect invisible labeling, SICK protects against product and brand piracy, thus making a major contribution to the safety of customers and consumers. In order to reliably rule out dangers to staff working with potentially hazardous machines, SICK's products, system solutions, and complete solutions under the safetyPLUS® brand in the area of safety technology avert potential accident risks. With the help of the bar code, 2D code, and RFID identification technologies as well as volume measurement technology, processes are managed to ensure top-quality end products while at the same time guaranteeing seamless tracking of packaging, an article, or an electronic component.

The logistics automation business field designs and optimizes the entire logistics chain by automating material flows or making sorting, picking, and warehousing processes more efficient, faster, and more reliable. Identifying and directing baggage on transportation and sorting units at airports is one of the areas where solutions from the logistics automation business field are used. Logistics centers as well as numerous courier, express, parcel and postal service providers use bar code readers and volume measurement systems from SICK to deliver millions of packages each year quickly and reliably to the recipient's front door. SICK solutions in the distribution centers of well-known retail groups, clothing companies, automotive manufacturers, or specialist retail chains are also responsible for example for keeping the shelves in retail outlets or boutiques constantly filled and for supplying car salesrooms and garages with supplies and spare parts at short notice. The automation of sea ports is another domain in which SICK's logistics automation business field operates. In this field, laser scanners have proved their worth in preventing cranes from colliding as well as in positioning containers or track monitoring for container transporters. In the field of traffic, SICK sensors are used in toll systems as well as in controlling ventilation and air circulation systems, thus improving air quality and safety in tunnels.

The process automation business field provides sensors as well as tailored system solutions and services for analysis and process measurement technology. With a broad range of products for gas analysis, the concentration of a large number of substances in gas mixtures can be detected. SICK supports its customers in reducing greenhouse gases with carbon dioxide analyzers for combustion, process, and drying units among others. In the field of dust measurement technology, SICK is in a position to detect dust concentrations precisely using different measurement principles, thus ensuring compliance with emission limits, or to identify process disruptions at an early stage. SICK sensor systems carry out various tasks in the area of volume flow measurement, for example determining volume flows in facilities and measuring natural gas volumes for the natural gas industry, or monitoring emissions in industrial processes. With all of these products for waste incineration plants power, steel and cement plants, for the oil and gas industry as well as for chemical and petrochemical plants and refineries, SICK makes an important contribution to maintaining an environment worth living in.

SALES MARKETS

The main sales markets for the SICK Group are industrialized countries as well as those growth regions that are on the cusp of industrialization. We extend our regional reach by setting up new sales companies and by continuously maintaining a global network of distributors. To enable faster supply to our sales and service entities around the globe, the new distribution center at the Buchholz location near Waldkirch commenced operations in the first half of 2016.

EXTERNAL FACTORS INFLUENCING THE BUSINESS

The main external factors influencing the business of SICK include changes in the economic environment as well as sector-specific economic developments. These are explained below in "Macroeconomic environment." Other external factors influencing the business and their effects, for example changed price levels due to technical advancement, changing legal framework conditions and norms, changes in prices of commodities and intermediate products as well as exchange rate fluctuations, are presented in the opportunity and risk report.

RESEARCH AND DEVELOPMENT

In view of the considerable competitive pressure, continuous investment is needed in research and development (R&D) in order to secure and strengthen our leading market position. The innovation process at SICK therefore has one objective: We want to offer solutions in the form of intelligent serial products, systems, or services that help our customers master problems and thus contribute to raising productivity, increasing flexibility, or saving resources.

To meet this high demand, the SICK Group expanded the area of R&D once again in the fiscal year 2016 and invested EUR 143.4 million (prior year: EUR 129.0 million). This is equivalent to 10.5 percent of sales (prior year: 10.2 percent). R&D expenses include amortization of development expenses capitalized in prior years of EUR 7.3 million (prior year: EUR 7.9 million). An additional EUR 6.7 million (prior year: EUR 7.7 million) was capitalized this year, utilizing third-party services on a small scale only.

Thanks to the intensive R & D activities, we have a highly diversified product portfolio that meets the requirements of completely different industries and also serves markets ranging from those that respond quickly to cyclical fluctuations to those that are slower to respond. This makes it easier for us to compensate for any uneven development in our target industries, provoked for instance by cyclical swings.

Further impetus for R & D comes especially from intensive dialog with customers, universities, and research institutes. Gearing the global sales organization consistently to the industries served also creates a basis for understanding customers' requirements and translating these into new products, system solutions, and service concepts. An average of 964 employees contributed to translating innovative ideas into marketable products in the fiscal year 2016. This figure is up 11.6 percent on the prior year, due to the expansion of R & D capacities at the foreign locations in particular. Compared to the prior year, staff numbers there increased by an average of 13.6 percent to now 134 R & D employees.

PRODUCT INNOVATIONS

The fiscal year 2016 saw the SICK Group drive forward innovations in all product areas, thus supplementing its widely diversified portfolio in key areas. The most important new developments from the past year are presented below:

Networked production and control processes in complex machine environments determine the industrial future and make Industry 4.0 possible in the first place. SICK therefore expanded its product portfolio in the fiscal year 2016 to include Smart Sensors. These already today support dynamic, real-time-optimized, and self-organized industry processes. They record real operational statuses, turn these into digital data, and share them automatically with the process controller. Smart Sensors also make it possible to solve complex automation tasks in a simple manner: So-called Smart Tasks process the detection or measurement signals of a sensor and thus ease the burden on the machine developer when creating the control program and the control itself. Especially when it comes to fast, partial plant processes which take place close to the sensors, it is useful to carry out further processing of the detection signals remotely. This saves time during data evaluation in the control, accelerates machine processes, and makes high-performance, cost-intensive additional hardware unnecessary.

With housing barely the size of a fingertip, the newly developed PowerProx Micro is the smallest MultiTask photoelectric sensor with time-of-flight technology worldwide and is therefore ideal for use in the tightest environments. It has a sensing range of 800 millimeters, which is enormous compared to its ultra-small design. The sensing range can be adjusted simply, precisely, and quickly thanks to its straightforward teach-in button. Its rugged housing and smooth cable entry glands mean that the sensor is well-equipped for reliable use in industry.

Launched on the market in 2016, the modular Safeguard Detector functional safety system increases the safety and productivity of packaging machines. The Safeguard Detector comprises the Flexi Soft safety controller and two MultiPulse photoelectric proximity sensors. The system detects if there is a moveable separating protective device at a previously defined position and is used in packaging machines, for example. If there is sufficient packaging material in the box magazine, then the Safeguard Detector makes it impossible to reach into the hazardous area while the machine is running.

The STR1 transponder safety switch is also new on the market, featuring monitored output signal switching devices (OSSDs) that can be connected individually or in a series. This can be used in applications that require a high degree of tamper-proofing. The STR1 has three available coding types: All actuators are accepted if it is coded universally. If it is uniquely or permanently coded, an actuator has to be taught-in. The sensor has three active sensor surfaces. There are three different sizes of actuators, making the STR1 very flexible in terms of assembly.

The DUSTHUNTER SP100 Ex dust measuring device was introduced as the first explosion-proof member of the successful DUSTHUNTER family on the market in the fiscal year 2016. This device has a measuring probe that uses the scattered light measurement principle to determine the concentration of dust. It can also reliably measure the dust concentration of potentially explosive gas mixtures.

The GM32 in-situ gas analyzer was also developed further: While the previous version of the GM32 measured entirely in the ultraviolet spectral range, another light source in the visible wavelength range was added to the new GM32 LowNO_2 gas analyzer. This means that extremely low concentrations of nitrogen oxide (NO_2) can also be measured, for example, in emissions. The device helps meet statutory regulations, under which ever-smaller volumes of nitrogen oxides (NO and NO_2) have to be measured and effectively reduced, for example using denitrification plants (DeNOx plants).

The FLOWSIC30 ultrasonic gas flow meter was developed for use in natural gas production of, e. g., coal seam gas. The dual-path meter has a rugged meter body made of carbon steel and sensors made of solid titanium. The ultrasonic measuring technology has no moving parts and requires virtually no maintenance. The rugged design with integrated wires protects the meter from harsh ambient conditions, while the large turndown ratio covers all of the gas source's well flow rates. FLOWSIC30 has integrated diagnostics that monitors the meter status and detects the presence of liquids in the gas flow. The meter uses the integrated temperature measurement and volume conversion in accordance with AGA8 to calculate the standard flow and reduce the installation effort.

In the past fiscal year, SICK took the requirements of the US market into account and developed products based on the established DBS60 product family – the DUS60 incremental encoder and the DUV60 measuring wheel encoder. The encoders boast straightforward programming via a DIP switch as well as a clearly visible LED display. Together with a spring arm and impellers, they are excellently suited for applications on conveyor belts.

The encoder product area was also expanded to include inclination sensors in 2016. These were developed together with a technology partner and are mainly used in outdoor mobile applications. They take a non-contact measurement of the inclination angle of an object in relation to the Earth's gravity. Thanks to the use of capacitive MEMS technology, inclination sensors are both highly precise and extremely reliable.

For reliable distance measurement indoors and outdoors, the Dx1000 long range distance sensor with infrared laser was launched on the market in the past fiscal year. The sensor is predestined for use on cranes, detecting vehicles in traffic applications, and measuring hot steel slabs in a steel mill. The Dx1000 features extreme versatility in any application: HDDM+ (High Definition Distance Measurement with multi-echo technology) enables distance measurements with high measurement reliability, even in the presence of ambient light, rain, snow, and fog.

The new InspectorP6xx programmable cameras product family from SICK has been the solution for complex image processing tasks since the fiscal year 2016. Optics, illumination, evaluation, and interfaces – everything is integrated and highly customizable. The pre-installed HALCON image processing library and the flexible design of web-based user interfaces enable a maximum adaptation to specific customer requirements. The new InspectorP6xx product family consists of three programmable camera types that differ in terms of evaluation speed and camera sensor resolution. In conjunction with the SICK AppSpace platform, which is also new, SICK offers system integrators and original equipment manufacturers (OEM) the freedom and flexibility to develop their application software directly on the InspectorP6xx for their specific tasks. This makes it possible to implement tailor-made solutions and custom apps for individual customer requirements.

In the area of fluid sensors, the CFP Cubic capacitive level sensor was developed for factory automation applications. Thanks to its innovative probe concept and integrated reference electrode, it does not have to be calibrated for different media and measures along the full length of the probe. It is therefore particularly suited to measuring tasks in small containers.

The technology of the Visionary-T 3D streaming camera was also subject to a comprehensive overhaul. In addition to an increased range of drivers and data formats, special filters were provided for various dynamic environments and in particular work was carried out on reducing the data in the device. The user can now choose which volume of data the sensor uses – from the overall picture through Cartesian coordinates to the final digital evaluation of the task directly in the sensor.

The Master Data Analyzer was developed in the System Solutions area, which is relatively new. The track and trace system captures objects' dimensions, weight, and bar code in just one step. The measuring MLG automation light grid makes it possible to measure regardless of the object's reflective properties. This means that the Master Data Analyzer can reliably capture objects packaged in film.

REPORT ON ECONOMIC POSITION

MACROECONOMIC ENVIRONMENT

In 2016, the global economy was shaped by sluggish growth in the first half of the year, which only picked up again in the third and fourth quarters on account of the sound development in the industrial nations. The ongoing expansive fiscal and monetary policy as well as private consumption were the pillars of the slight upward economic trend. Growth in the emerging countries was a different story: They expanded in the first six months of the year, before weakening somewhat again in the second half of the year. Many oil-producing countries were also harshly affected by the drop in crude oil prices. At the same time, the political environment was rife with uncertainties on account of Brexit, the smoldering conflict between Russia and Ukraine, the refugee crisis and the increasing populism in Europe as well as the upcoming elections in several European countries. On top of this, there were uncertainties surrounding the announced isolation of the United States after Donald Trump's electoral victory. All these factors affected many companies' willingness to invest, particularly in the capital goods industry. The International Monetary Fund (IMF) predicts that global gross domestic product will rise by 3.1 percent in 2016.

The mechanical engineering industry, which is the largest and most important target market for SICK sensors, stagnated in 2016 both globally and in Germany. The greatest growth momentum came from countries outside Europe. The VDMA ("Verband Deutscher Maschinen- und Anlagenbau e.V.": German Engineering Federation) therefore expects zero growth in sales in the reporting year.

Germany's economy proved to be stable in 2016 and grew mainly as a result of government spending and private consumption. Imports increased at a faster rate than exports over the course of the year, with the latter primarily dampened by weak global trade and political uncertainties. Capital expenditures thus only increased moderately.

In the region of Europe, Middle East and Africa (EMEA), economic development was uneven. The eurozone economy developed below average, stifled by the political uncertainty, weakening credit growth, and increasing inflation. Economic growth in the countries outside of Europe was moderate, with Russia still hit hard by the collapse of commodities prices.

Within the North, Central, and South America (Americas) region, the USA in particular proved to be the anchor of economic growth. The US economy grew at a strong rate in the third quarter of 2016 that has not been seen for around two years: Private consumption was strong because the situation on the labor market improved consistently over the course of the year. Exports rose more than imports, and production improved again slightly, although capital expenditure by companies stagnated.

The economic development of the Asia-Pacific region hinges on the economic situation in China, where the expansionary economic policy continued in 2016. Private consumption formed the key pillar of growth; however, growth in industrial added value continued to decrease, as there are still structural problems in the form of a lack of innovative capabilities, inefficient capital allocation and high debt levels, especially at state-owned enterprises. The economic situation in Japan is similar, where exports made a significant contribution to growth and government programs aim to prevent a potential recession.

ENVIRONMENT IN THE SENSOR INDUSTRY

Our business model is founded primarily on the existence of an independent market for sensor systems and on our conviction that by concentrating on sensor solutions, it is possible to offer intelligent and high-quality products and to produce these efficiently. In line with its "Sensor Intelligence." claim, SICK thus focuses on sensor technology for industrial applications while exploiting all possibilities and facets that sensor technology offers. These possibilities, in particular in the form of higher-performance processors and storage technologies as well as the integration of application knowledge in the software of individual products, ensure that SICK sensors are moving more and more towards sensor intelligence. Such intelligence is essential in order to succeed in moving industrial manufacturing and logistics processes forward towards a Smart Factory, otherwise known as the "Industry 4.0" discussion. Industry 4.0 thus promises huge growth potential for SICK sensors. In order to exploit this potential, it is essential that SICK's products are compliant with as many automation systems as possible and that they have the ability to communicate with higher cloud levels. Consequently, two of SICK's focal areas of development are currently connectivity and data sovereignty. SICK is involved in the industry bodies of various associations in order to promote the continued development of open and defined interfaces. The Group also monitors other technologies and trends considered

relevant for the future development of the SICK Group and, after appropriate appraisal, incorporates these in development or cooperation processes. For SICK, solutions are more than just the use of specific products. This is why the business model is additionally supported by the system and service business. Both areas concentrate on providing customers with complex solutions that go beyond the individual product and that have been customized in line with the respective requirements.

COURSE OF BUSINESS

ORDER SITUATION

The SICK Group grew further in the fiscal year 2016. With orders received of EUR 1,398.9 million in total, the prior-year figure (EUR 1,270.5 million) was surpassed by 10.1 percent, even though the global economy grew only moderately on account of various political uncertainties. New business continued to develop relatively cautiously in the first quarter before increasing considerably in the second quarter of the year. There was a slight decrease in the third quarter before a massive end-of-year surge was recorded in the fourth quarter: Almost 20 percent more orders were received in the last three months of the year than in the comparable prior-year period.

RESULTS OF OPERATIONS

The course for growth continued in relation to sales, which were also up, amounting to EUR 1,361.2 million as of the end of the year (2015: EUR 1,267.6 million). This is 7.4 percent more than in the prior year. In view of the fact that the VDMA expects zero growth in the mechanical engineering industry in 2016, the SICK Group has developed excellently and generated above-average sales growth. The single-digit growth forecast at the beginning of the past fiscal year has thus been achieved. The forecast that the development of exchange rates would reverse over the course of the fiscal year and have a dampening effect on sales growth also proved accurate: Adjusted for currency effects, sales grew by 8.8 percent. The main negative developments here were recorded by the Chinese renminbi, the pound sterling, and the Turkish lira. In absolute terms, exchange rate fluctuations had a total negative effect on sales of EUR 17.4 million. The start to the fiscal year 2016 was equally modest for sales and for orders received, but the situation improved gradually over the course of the following quarters. Because orders received grew at an even stronger rate than sales towards the end of the fiscal year, the book-to-bill ratio of 102.8 percent as of December 31, 2016 was significantly above the prior year (100.2 percent).

Thanks to its global alignment, the growth of the SICK Group was once again broad-based in the fiscal year 2016. In addition to the presence on the established markets, the sales activities in the growth regions around the world also help to increase sales further.

Sales on the home market of Germany mainly grew with customers from the logistics automation and factory automation business fields, driven in particular by the automotive industry and transport logistics. By contrast, sales in the process automation business field developed slightly short of expectations, although the oil and gas industry recovered somewhat and recorded minor growth on the prior year. The SICK Group achieved sales growth for the region of 7.5 percent on the prior year in total, precisely within the range forecast at the beginning of the fiscal year.

Growth was slightly weaker in the Europe, Middle East and Africa (EMEA) region, with sales growth of 6.1 percent. However, this growth did match the growth forecasts made at the beginning of the year. Similar to Germany, growth was mainly driven by the logistics automation and factory automation business fields. Sales in the electronics and solar industries as well as in transport and intralogistics achieved the strongest growth rates in comparison to the prior year. Process automation only just fell short of the prior-year level, with sales here primarily supported by equipment for waste incineration plants and cement plants. However, the loss of value of the pound sterling following Brexit and the drop in the Turkish lira since June have had a generally dampening effect on sales in this region.

Sales growth in North, Central and South America (Americas) was virtually identical to the EMEA region, with a rise of 6.7 percent. This meant that the sales forecast was not fully met. Sales grew the most in factory automation, chiefly as a result of the upward trend in the consumer goods industry and drive technology. The logistics automation business field increased as well, first and foremost as a result of transport logistics. The process automation business field, however, was down on expectations in this region, too.

Growth in the Asia-Pacific region was weaker than in prior years. The rise of 10.5 percent in sales was almost half the figure in 2015. However, this was virtually identical to the growth forecast, because the limits for growth, particularly in China, were already foreseeable at the beginning of the year. The increase in sales was also significantly hampered by the development of the Chinese renminbi. Nevertheless, in a year-on-year comparison, considerable growth rates were realized in logistics and factory automation, with intralogistics leading the way. The decrease in sales in the process automation business field also reduced growth in this region. Sales in the primary industries noted a particularly sharp decrease.

The regional distribution of sales was as follows in the fiscal year 2016:

SALES BY REGION

in EUR million	2016	2015	Change in %
Germany	285.6	265.8	7.5
Europe, Middle East and Africa (EMEA)	505.7	476.6	6.1
North, Central and South America (Americas)	292.3	273.9	6.7
Asia-Pacific	277.6	251.3	10.5
TOTAL	**1,361.2**	1,267.6	7.4

At EUR 409.7 million, cost of materials was 8.8 percent higher than in the prior year (EUR 376.4 million). The increase was higher than the rise in sales, which is mainly attributable to the currency effects on sales. As a result, the ratio of cost of materials to sales rose from 29.7 to 30.1 percent.

Personnel expenses also increased disproportionately to sales by 9.1 percent to EUR 574.3 million (prior year: EUR 526.3 million). This is primarily due to the increase in headcount worldwide as well as the negotiated pay increase in Germany. Personnel was increased especially in the R & D, Sales, and Service areas. In addition, more services were rendered internally instead of by external service providers.

Investment activity of the past fiscal years is reflected in the depreciation and amortization. This was again mainly performed for construction work in 2016, including various large-scale construction projects in Germany such as the distribution center in Buchholz as well as the new production building in Reute. At EUR 50.9 million, depreciation and amortization in the fiscal year 2016 was 9.7 percent higher than in the prior year (EUR 46.4 million).

Other operating expenses increased slightly, amounting to EUR 220.5 million (2015: EUR 209.8 million). The 5.1 percent increase is principally due to higher selling and administrative expenses, expanding sales promotion measures as well as the climb in expenses for repairs and maintenance. Other operating income jumped significantly by 54.4 percent to EUR 14.2 million (prior year: EUR 9.2 million). This was largely influenced by the positive valuation of the majority shareholding acquired in 2016 in the joint venture SICK Metering Systems NV in Belgium. Consequently, the net balance of other operating income and other operating expenses only changed marginally from EUR 200.6 million to EUR 206.3 million. This is 2.8 percent more than in the prior year.

The currency results improved substantially as of the reporting date. Earnings from hedging transactions as well as operating currency risks totaled EUR -2.1 million as of the end of the reporting period. This corresponds to a drop of 59.6 percent compared to the prior year.

Net investment expense went from EUR -0.7 million in the past fiscal year to EUR 0.2 million.

Earnings developed very pleasingly on the whole in the fiscal year 2016: Earnings before interest and tax (EBIT) of EUR 147.9 million were recorded in total, constituting a 14.6 percent rise on the prior-year level, when EBIT stood at EUR 129.1 million. The major factors for this upward trend are the sales growth, the measured approach to non-personnel expenses as well as the increase in other operating income caused by the aforementioned special effect. The EBIT margin as a percentage of sales climbed to 10.9 percent as a result (prior year: 10.2 percent). This meant that the high single-digit percentage figure forecast at the beginning of the year was surpassed.

The tax rate increased marginally from 27.2 percent in the prior year to 27.8 percent. The Group's overall tax expense climbed from EUR 34.3 million to EUR 40.3 million on account of the excellent net income for the year.

After deducting the tax burden, the share in the consolidated net income for the year that is attributable to the shareholders of SICK AG amounts to EUR 104.0 million. This constitutes a rise of 14.5 percent on the prior year (EUR 90.8 million), due in part to the favorable development of the interest result. Because of this very positive development, the net return on sales increased to 7.6 percent (prior year: 7.2 percent).

NET ASSETS

Total assets rose by 10.1 percent to EUR 950.1 million (prior year: EUR 862.9 million), outpacing sales growth in the fiscal year 2016.

At EUR 371.9 million, non-current assets rose by 9.5 percent on the prior year (EUR 339.7 million). This development was mostly due to property, plant and equipment, which rose by 9.8 percent from EUR 247.9 million to EUR 272.1 million, chiefly in connection with construction projects at the German locations and the purchase of machines and supplies. Intangible assets came to a total of EUR 68.4 million and thus increased even more than property, plant and equipment (prior year: EUR 59.7 million; up 14.6 percent), which is particularly attributable to the takeover of the majority shareholding in the former joint venture SICK Metering Systems in Belgium NV, which specializes in engineering services for the oil and gas industry. Financial assets recorded a similar rise, increasing by 15.4 percent to EUR 3.0 million (prior year: EUR 2.6 million). There was only a minimal decrease in deferred taxes to EUR 28.4 million, down 3.7 percent on the end of the prior year (EUR 29.5 million).

The sales growth in the course of the reporting year is also reflected in the development of current assets. These saw a rise of 10.5 percent to EUR 578.2 million (prior year: EUR 523.1 million). Inventories increased further – albeit not at the same rate as sales – and amounted to EUR 239.9 million as of December 31, 2016, which is a rise of 5.4 percent on the prior year (EUR 227.5 million). This development was caused first and foremost by improved inventory management. Days of Inventory Outstanding (DIO) decreased by two days to 63 days as a result (prior year: 65 days). In line with the rise in business activity, especially at the end of the year, trade receivables also increased by 10.4 percent to EUR 258.8 million as of the end of the reporting period (prior year: EUR 234.5 million). Because they increased at a faster rate than sales, Days of Sales Outstanding (DSO) rose by one day to 68 days as of the end of the year (prior year: 67 days). Other assets grew by 12.3 percent from EUR 38.0 million to EUR 42.7 million. Moreover, cash and cash equivalents climbed by 69.0 percent to EUR 31.1 million (prior year: EUR 18.4 million).

On the equity and liabilities side, the SICK Group recorded a further increase in equity thanks to the positive development of earnings. Equity amounted to EUR 522.0 million at the end of the year, which represents a 15.5 percent jump on the prior year (EUR 451.8 million). As a result, the equity ratio increased considerably to 54.9 percent (prior year: 52.4 percent) because debt capital rose at a lower rate than equity. Even the higher working capital requirements in relation to sales as well as the distribution of a special dividend to celebrate the company's 70th anniversary did not detract from this extremely positive development.

In order to guarantee stable and futureproof financing of the Group, non-current liabilities were raised in the fiscal year 2016. However, this was lower than the increase in sales, coming to EUR 178.6 million as of the end of the reporting period (prior year: EUR 167.4 million). This corresponds to a rise of 6.7 percent. Non-current financial liabilities increased accordingly by 5.5 percent from EUR 88.0 million to EUR 92.8 million, especially on account of SICK AG taking out a bank loan. Non-current provisions rose to EUR 84.0 million, thus exceeding the prior-year level of EUR 77.5 million by 8.4 percent. This relates to the increase in pension provisions in light of the prolonged low-interest phase, among other things. For information on the nature, terms to maturity, currency, and interest rates of liabilities, including their main terms and conditions, as well as information on undrawn credit lines available, reference is made to the comments in G. (35) "Financial risk management" in the IFRS notes to the consolidated financial statements.

The higher sales volume in the fiscal year 2016 resulted in a marginal increase in current liabilities, which grew by a mere 2.4 percent to EUR 249.5 million (prior year: EUR 243.7 million). Because the shift within the financing structure in favor of non-current financial liabilities continued on account of the low interest level, current financial liabilities fell by 20.4 percent to EUR 9.0 million (prior year: EUR 11.3 million). Current trade payables were up 7.5 percent from EUR 97.5 million to EUR 104.8 million due to the higher business volume. Other current liabilities also jumped 6.0 percent to EUR 102.6 million (prior year: EUR 96.8 million). This is chiefly a result of a rise in performance-related pay at SICK AG as well as higher vacation and flextime credits. By contrast, other current provisions decreased, down 7.1 percent from EUR 21.1 million to EUR 19.6 million on account of lower warranty provisions. There was also a decline in tax liabilities, which only came to EUR 13.5 million on account of tax prepayments, marking a drop of 20.1 percent on the prior year (EUR 16.9 million).

Because the high sales level led to a rise in current trade receivables and in inventories that was not compensated for by the growth in current liabilities, working capital rose by 8.1 percent to EUR 393.9 million (prior year: EUR 364.5 million). However, since working capital rose at the same rate as sales, Days of Working Capital (DWC) remained constant at 104 days. Net debt was reduced substantially, in particular due to high levels of payments received at the end of the year and a further improvement in cash management. At EUR 70.6 million, it was considerably lower than in the prior year (EUR 80.9 million) – despite the continued high level of investment activity.

FINANCIAL POSITION

At EUR 168.0 million, cash flow from ordinary operations is much higher than in the prior year (EUR 157.7 million), mainly on account of higher earnings and improved management of working capital. A dividend of EUR 36.6 million was paid in the fiscal year 2016 that was financed from the cash flow from operating activities. This cash flow of EUR 122.8 million (prior year: EUR 112.1 million) was also used to finance intensive investment activity.

Investments during the fiscal year 2016 totaled EUR 82.8 million excluding financial assets, a decline of 1.2 percent on the prior year (EUR 83.8 million). Of this amount, EUR 24.6 million was attributable to intangible assets, while EUR 58.2 million was channeled into property, plant and equipment. Overall investment activity focused on Germany, with 75.2 percent of the investment volume involving the German locations. Activity was mostly related to construction measures, including new office buildings at the Waldkirch location as well as software for the distribution center in Buchholz. There was also capital expenditure in technical equipment and machinery, in particular to construct a new production line for photoelectric sensors. Investment activity abroad centered around the purchase of new pick-and-place machines at the production location in Hungary.

OVERALL ASSESSMENT

The net assets, financial position, and results of operations developed equally positively in the fiscal year 2016 as in the past fiscal years, as evidenced by the rise in EBIT and consolidated net income for the year. The SICK Group thus has an extremely solid capital base, which forms an excellent foundation for the further expansion of business activities and thus further growth for the Group, particularly in light of the challenges of Industry 4.0.

EMPLOYEES

In connection with the sales growth, the global headcount also increased further in the past fiscal year, with a total of 627 employees joining the Group. At the end of the year, the headcount at the SICK Group was thus 8,044 in total, which is 8.5 percent more than at the end of 2015 (7,417 employees). The forecast figure was thus exceeded slightly. These new skilled staff allowed SICK in particular to strengthen the areas of R&D as well as global sales further. As of the end of the year, 4,739 employees or 58.9 percent of the workforce worked in Germany. This signifies a rise of 8.0 percent on the level at the end of the prior year (4,388 employees). The largest percentage increase in headcount in Germany was at SICK AG. The percentage increase in headcount was somewhat greater internationally than in Germany, with the workforce increasing by 9.1 percent compared with the end of 2015 to reach 3,305 as of December 31, 2016. In the EMEA region, it was the subsidiaries in Poland, Russia, and Sweden that experienced most growth. New staff were mainly hired at the US subsidiary SICK, Inc. as well as at SICK Canada in the Americas region. Many functions at the subsidiary in Mexico also became more independent from the US company. In the Asia-Pacific region, the largest increase in the number of employees was at the sales companies in New Zealand, Japan, and India. In addition, the subsidiary in China responsible for the factory and logistics automation business fields continued to invest in hiring more staff and expanding sales capacities.

EMPLOYEES AS OF DECEMBER 31

	2016	2015	Change in %
Germany	4,739	4,388	8.0
Europe, Middle East and Africa (EMEA)	1,469	1,350	8.8
North, Central and South America (Americas)	707	652	8.4
Asia-Pacific	1,129	1,027	9.9
TOTAL	**8,044**	7,417	8.5

The average age of SICK's workforce was unchanged in 2016 at 40.2. The average length of service dropped marginally to 9.0 years (prior year: 9.1 years). The percentage of women in the workforce of the SICK Group also reduced somewhat, with women accounting for 33 percent of the workforce and men making up the remaining 67 percent in the past fiscal year. In the prior year, these figures were 36 percent and 64 percent respectively. The SICK Group employed an average of 293 trainees in the fiscal year 2016 (prior year: 267).

SICK is especially committed to binding its employees to the Group for the long term, offering flexible working time models as well as active promotion of healthy living and tailored advanced training, which is coordinated by the internal Sensor Intelligence Academy (SIA). At EUR 10.3 million, the cost of basic and advanced training and thus of the global addition of skills was therefore 11.2 percent higher in the past fiscal year than in the prior year (EUR 9.3 million). The advanced training offerings focus on developing specialist knowledge for new business fields, for example system construction or service, and on promoting skills for efficient collaboration throughout the Group.

The offering is complemented by extensive programs to promote healthy living. These go far beyond what is required by law and are seamlessly integrated in the daily work routine.

A system of integrated risk assessment to deal with physical, psychological, and psychosocial strains in the workplace has now become an integral component in the Group. The workplaces are analyzed systematically in terms of potential risks. Measures are then developed to reduce or eliminate these risks and the effectiveness of these measures is assessed on a continuous basis. The system of integrated risk assessment at SICK AG acts as an early warning system to detect critical developments in everyday working life at an early stage.

Reintegration management helps employees to overcome their incapacity for work, eases their return to work, and supports them in preventing a repeat absence.

In addition, the Azubifit program aims to raise the health awareness of the apprentices by offering health promotion activities tailored to the target group. The chief topics addressed include prevention of addiction, nutrition, and exercise as well as stress management.

A counseling program for employees was also introduced as part of an overall concept to promote mental health in the past fiscal year, in order to help employees take preventive action in a timely manner if they are becoming overwhelmed by the demands of their work and personal life.

In the area of learning and development, the newly launched international Leadership Curriculum (iLC) aims to provide further training for international top and middle management. There was also work on establishing a SICK-specific concept on change management, and the "Managing Change" optional module was integrated into the iLC. Furthermore, the focus of HR and organizational development in the fiscal year 2016 was on providing adequate support for the constant change process within the organization, which is authoritatively shaped by market trends such as internationalization, digitalization, and the demand for more and more agility, in order to establish and expand the skills needed for the future.

OPPORTUNITY AND RISK REPORT

RISK PHILOSOPHY AND POLICIES

Independence, innovation, and leadership are all parts of our mission statement. Within these, it is the core function of leadership that represents the main framework conditions of our management culture. The central component involves delegating responsibility and agreeing individual targets based on the long-term company objectives. To implement these objectives, the managers responsible use institutionalized management systems to manage their areas independently and gear them to the future. The group-wide planning systems play a key role here. Clear rules and company guidelines also define the scope for action by those responsible. This is monitored continuously by those responsible with the help of group-wide control systems.

OPPORTUNITY AND RISK MANAGEMENT

In addition to opportunities management, which is institutionalized via the group-wide planning systems, risk management also presents and assesses risks across all management levels. The company's defined risks are discussed, reported on, and assessed at regular intervals. Group-wide processes supported by different databases are in place for this purpose. Risk management is communicated to the management on a regular basis. Agreement is reached on the definition of further company risks, which are then rolled out via the individual responsibilities in the risk management system. Each of the risks in the risk catalog is monitored and hedged using appropriate measures that are stored in a central risk database. One means of hedging risks is the central insurance management. From an organizational perspective, the planning and risk management systems are managed in Corporate Controlling.

COMPLIANCE MANAGEMENT AND CONTROL

The aim of the compliance management system at SICK and the main task of its compliance organization is to be aware of and comply with all statutory regulations and internal guidelines that apply to SICK AG and its group entities. The Executive Board introduced the compliance management system back in 2010 and expressly emphasized its fundamental expectation that all employees in the SICK Group around the world would observe the regulations relevant for SICK.

The Code of Conduct provides the underlying structure for all compliance activities at SICK. In addition to the requirement for conduct that is in line with the law, it addresses all of the core issues of compliance, for example by unequivocally denouncing any type of corruption or arrangements that infringe anti-trust law. In addition, the Code of Conduct addresses matters such as environmental protection, occupational health and safety, equal opportunities for employees and the confidential handing of trade secrets, and also requires staff to observe the relevant external and internal rules.

The Executive Board's compliance principles describe the organizational structure of compliance management at SICK. The Compliance Officer and the employees with compliance duties at the subsidiaries and organizational units are responsible for implementing, monitoring, and continuously refining compliance management in the Group. If no Compliance Officer has been appointed, it remains the responsibility of that business area's management. The Compliance Committee defines the compliance requirements in the Group and supports the operating entities in introducing and maintaining appropriate measures. It monitors the effectiveness of compliance management and initiates additional compliance activities as required. The committee is supported by regular internal audits that examine both potential breaches of compliance as well as weaknesses in the compliance processes. All of the Group's compliance-relevant areas are represented on the Compliance Committee, in particular officers responsible for data protection, occupational health and safety, and the environment, but also the works council and the risk management officers.

Risk management and compliance officers examine risks – including compliance risks – across the Group on an annual basis using the same systems. This harmonized approach is particularly suitable when seeking out new compliance risks, as it is often not possible to clearly demarcate economic, litigation, and compliance risks.

DEVELOPMENT OF THE OVERALL RISK SITUATION

The industry environment remained more or less unchanged in the reporting year. However, the ongoing discussion about Industry 4.0 and the fact that intelligent sensors are essential as a data basis for the Smart Factory open up major opportunities for technological and economic growth for SICK. The topics of connecting sensor systems to upstream cloud solutions, applications in the data landscape, and data sovereignty are particularly relevant.

The general economic conditions in the fiscal year 2016 were again very uneven across the globe. Economic growth in Germany was only moderate, while the unfavorable currency development curbed sales growth in the EMEA and Asia-Pacific regions in particular. These effects are likely to continue in the current fiscal year. The increasing political uncertainties worldwide mean that it is is currently not predictable if the outlook for the global economy will improve dramatically in the near future and provide tailwind for SICK's business activities.

It was chiefly due to the unfavorable development of the Chinese renminbi, the pound sterling, and the Turkish lira that the sales and earnings development of the SICK Group was in some areas marginally lower than forecasts in the past fiscal year. This only minimally increased the overall risk in relation to net assets, results of operations, and financial position, mostly because earnings were nevertheless very positive and cash flow was higher than calculated. This is an excellent basis from which to drive further expansion of the Group. Banks continue to provide us with all of the necessary funding at attractive rates.

On the whole, the overall risk continues to be at a level typical for the business. The Executive Board is therefore confident that the individual risks described below for the SICK Group are manageable and do not jeopardize its continued existence.

SHORT-TERM RISKS AND OPPORTUNITIES

To increase the transparency and clarity of the risk report, the short-term risks and opportunities described below were summarized into key categories for the SICK Group. The going concern risks are analyzed in detail on an ongoing basis as part of risk management, and adequate measures are taken to hedge these risks.

FINANCIAL RISKS AND OPPORTUNITIES

CURRENCY RISKS AND OPPORTUNITIES

The global business activities of the SICK Group entail a large number of cash flows in different currencies. We are particularly exposed to currency fluctuations between the euro and the US dollar. Other significant foreign currencies include the Chinese renminbi, the pound sterling, the Australian dollar, and the Korean won. Depending on the expected risk potential, exchange rates are hedged using traditional forward contracts or options over varying periods. In the past fiscal year, parts of the exposure for the main currencies for the SICK Group expected for 2017 were hedged.

VALUATION ALLOWANCES

Default risks from receivables are minimized by ongoing monitoring of the creditworthiness of the counterparty and by limiting the aggregated risks from the individual counterparty. One major component here is a set of rules that contains guidelines for granting and monitoring credit limits. By applying these rules, the default rate for receivables (as a percentage of sales) is maintained at a constant low level (0.12 percent in the fiscal year 2016).

INTEREST RATE RISKS

The SICK Group responds to interest rate risks by entering into fixed-interest agreements over the term of its loans. When structuring loan maturities, we try to ensure that these fall due for extension in different fiscal years. Only working capital requirements are financed at floating interest rates in the short term.

FINANCING RISKS

The debt finance of the SICK Group is primarily denominated in euro and takes the form of long-term loans and loans against a promissory note. The Group's creditors are banks and insurance companies with which a long-term trusted business relationship exists. From a current perspective, there are sufficient credit lines for future investment needs to ensure liquidity. The counterparty credit risk in financing is countered by limiting business relationships to dealings with banks with investment grade credit ratings.

For further explanations on risk reporting on the use of financial instruments, reference is made to the disclosures in the IFRS notes to the consolidated financial statements under G. (35) "Financial risk management."

PERFORMANCE RISKS

QUALITY RISKS AS WELL AS PRODUCT LIABILITY AND RECALL RISKS

Due to the safety and process-related requirements of its products, systems and, services, the SICK Group is obliged to comply with high quality standards. Because of the environment in which certain products are used, malfunctions can lead to personal injury, financial loss, or environmental damage as well as consequential loss. For this reason, both the quality management system and process management in development and production are of particular significance for the SICK Group. The high quality and reliability of the products is thus ensured by a quality and environmental policy with a zero tolerance approach to errors at its core as well as an integrated quality management system. Measures start at the very outset of the product development stage using analytical methods. The requisite quality of suppliers is ensured by always entering into quality assurance agreements and monitoring the quality of supplier parts. The quality assurance measures continue throughout the individual stages of the production process, right through to a precisely defined approval procedure for the production and sale of products. This due care is supplemented by field observation after delivery of the products. Quality assurance and monitoring procedures are employed for this purpose. Critical errors are countered with a precisely defined action plan. Additional quality standards and processes apply to products designed for personal safety and accident prevention and devices that need to meet the special requirements for explosive environments. Here too, compliance is monitored by independent inspection institutes. A process has also been installed for managing complaints that is used to identify corrective action in order to reduce the risks of recalls. Audit management is carried out to assess the processes and the quality management. The effectiveness of the measures as a whole is assessed continuously by external ISO 9001 audits.

The existing business and product liability insurance covers the financial risks from liability for damage to property and personal injury that could be caused by one of our products. The amount of coverage is based on past experience as well as the volume of sales. All consolidated SICK entities are integrated in this cover.

BUSINESS INTERRUPTION IN PRODUCTION

The risk of business interruption exists in particular if production facilities or tools are damaged or break down completely. Depending on the extent of the damage and the duration of the interruption, on-time delivery to customers could be at risk. We counter this risk with a large number of measures that are anchored in the group-wide risk management system.

The risk of a fire is limited by a fire protection system and a sprinkler system in the main areas as well as by other preventive measures.

Beyond that, in our view the risk of outage of an entire location stems solely from external factors that are not within our control. Such risks stem primarily from natural disasters or other force majeure. Damage from natural disasters is mitigated by means of security precautions that are applied throughout the SICK Group and regularly assessed by external advisors. Based on our current assessment, the risk of outage of an entire location can therefore be virtually excluded. The existing global property and business interruption insurance also covers the financial risks arising for the SICK Group from damage to property and the resulting business interruption. All consolidated SICK entities are included in this cover. The insured amount is based on property, plant and equipment as well as the Group's sales.

START-UP AND RAMP-UP RISKS

There are a range of risks connected with the start-up and ramp-up of new series production. Initially, there are capacity utilization risks, as advance investment has to be made, for example in the form of providing suitable capacities and inventories. Additionally, experience has shown that production undergoes a learning curve during start-up and ramp-up phases. Efficiency is still at a relatively low level in the beginning, but then increases continually. Flexible processes, professional engineering, and prudent advanced quality planning help to accelerate this learning process and work with high efficiency from the very outset.

ENVIRONMENTAL RISKS

The main environmental aspects and their risk for the environment are determined annually pursuant to ISO 14001. The use of solvent-based paints is extremely relevant for the environment. Preparations were made in the past fiscal year to transition to environmentally friendly water-based paints. Some of these were implemented in 2016 in order to reduce the solvent emissions considerably. Implementation is expected to be virtually complete in 2017. Apart from the CO_2 emissions SICK causes in travel or transport, all other internal company processes are of little relevance for the environment. All CO_2 emissions that are directly caused and measurable (e. g., through business trips or heat generation) are compensated for in accordance with the CDM Gold Standard. SICK tries to select logistics partners that also compensate for their CO_2 emissions wherever possible. Hazardous substances are always stored and used in the collection devices prescribed by water conservation law so that any environmental contamination is prevented in the event of leakage.

The overarching objective of environmental management at SICK is to improve corporate environmental protection above and beyond compliance with official regulations. An internal control system and external audits ensure compliance with environmental and energy management requirements and processes. Matrix certification was carried out successfully once again by TÜV NORD in the reporting year, confirming that SICK AG and all of the German subsidiaries in the SICK Group apply a quality and environmental management system that satisfies the requirements of DIN EN ISO 14001. Furthermore, SICK AG is also certified in accordance with DIN EN 50001 (energy management system) and EMAS (Eco-Management and Audit Scheme) at the Waldkirch and Reute locations, as the relevance of these locations to the environment is higher than at the other locations. The same applies to SICK Vertriebs-GmbH with registered offices in Düsseldorf. As part of the environmental management system, all operating requirements and processes related to the environment are analyzed in order to minimize or, if possible, eliminate negative effects on the environment. An interdisciplinary committee of experts examines new and amended statutory regulations and norms in terms of their relevance for SICK and advises the areas concerned of any steps that need to be implemented. Moreover, conformity with norms is ensured by internal and external inspections (compliance audits), by open and direct dialog with the authorities responsible, and by involvement in external professional bodies. A detailed description of the environment-relevant processes including documentation of environmental KPIs is published once a year in the form of a validated environmental declaration.

R & D RISKS

In addition to constantly monitoring market developments, the SICK Group has a systematic product development process that takes account of all key market-related, technical, and economic aspects with the aim of achieving technological leadership. This is because only permanent product and process innovations constitute significant success factors for securing and expanding our competitive position. Because new developments are becoming more and more complex, however, risks in the form of misjudgment or exceeding development and start-up costs are also becoming more prevalent. Nevertheless, the opportunities outweigh the risks. Especially when complex solutions need to be developed which frequently have to satisfy very different requirements depending on the industry, our extensive industry competence and our deep technical understanding help us to translate customer requirements into a competitive solution. We are continuing to work on expanding these competencies, thus reducing the risk of excessive development costs. The decades of innovation at SICK are evidence of the fact that we know how to leverage opportunities in this area successfully and are in a position to mitigate the risks.

MARKET RISKS

ECONOMIC RISKS

Changes in the global economic framework conditions have an impact on the markets relevant for SICK and thus have a significant influence on the risk situation of the SICK Group. SICK therefore counters the risk of weak economic performance in significant target industries by diversifying its customer base. In addition, the factory, logistics, and process automation business fields are subject to different market mechanisms. Slowing global economic growth can nevertheless affect the net assets, financial position, and results of operations of the SICK Group in a negative manner. For example, an economic downturn impacts on customers in the form of a drop in sales or increased difficulty in accessing the capital markets. This could prevent customers from paying their outstanding invoices on time or in full, which would be detrimental to earnings and cash flows.

However, times of economic crisis also bring with them opportunities for SICK, as these are often the times when customers scrutinize existing processes in order to realize cost savings by means of process optimization. The pressure on industry to rationalize and to optimize production processes and make them more flexible has been and continues to be an opportunity for SICK, because such activities require state-of-the-art automation systems. SICK takes advantage of this opportunity to continue to work on innovative and tailored products, systems, and services while at the same time using targeted training measures to develop sales know-how further.

PROCUREMENT RISKS

The consistent implementation of procurement strategies that are geared to specific groups of goods paid off once again in the fiscal year 2016. The expansion of strategic partnerships with existing and new suppliers contributed significantly to stable procurement. The carefully coordinated internal selection of suppliers, timely and comprehensive agreements with suppliers as well as a clearly defined inventory strategy for all parts and components helped considerably to minimize procurement risks. The established internal classification system that evaluates major suppliers from a technical, commercial, and strategic perspective also proved its worth.

Regular application of the process to stock strategically relevant parts is another fixed component of risk management. This process defines additional measures that influence stock levels depending on the degree of dependency. This means that buffer stock requirements are secured if a risk does eventuate. There is also sufficient time to use alternative procurement sources.

Another component – tool life-cycle management – was added to risk management in the reporting year with a view to ensuring stable quality and supply of SICK-specific, tool-based purchased parts for the long term. This creates increased transparency for SICK tools at suppliers in relation to output quantity and qualitative status. Comparing the anticipated remaining useful life and replacement time enables the timely planning of any necessary replacement tools or investments and therefore minimizes the risk over the long term.

New laws, guidelines, or their extension to additional areas of application are having more and more influence on the procurement of goods and services. In order to meet these additional requirements, suppliers are obliged to follow a Code of Conduct for suppliers that is based on the Group's Code of Conduct. Suppliers also have to adhere to the statutory requirements necessary for the manufacture, distribution, and supply of SICK products (e. g., relevant European Union substance bans). As part of our commitment to ethical and moral conduct, we acknowledge the transparency objective of the Dodd-Frank Act to prevent the support of conflicts involving human rights abuses and we regularly carry out corresponding investigations at the relevant suppliers and endeavor to raise their awareness of the issue.

As part of the compliance organization, the compliance unit has established itself within the Procurement department. It is responsible for decentralized implementation of centralized compliance measures and runs the compliance help desk. The help desk coordinates and responds professionally to a wide range of queries from employees and suppliers.

COMMODITY PRICE RISKS

Sudden price fluctuations due to the cost of materials or supply bottlenecks for certain product groups are countered using a forward-looking planning system that includes strategies to safeguard prices in good time. In general, the SICK Group is not overly affected by price fluctuations on the commodities markets, as substantial value added flows into the products through refining processes which take place at the suppliers. Nevertheless, the most important commodities indices are subject to continuous monitoring (e. g., aluminum and copper). Timely arrangements to cover requirements by means of corresponding purchase obligations ensure that price fluctuations remain manageable in a very volatile environment.

OTHER RISKS

IT RISKS

Some of the most important strategic success factors for the SICK Group include the confidentiality, integrity, and availability of data. This is why we have established a comprehensive and modern IT infrastructure in the areas of administration, sales, and production. Continuous investment is made in modern IT systems, thus ensuring that competitive, future-proof, and fit-for-purpose IT solutions are used throughout the Group.

A long-lasting outage of this complex IT infrastructure or the loss of data could result in considerable business disruption. As a result, the aim of our IT security policy is to identify and analyze IT risks at an early stage and to make them manageable by taking appropriate action. Such action includes continuous investment in the technical standards of IT security as well as a constant accumulation of know-how and expertise on the part of the employees in this area. In addition, regular internal audits ensure compliance with processes, standards, regulations, and rules of procedure at all locations worldwide.

AVAILABILITY OF SKILLED LABOR

The economic success of an innovative high-tech firm like SICK is not possible without highly qualified specialist staff. In response to the intensifying competition for qualified staff, which is compounded by demographic change, SICK's approach has been to actively present itself as an attractive and secure employer on the global labor market in line with its mission statement. Among other things, SICK uses social media channels very successfully to address younger skilled workers and also experts in a manner that is appropriate for the target group. The international alignment of the Group with manufacturing and development facilities located in the most important growth regions of the world is additionally reducing dependence on regional labor markets. The SICK Group offers the 12-month trainee program SensorING to graduates with qualifications in natural sciences or with technical degrees in order to hire and promote high potentials in a targeted manner. In addition to comprehensive training in different technologies, development tools, and project management methods, the graduates are given the opportunity to participate in various development projects and to take on responsibility for subprojects. There is also an option to spend time at an international subsidiary of the SICK Group in order to gain experience in the process of cooperation at an international level. Another key cornerstone of securing the supply of junior employees for many years has also been SICK's own training programs, which are oriented to the needs within the organization. Trainees and students from universities of cooperative education attend a qualified program at SICK that prepares them for their specific future tasks in a targeted way. The lack of skilled labor did not pose a major problem for the SICK Group in the past fiscal year; it was only relevant for some professions in software development, where recruiting employees with the right experience is very time-consuming.

REGULATORY RISKS

PATENT INFRINGEMENT

Developing new products entails the risk of infringing industrial rights of third parties, for example patents, utility models, designs, or trademarks. On the one hand, protective rights that have been registered but not yet granted constitute a risk because the scope of a protective right is not defined until it is granted. On the other, they are a risk because they are unknown prior to publication (which generally takes 18 months). Infringement of these rights could lead to unplanned license fee arrears or even the need to develop work-arounds. We limit this risk by means of a large number of simultaneous measures. These include for example employing trained patent lawyers, constantly monitoring (at two-week intervals) the publications of the main patent offices in the relevant patent classes and from the main competitors, researching on a case-by-case basis for older rights when creating a product as well as continuously building on the product and industry expertise of our employees in the area of product development.

COMPLIANCE RISKS

For the Executive Board, comprehensive transparency and the trust of customers, suppliers, employees, and all other stakeholders are the key strategic foundation and basic prerequisite for the long-term economic success of the SICK Group. It therefore does not regard compliance with the law and observing rules in isolation. Instead, it sees this as a vital component of all business activities which aim to achieve permanent and sustainable success. The task is to communicate this to all employees, i. e., to the experienced staff as well as also to new employees in the Group's constantly growing workforce.

As a result, all compliance activities at SICK are geared to this purpose, and the processes and organization are designed in such a way that new compliance risks or compliance risks that need to be weighted are given adequate consideration. Because compliance risks, which are always inherently present, should not become compliance issues that could harm the reputation and image of SICK or result in official penalties. SICK's compliance management system is designed to avoid this at all costs.

REPORT ON EXPECTED DEVELOPMENTS

FORWARD-LOOKING STATEMENTS

The forward-looking statements in this management report are based on assessments of future developments made by the Executive Board. The statements and forecasts were made on the basis of the information available at the present time. Unknown risks, uncertainties, and other factors could mean that the actual results, developments, or the performance of the Group may deviate from the forecasts, estimates, and statements. In view of the opportunities and risk situation described as well as assuming that the composition of the Group will not change from the prior year, we expect the following developments in the fiscal year 2017:

CAUTIOUSLY OPTIMISTIC ECONOMIC FORECAST FOR 2017

The IMF predicts that global gross domestic product will rise by 3.4 percent in 2017, slightly higher than in the reporting year. Economic experts are of the opinion that the high consumer demand will remain a key factor for growth. The expansive fiscal policy in many countries will also continue to boost capital expenditure by companies. Russia and Brazil are expected to have bottomed out. The mechanical engineering industry is also currently predicted to perform better again worldwide than in 2016. The greatest growth momentum is anticipated to come from the emerging and developing countries (excluding China), although demand from Europe may also make a contribution to growth again. The VDMA therefore expects a global increase in sales of around two percent. Political uncertainties, especially in Europe and the USA, are nevertheless expected to continue and potentially cause turmoil at very short notice, which in turn may have negative effects on the general economic conditions.

SENSOR INTELLIGENCE AS A PREREQUISITE FOR INDUSTRY 4.0

Global pressure to rationalize production, logistics, and other processes remains high. The discussion surrounding Industry 4.0 adds a new dimension to this topic, which offers major development opportunities for SICK. The idea of a Smart Factory can only be implemented if rugged and intelligent sensors capture reality in the form of data and record these data in the volumes required for Industry 4.0. Otherwise it is not possible to connect production and logistics processes. In the future, SICK will gear its product portfolio to recognizing interrelationships at the customer and thus increasing the transparency in the customer's application so that the customer can make better decisions. SICK sensors have to solve the customer's problems in a simple manner that contributes to improving performance or conserving resources. This applies to all target industries. Comprehensive knowledge about the respective application is necessary for this. Another pivotal area involves connectivity, in order to guarantee seamless communication from the sensor level via the control level through to the overarching data level (e. g., in the form of a cloud). In turn, an essential prerequisite for this is data sovereignty, to which SICK as a founding member of Industrial Data Space Association has made a very firm commitment. Thanks to its broad product and service portfolio, its system and solution competence, its extensive industry expertise and global presence, the SICK Group is in an excellent position to respond to customer demands for intelligent automation solutions that provide this added value, particularly in the context of Industry 4.0.

SALES FORECAST FOR THE SALES REGIONS

Based on its current assessment, the Executive Board assumes that the sales growth of the SICK Group will be in the medium to high single-digit percentage figures in the current fiscal year in light of the economic and political framework conditions outlined above. In the sales region Germany, where growth is more difficult to achieve on account of the strong market position, we also expect the relatively positive economic prospects to fuel medium to high single-digit percentage growth. We are forecasting medium single-digit percentage growth for the Europe, Middle East and Africa (EMEA) sales region. Growth here is anticipated to be more modest, not least because of the continued uncertainty surrounding the future of the European Union following Brexit and the increasing populism. We view the development in the North, Central and South America (Americas) sales region with more optimism, anticipating low double-digit percentage sales growth because economic stimulus measures can be expected after the inauguration of Donald Trump. However, it remains to be seen to what extent the new government will implement protectionist measures. We predict somewhat lower sales growth for the Asia-Pacific region, as the threat of recession, particularly in Japan, has not yet been fully averted. Excess capacities are dampening demand in China. SICK is therefore currently only expecting to increase sales in this region by a medium to high single-digit percentage figure.

EBIT FORECAST

In view of the planned sales growth, a continued careful approach to non-personnel expenses in line with sales development as well as a focus at the same time on expanding efficient group-wide collaboration, we expect EBIT to constitute a high single-digit percentage of sales in the coming fiscal year. We assume that the EBIT margin will stabilize at just under ten percent in the medium term, as the requirements of Industry 4.0 mean that investments will have to be made that serve to safeguard the company's future and not result directly in sales.

DEVELOPMENT OF OTHER FINANCIAL PERFORMANCE INDICATORS

To strengthen our competitive position, we will continue to press ahead with R & D activities in the current fiscal year. Alongside expanding the existing product portfolio, we will focus on the connectivity of our sensor systems in the context of Industry 4.0 as well as on the topic of data sovereignty. In view of the strategic significance of these innovations, we assume that the share of R & D expenses as a percentage of sales will remain at the same high level in the fiscal year 2017 as in the reporting year, amounting to roughly ten percent of sales.

Capital management will continue to be pursued in the current fiscal year based on the assumption that liquidity and the equity ratio are maintained at a stable high level. At the same time, our focus is on a low-risk but flexible financing structure. Dividend payments will continue to be made within the target corridor for the planned capital base taking investment requirements into account. The Group's further growth will also be safeguarded by maintaining sufficient liquidity as well as short-term and long-term credit lines that offer flexibility in covering refinancing needs.

DEVELOPMENT OF NON-FINANCIAL PERFORMANCE INDICATORS

In the coming fiscal year, corporate environmental management at SICK will continue to pursue the aim of creating measurable ecological added value for the Group by taking a sustainable approach to the environment. Focal points include the reduction of CO_2 emissions, environmentally friendly production (especially in terms of resource and energy efficiency as well as the management of harmful substances), and the development of products that make a contribution to environmental protection.

The personnel policy of the SICK Group will continue to be geared to its global commitment to being a fair employer with high performance standards that employees enjoy working for and where they remain for a long period. This is because particularly in times of challenging market conditions, qualified and high-performing employees are the basic prerequisite for stable growth. As a result, personnel activities in the fiscal year 2017 will focus on the area of basic training as well as employer branding in order to forge links between SICK and potential skilled staff at an early stage and kindle their enthusiasm for the company. We assume that the headcount of the SICK Group will rise by a high single-digit percentage figure in the coming fiscal

year. A variety of health promotion safety measures, including in particular the company-wide application of the system of integrated risk assessment, will make a vital contribution towards maintaining the capacity of employees at its current level. Flexible working times as well as the childcare facilities offered allow SICK employees to achieve a balance between work and family life. Through intensive competency management, the SICK Group will also ensure that the employees are involved in continuous further development, both professional and personal, and that executives in particular are trained in contributing actively to the strategic changes of the Group and can contribute to the Group's growth. There will be a special focus on strengthening the competencies for cross-departmental cooperation in a global environment as well as on establishing the organizational methods needed to position the company in a way that it can tackle the challenges of digitalization.

OVERALL CONCLUSION

The outlook for the coming fiscal year is positive, even though we also consider the moderate economic growth forecasts as subdued in light of the political tension worldwide. 2017 will be characterized by the challenge that various factors may cause the overall economic environment to change very quickly and that it will be more difficult to predict business development as a result. Based on our current estimates, we assume that it is unlikely that we will have a repeat performance of the excellent development in the fiscal year 2016. Nevertheless, our global presence, our broad portfolio of solutions, and the fact that we are flexible enough to be able to react rapidly to external changes provide an excellent basis from which to continue to grow further in 2017.

DEPENDENT COMPANY REPORT

More than 50 percent of the shares in SICK AG are held by Sick Holding GmbH, which in turn belongs to the Sick family that founded the company. As a result, the Executive Board prepared a dependent company report in accordance with Sec. 312 AktG ("Aktiengesetz": German Stock Corporation Act). The Executive Board declares the following pursuant to Sec. 312 (3) AktG: "In the legal transactions listed in the dependent company report, and according to the circumstances that were known to us when those legal transactions were performed, our company received an appropriate consideration in each legal transaction. We did not undertake, or refrain from taking, any actions motivated by or in the interest of the controlling company or its affiliates."

The following management report explains the development of SICK AG in the fiscal year 2016:

Management report for SICK AG

SICK AG has its headquarters in Waldkirch near Freiburg in the state of Baden-Württemberg in Germany. This is the head office of the SICK Group and is also its largest development and production location. The development of the Group's international sales and service companies is closely coordinated with the Waldkirch location in order to mitigate risks. However, to a large extent the companies have their own responsibilities in terms of day-to-day operations.

The financial statements of SICK AG are prepared in accordance with the requirements of the HGB, while the consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRS). There are changes to the presentation of the income statement for the fiscal year 2016 on account of the BilRUG ("Bilanzrichtlinie-Umsetzungsgesetz": Accounting Directive Implementation Act). The prior-year figures have been recalculated in line with the new rules in order to improve comparability. The major changes relate to the different definition of sales and the disappearance of the extraordinary result.

The basic statements in the combined management report, in particular in relation to the market and strategy as well as the opportunities and risks relating to business activities, also apply with respect to SICK AG.

The reporting year developed very well for SICK AG. Sales increased at virtually the same level as the Group as a whole and totaled EUR 908.3 million as of the balance sheet date, exceeding the prior-year figure of EUR 848.5 million by 7.1 percent. This matches the forecast range exactly.

SICK AG had an average of 3,305 employees in the fiscal year 2016, an increase of 9.0 percent compared with the prior year (3,032 employees). In addition to this, 204 trainees were employed at the company (prior year: 198). Due to this increased headcount and as a result of the collective wage increase in Germany, personnel expenses rose by 9.7 percent from EUR 252.2 million to EUR 276.6 million.

The disproportionately high rise in depreciation and amortization (up 16.5 percent to EUR 28.3 million) compared to sales shows the strong level of investment activity at the locations of SICK AG in recent fiscal years.

By contrast, other operating expenses decreased by 10.8 percent from EUR 185.1 million to EUR 165.1 million. The principal factors involved here were lower currency losses and decreased third-party services.

The financial result decreased from EUR 53.7 million to EUR 51.9 million (down 3.4 percent).

On the whole, the items described yielded a slight decrease in earnings before tax, which fell from EUR 86.9 million to EUR 84.1 million. This is a decrease of 3.2 percent, meaning that the forecast from the beginning of the past year was not met.

The tax rate fell slightly from 22.0 percent to 21.5 percent. Net income for the year decreased to EUR 65.9 million in total (2015: EUR 67.6 million).

The financial assets of SICK AG increased marginally by 1.9 percent in the fiscal year from EUR 89.1 million to EUR 90.8 million. In addition, the 11.4 percent rise in property, plant and equipment from EUR 165.7 million to EUR 184.6 million due to the high level of investment activity also resulted in an increase in total assets. This figure totaled EUR 714.7 million as of the end of the year (up 15.4 percent).

On the equity and liabilities side of the balance sheet, this is reflected in a year-on-year rise in liabilities of 33.5 percent to EUR 265.9 million. These include higher liabilities to affiliates, which could not be compensated for by the slightly lower liabilities to banks. Provisions decreased marginally by 0.1 percent to EUR 98.1 million.

In addition, equity increased at SICK AG, improving by 9.1 percent to EUR 350.6 million on the back of the slightly lower net income in the reporting year and higher revenue reserves. As debt capital increased to a much greater extent, however, the equity ratio declined from 51.9 percent to 49.1 percent.

In view of the business development, the statements contained in the Group's opportunity and risk report also apply to a large extent with respect to SICK AG. With respect to the moderate economic conditions and the fact that investments will be needed to expand our business model in light of Industry 4.0 that will not result directly in sales, we expect the percentage sales increase at SICK AG will be at a comparable level to that of the SICK Group in the fiscal year 2016. We expect earnings before tax to rise by a high single-digit percentage figure.

SETTING TARGETS FOR THE EQUAL REPRESENTATION OF MEN AND WOMEN IN MANAGEMENT POSITIONS

Effective as of September 30 of the fiscal year 2015, the Supervisory Board of SICK AG set a target of 17 percent of women on the Supervisory Board of SICK AG in accordance with Sec. 111 (5) AktG. As a "flexible" female quota, this target should be met or exceeded by June 30, 2017. This percentage was met as of December 31, 2016 and is not expected to change before the deadline on June 30, 2017. The same applies to the target for the percentage of woman on the Executive Board of SICK AG, which was set at zero percent. As of the reporting date, this target figure was at zero percent; there are also no indications here that this is likely to change before June 30, 2017.

Furthermore, effective as of September 30, 2015, the Executive Board of SICK AG set a target of six percent pursuant to Sec. 76 (4) AktG for the percentage of women in management positions at the level directly below the Executive Board of SICK AG, i. e., the managers who report directly to members of the Executive Board. This target was supposed to be met or exceeded by June 30, 2017. This share already came to 13.3 percent as of the reporting date and is not expected to decrease significantly by June 30, 2017. For management positions at the second level below the Executive Board of SICK AG, i. e., the managers who report directly to the first-level managers described above, a target of six percent was likewise set effective as of September 30, 2015 that should be met or exceeded by June 30, 2017. This figure was 10.2 percent as of December 31, 2016 and will, according to the information currently available to us, remain stable until June 30, 2017.

Waldkirch, March 16, 2017

The Executive Board

Dr. Robert Bauer
(Chairman)

Reinhard Bösl

Dr. Mats Gökstorp

Dr. Martin Krämer

Markus Vatter

Group financial statements

Group financial statements of SICK AG for the fiscal year 2016

CONSOLIDATED INCOME STATEMENT
of SICK AG for the period from January 1 to December 31, 2016

in EUR k	Notes	2016	2015
Sales	(1)	1,361,173	1,267,587
Changes in inventory		10,847	-3,305
Own work capitalized	(2)	18,923	20,380
Cost of materials	(3)	409,684	376,424
GROSS PROFIT		**981,259**	908,238
Personnel expenses	(4)	574,271	526,260
Depreciation and amortization	(5)	50,869	46,373
Other operating expenses	(6)	220,519	209,776
Other operating income	(7)	14,244	9,189
Currency results	(8)	-2,108	-5,241
OPERATING RESULTS		**147,736**	129,777
Net investment income / expense	(9)	175	-703
of which net income / expense from investments accounted for using the equity method		(-137)	(-748)
EARNINGS BEFORE INTEREST AND TAX (EBIT)		**147,911**	129,074
Interest expense	(10)	3,141	3,437
Interest income	(11)	330	394
EARNINGS BEFORE TAX		**145,100**	126,031
Income tax	(12)	40,280	34,252
CONSOLIDATED NET INCOME		**104,820**	91,779
of which attributable to shareholders of SICK AG		103,989	90,804
of which attributable to non-controlling interests		831	975
Earnings per share (basic and diluted) in EUR / share	(13)	3.97	3.47

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
of SICK AG for the period from January 1 to December 31, 2016

in EUR k	Notes	2016	2015
CONSOLIDATED NET INCOME		**104,820**	91,779
Other comprehensive income			
Items that will never be reclassified to profit or loss			
Remeasurement of pension obligations		-2,376	-3,041
Tax effect		638	433
Remeasurement of pension obligations		-1,738	-2,608
Items that were or that can be reclassified to profit or loss			
Currency translation differences		3,897	6,597
Tax effect		0	0
Currency translation differences		3,897	6,597
OTHER COMPREHENSIVE INCOME		**2,159**	3,989
COMPREHENSIVE INCOME		**106,979**	95,768
of which attributable to shareholders of SICK AG		106,179	94,679
of which attributable to non-controlling interests		800	1,089

CONSOLIDATED STATEMENT OF CASH FLOWS

of SICK AG for the period from January 1 to December 31, 2016

in EUR k	Notes	2016	2015
CONSOLIDATED NET INCOME		**104,820**	91,779
Adjustments for:			
Income tax		40,280	34,252
Net interest		2,811	3,043
Depreciation and amortization		50,869	46,373
Losses (income) from the disposal of non-current assets		113	-431
Expenses/income from financial investments		-138	748
Other non-cash transactions		3,042	304
Change in inventory		-16,490	-14,057
Change in trade receivables and other assets		-25,556	-29,911
Change in non-current provisions		4,044	2,959
Change in trade payables and other liabilities		4,179	22,662
CASH FLOW FROM ORDINARY OPERATIONS		**167,974**	157,721
Interest paid		-2,072	-2,653
Interest received		330	394
Income tax paid		-43,447	-43,347
CASH FLOW FROM OPERATING ACTIVITIES		**122,785**	112,115
Cash received from disposals of non-current assets		147	1,193
Cash paid for investments in property, plant and equipment		-58,210	-66,427
Cash paid for investments in intangible assets		-12,588	-17,361
Cash paid for investments in financial assets		-110	-290
Cash paid for the acquisition of a business unit		0	-512
CASH FLOW FROM INVESTING ACTIVITIES		**-70,761**	-83,397
Sale/acquisition of treasury shares		5	-35
Cash paid to owners		-36,685	-18,343
Payment of finance lease liabilities		-2,070	-1,037
Cash received from loans		9,910	22,312
Cash repayments of loans		-10,948	-27,952
CASH FLOW FROM FINANCING ACTIVITIES		**-39,788**	-25,055
Net increase (decrease) in cash and cash equivalents		11,780	3,663
Effect of changes in foreign exchange rates and changes in consolidated entities on cash and cash equivalents		456	-224
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE PERIOD		**18,408**	14,969
CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD		**31,100**	18,408

For additional explanations, reference is made to the disclosures in the IFRS notes to the consolidated financial statements in D. “Consolidated statement of cash flows.”

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
of SICK AG as of Dezember 31, 2016

in EUR k	Issued capital	Capital reserves	Treasury shares	
BALANCE AS OF JANUARY 1, 2015	26,405	22,188	-3,427	
Consolidated net income				
Other comprehensive income				
Comprehensive income				
Change in treasury shares		41	-35	
Dividend payment				
Other changes				
BALANCE AS OF DECEMBER 31, 2015	26,405	22,229	-3,462	
BALANCE AS OF JANUARY 1, 2016	26,405	22,229	-3,462	
Consolidated net income				
Other comprehensive income				
Comprehensive income				
Change in treasury shares		56	5	
Dividend payment				
Other changes				
BALANCE AS OF DECEMBER 31, 2016	26,405	22,285	-3,457	

Other comprehensive income includes effects from the remeasurement of pension obligations and from currency translation.

	Revenue reserves	Equity attributable to the shareholders	Non-controlling interests	**Equity**
	327,504	372,670	1,967	**374,637**
	90,804	90,804	975	91,779
	3,875	3,875	114	3,989
	94,679	94,679	1,089	95,768
		6		6
	-18,343	-18,343		-18,343
	-165	-165	-88	-253
	403,675	448,847	2,968	**451,815**
	403,675	448,847	2,968	**451,815**
	103,989	103,989	831	104,820
	2,190	2,190	-31	2,159
	106,179	106,179	800	106,979
		61		61
	-36,685	-36,685		-36,685
	239	239	-411	-172
	473,408	518,641	3,357	**521,998**

CONSOLIDATED STATEMENT OF FINANCIAL POSITION
of SICK AG as of Dezember 31, 2016

ASSETS

in EUR k	Notes	2016	2015
A. Non-current assets			
I. Intangible assets	(14)	68,406	59,689
II. Property, plant and equipment		272,073	247,921
III. Investments accounted for using the equity method	(15)	2,352	2,122
IV. Other financial assets	(16)	604	494
V. Deferred taxes	(12)	28,445	29,491
		371,880	339,717
B. Current assets			
I. Inventories	(17)	239,860	227,471
II. Trade receivables	(18)	258,832	234,527
III. Tax receivables	(19)	5,726	4,740
IV. Other assets	(20)	42,653	37,994
V. Cash and cash equivalents	(21)	31,100	18,408
		578,171	523,140
		950,051	862,857

EQUITY AND LIABILITIES

in EUR k	Notes	2016	2015
A. Equity			
I. Issued capital	(22)	26,405	26,405
II. Capital reserves	(23)	22,285	22,229
III. Treasury shares	(24)	-3,457	-3,462
IV. Revenue reserves	(25)	473,408	403,675
Equity attributable to the shareholders		518,641	448,847
V. Non-controlling interests		3,357	2,968
		521,998	451,815
B. Non-current liabilities			
I. Financial liabilities	(27)	92,775	87,968
II. Provisions	(28)	83,991	77,507
III. Deferred taxes	(12)	1,811	1,916
		178,577	167,391
C. Current liabilities			
I. Financial liabilities	(27)	8,963	11,324
II. Other provisions	(28)	19,649	21,093
III. Tax liabilities	(29)	13,505	16,902
IV. Trade payables	(30)	104,774	97,541
V. Other liabilities	(31)	102,585	96,791
		249,476	243,651
		950,051	862,857

IFRS notes to the consolidated financial statements of SICK AG

as of December 31, 2016

A. GENERAL DISCLOSURES

GENERAL

The consolidated financial statements of SICK AG, Waldkirch, Germany, for the year 2016 were prepared according to the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB), London, United Kingdom, as adopted by the EU, and according to the additional requirements of German commercial law pursuant to Sec. 315a (1) HGB ("Handelsgesetzbuch": German Commercial Code). The consolidated financial statements consist of the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of financial position, consolidated statement of cash flows, consolidated statement of changes in equity, and IFRS notes to the consolidated financial statements. SICK AG also prepared a group management report.

SICK AG, with registered offices in Waldkirch, Erwin-Sick-Str. 1, Germany, and filed with the commercial register of Freiburg local court under HRB 280355 is the parent company of the SICK Group.

ECONOMIC BACKGROUND

SICK is one the leading global manufacturers of intelligent sensors and sensor solutions for industrial applications. The Group has been in the sensor technology business for 70 years, has over 8,000 employees worldwide today, and comprises 45 consolidated subsidiaries in over 30 countries as well as numerous equity investments and agencies.

The company has its main production sites in Germany, China, Malaysia, Hungary, and the United States. SICK is well positioned internationally and has a worldwide distribution network with its own subsidiaries, equity investments and agencies in all major industrial countries.

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

All IFRS subject to mandatory adoption as of December 31, 2016 have been applied. These include the International Accounting Standards (IAS) as well as the interpretations of the International Financial Reporting Interpretations Committee (IFRIC) and the Standing Interpretations Committee (SIC). The Group has decided not to early adopt standards or interpretations that are not yet effective. These standards and interpretations are listed in G. (41) "Accounting standards not early adopted."

The fiscal year of the SICK Group and all the entities included in consolidation is the calendar year.

The group currency is the euro. As a rule, all amounts are stated in thousands of euro (EUR k). Deviations from this rule are indicated accordingly. Due to rounding-off, it is possible that some figures do not add up precisely to the sums stated.

The consolidated financial statements have been prepared on the basis of the historical cost convention, apart from derivatives, equity-settled share-based payment transactions, financial instruments classified as available for sale, and current receivables and liabilities in foreign currency. These are reported at fair value.

The income statement has been prepared using the nature of expense method.

EFFECTS OF NEW ACCOUNTING STANDARDS

The accounting principles applied were virtually unchanged on the prior year, except for the following new and amended IFRS and IFRIC interpretations effective as of 2016.

Amendments to IAS 19	Defined Benefit Plans: Employee Contributions
Improvements to IFRS (2010–2012)	Amendments to various standards (IFRS 2, IFRS 3, IFRS 8, IFRS 13, IAS 16, IAS 24, and IAS 38)
Amendments to IFRS 10, IFRS 12 and IAS 28	Investment Entities – Applying the Consolidation Exception
Amendments to IAS 27	Equity Method in Separate Financial Statements
Amendments to IAS 1	Disclosure Initiative
Improvements to IFRS (2012–2014)	Amendments to various standards (IFRS 5, IFRS 7, IAS 19 and IAS 34)
Amendments to IAS 16 and IAS 38	Clarification of Acceptable Methods of Depreciation and Amortization
Amendments to IFRS 11	Accounting for Acquisitions of Interests in Joint Operations
Amendments to IAS 16 and IAS 41	Bearer Plants

The changes mentioned in the table have not materially impacted the Group's financial position or performance.

B. CONSOLIDATION PRINCIPLES

CONSOLIDATION METHODS

The consolidated financial statements include the financial statements of SICK AG and its subsidiaries as of December 31, 2016. Subsidiaries are fully consolidated from the date of acquisition, being the date on which the Group obtains control, and continue to be consolidated until the date that such control by the parent ceases.

For a list of group entities, reference is made to pages 114 and 115 of this Annual Report.

The financial statements of the subsidiaries are prepared for the same reporting period as the parent company, using consistent accounting policies.

All intragroup balances, transactions, unrealized gains and losses resulting from intragroup transactions and dividends are eliminated in full.

Comprehensive income within a subsidiary is attributed to the non-controlling interest even if it results in a deficit balance. A change in the ownership interest of a subsidiary which does not involve a loss of control is accounted for as an equity transaction.

Business combinations are accounted for using the purchase method. The cost of an acquisition is the aggregate of the consideration transferred, measured at acquisition date fair value and the amount of any non-controlling interest in the acquiree. For each business combination, the Group elects whether it measures the non-controlling interest in the acquiree either at fair value or at the proportionate share of the acquiree's identifiable net assets. Costs incurred in the course of the acquisition are expensed.

If the business combination is achieved in stages, the acquisition date fair value of the acquirer's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date through profit or loss.

Goodwill is initially measured at cost being the excess of the aggregate of the consideration transferred and the amount recognized for the non-controlling interest over the net identifiable assets acquired and liabilities of the Group assumed. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss after reexamination.

Associates and joint ventures are consolidated using the equity method.

BASIS OF CONSOLIDATION

Besides SICK AG, the consolidated financial statements include five (prior year: five) German and 40 (prior year: 38) foreign fully consolidated subsidiaries (purchase method) in which SICK AG has the direct or indirect majority of voting rights as of the end of the reporting period December 31, 2016.

Changes in the basis of consolidation

SICK Engineering GmbH, Ottendorf-Okrilla, acquired an additional 32 percent of the shares in SICK Metering Systems NV, with registered offices in Kalmthout, Belgium, in April 2016. The shares were increased by converting loan receivables of EUR 2,000 k into equity. SICK Engineering GmbH previously had a 50 percent shareholding, meaning that the equity investment now comes to 82 percent. This used to be accounted for using the equity method. SICK Metering Systems NV has been fully consolidated since control was obtained in April 2016.

This increase in shares has further strengthened SICK's process automation business field. The fair values of the identifiable assets and liabilities of SICK Metering Systems NV are as follows:

in EUR k	Fair value as of the acquisition date
Intangible assets	967
Property, plant and equipment	19
Inventories	293
Receivables	485
Cash and cash equivalents	101
Current liabilities	-3,106
NET ASSETS	-1,241
Non-controlling interests	-236
Goodwill	5,577
TOTAL CONSIDERATION OF THE BUSINESS COMBINATION IN STAGES	**4,100**

The non-controlling interests were recognized at the corresponding share of net assets.

The goodwill contains individual intangible assets which by nature are not identifiable in accordance with IAS 38 and for which a value cannot be reliably determined. It essentially represents part of the expected synergy and earnings potential. None of the goodwill is expected to be deductible for income tax purposes. The receivables acquired overall are recoverable. No material transaction costs were incurred during the acquisition.

The carrying amount (accounted for using the equity method) of the former share was EUR 0 k as of the acquisition date. The fair value of the former shares was remeasured upon acquisition of the new shares. The new measurement for the 50 percent shareholding corresponds to EUR 2,500 k. The gain of EUR 2,500 k resulting from the remeasurement was reported under other operating income.

Since the date of purchase accounting, the acquisition has contributed EUR 4,555 k to sales and EUR 602 k to EBIT of the Group.

The newly founded subsidiary Vision Solution Engineering s.r.o., Prague, Czech Republic, started operations in spring 2016. The subsidiary focuses on system solutions related to vision.

The subsidiary SICK Automation Solutions S.A. de C.V., Tlalnepantla, Mexico, has been responsible for all operating sales processes since the beginning of 2016 and was newly consolidated in the reporting year. Any resulting difference is immaterial and was offset directly in equity.

The subsidiary SICK Flow Solutions LLC i. L., Moscow, Russia, was liquidated in full during the fiscal year 2016. The effect from deconsolidation is immaterial.

CURRENCY TRANSLATION

Foreign currency business transactions are translated at the exchange rate prevailing on the date of the transaction. Gains and losses from the settlement of such business transactions and from the translation of monetary assets and liabilities are reported in the income statement.

The separate financial statements of foreign subsidiaries are translated using the functional currency method in accordance with IAS 21 “The Effects of Changes in Foreign Exchange Rates.” Generally speaking, the entities work independently of one another for financial and economic purposes. The functional currency is the local currency of these entities.

Assets and liabilities and contingent liabilities and other financial obligations are translated at the closing rate. The income and expenses in the income statement and thus the net profit or loss for the year reported in the income statement are translated at the annual average rate.

The currency difference arising from translation is offset against the revenue reserves in the item currency translation differences.

Goodwill and adjustments of assets and liabilities resulting from the purchase of a foreign entity are translated at the closing rate.

When translating the financial statements of foreign entities accounted for using the equity method, the equity is measured in accordance with the same principles used for consolidated subsidiaries.

Currency translation was based on the following exchange rates:

Exchange rate 1 EUR =	ISO code	**Closing rate Dec. 31, 2016**	Average exchange rate 2016	Closing rate Dec. 31, 2015	Average exchange rate 2015
Australia	AUD	1.4524	1.4883	1.5005	1.4778
Brazil	BRL	3.4127	3.8609	4.1977	3.6923
Canada	CAD	1.4175	1.4664	1.5161	1.4185
Chile	CLP	699.0200	748.5766	772.4500	725.9113
China	CNY	7.2801	7.3491	7.0831	6.9746
Czech Republic	CZK	27.0180	27.0346	27.0330	27.2823
Denmark	DKK	7.4343	7.4454	7.4617	7.4587
Hong Kong	HKD	8.1166	8.5896	8.4654	8.6078
Hungary	HUF	310.5845	311.4387	313.7500	309.9035
India	INR	71.1560	74.3479	72.4370	71.2008
Israel	ILS	4.0264	4.2482	4.2468	4.3155
Japan	JPY	122.2365	120.3234	131.5450	134.3666
Malaysia	MYR	4.6881	4.5838	4.7046	4.3341
Mexico	MXN	21.6070	20.6497	18.7561	17.6029
New Zealand	NZD	1.5059	1.5892	1.5897	1.5914
Norway	NOK	9.0655	9.2928	9.4978	8.9470
Poland	PLN	4.4100	4.3628	4.2371	4.1834
Russia	RUB	63.2824	74.1952	78.8982	68.0173
Singapore	SGD	1.5173	1.5276	1.5437	1.5260
South Africa	ZAR	14.3120	16.2748	16.7135	14.1605
South Korea	KRW	1,265.8400	1,284.3734	1,278.7200	1,256.2977
Sweden	SEK	9.5493	9.4667	9.1453	9.3570
Switzerland	CHF	1.0715	1.0901	1.0843	1.0684
Taiwan	TWD	33.7694	35.6953	36.0793	35.2511
Thailand	THB	37.6100	39.0445	39.4200	38.0127
Turkey	TRY	3.6970	3.3428	3.1816	3.0227
United Arab Emirates	AED	3.8420	4.0646	4.0120	4.0768
United Kingdom	GBP	0.8547	0.8190	0.7379	0.7263
USA	USD	1.0465	1.1066	1.0923	1.1103

C. ACCOUNTING POLICIES

SIGNIFICANT ACCOUNTING JUDGMENTS, ESTIMATES AND ASSUMPTIONS

The preparation of the Group's consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of income, expenses, assets, and liabilities, and the disclosure of contingent liabilities, at the end of the reporting period. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods.

The main judgments, estimates and assumptions are explained in detail below:

Impairment tests for goodwill are carried out at least once a year at the level of the cash-generating unit. The recoverable amount of the cash-generating units is determined based on a value in use calculation. To calculate this, cash flow projections are based on medium-term planning approved by the management. The basic assumptions and the carrying amounts are explained in more detail in section F. (14) "Intangible assets."

Development costs are capitalized in accordance with the accounting policy presented. Initial recognition of development costs is based on an assessment by management that the development is both technically and economically feasible. In determining the amounts to be capitalized, management makes assumptions regarding the expected future cash generation of the project, discount rates to be applied, and the expected period of benefits. For a presentation of the carrying amounts of the capitalized development costs, reference is made to page 108 ans 109 of this Annual Report.

Uncertainties exist with respect to the interpretation of complex tax regulations and the amount and timing of future taxable income. Given the wide range of international business relationships and the long-term nature and complexity of existing contractual agreements, differences arising between the actual results and the assumptions made, or future changes to such assumptions, could necessitate future adjustments to tax income and expense already recorded.

Deferred tax assets are recognized for all unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and the level of future taxable profits together with future tax planning strategies. Further details on taxes are presented in section E. (12) "Income tax."

The cost of defined benefit plans and the present value of the pension obligation are determined using actuarial valuations. An actuarial valuation involves making various assumptions that can differ from actual developments in the future. These include future anticipated increases in salaries and pensions, the determination of discount rates as well as of biometric data. Due to the complexity of the valuation, the underlying assumptions, and its long-term nature, a defined benefit obligation is highly sensitive to changes in these assumptions. All assumptions are reviewed at each reporting date. Further information about the assumptions used is given in section F. (28) "Provisions."

REVENUE RECOGNITION

Revenue contains sales of products and services as well as freight and packaging revenue, less discounts and rebates. Revenue for sales of products is recognized upon transfer of risk and title to the customer when the compensation has been contractually agreed or is determinable and the associated receivables are likely to be settled. If the contract prescribes inspection by the customer, the revenue is not recognized until this inspection has been performed. Revenue from the provision of services is recognized when the services are rendered.

RECOGNITION OF EXPENSES AND OTHER INCOME

Operating expenses are recognized upon utilization of the underlying services or on the date they are incurred. Interest expenses and income are recognized in the income statement in the period in which they are incurred or generated.

GOODWILL

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. Goodwill is not subject to scheduled amortization, but tested for impairment at least annually in accordance with IAS 36.

For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the business combination. Further details are presented in section F. (14) "Intangible assets."

INTANGIBLE ASSETS (EXCLUDING GOODWILL)

Intangible assets acquired separately are initially measured at cost. The cost of an intangible asset acquired within the scope of a business combination is its fair value on the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses. Internally generated intangible assets are capitalized. As regards intangible assets, it is initially important to determine whether they have a finite or an indefinite useful life. Intangible assets with a finite useful life are amortized over their useful life and tested for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at the end of each fiscal year at the latest. Changes in the expected useful life or the expected pattern of consumption of the future economic benefits embodied in the asset are accounted for by changing the amortization period or method, as appropriate, and treated as changes in accounting estimates. Amortization of intangible assets with a finite useful life is reported in the income statement under the expense category depreciation and amortization. Intangible assets with an indefinite useful life are tested for impairment at least once a year either individually or at the cash-generating unit level. Such intangibles are not subject to systematic amortization.

Industrial rights and similar rights and assets as well as licenses to such rights and assets disclosed under intangible assets are amortized on a straight-line basis over a useful life of three to eight years.

Development costs are capitalized at cost if the recognition criteria of IAS 38 are met. The capitalized development costs generally relate to product innovations; the other internally generated intangible assets include process-related developments and software developments.

Production costs comprise the costs directly allocable to the development process. Borrowing costs are capitalized if the recognition criteria are met. Capitalized development costs and other internally generated intangible assets are amortized systematically over a useful life of four to six years.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is measured at cost less systematic depreciation over the estimated useful life. These costs comprise the costs for replacement parts which are recognized at the time they are incurred, provided they meet the recognition criteria. The cost of self-constructed plant and equipment includes all costs which can be directly allocated to the production process as well as an appropriate portion of production-related overheads. This also includes production-related depreciation, a proportionate amount of production-related administrative expenses as well as pro rata welfare costs. Borrowing costs for long-term construction projects are capitalized if the recognition criteria are met. Depreciation of property, plant and equipment is mainly charged using the straight-line method of depreciation. The depreciation period and the depreciation method are reviewed at least at each fiscal year end and adjusted for any significant changes.

Specifically, the carrying amounts are based on the following useful lives:

Buildings	10 – 50 years
Technical equipment and machinery	3 – 15 years
Other equipment, furniture and fixtures	3 – 15 years

IMPAIRMENT LOSSES

An impairment test is performed for all intangible assets (including goodwill) and items of property, plant and equipment if the situation or changes in circumstances indicate that the carrying amount of the assets exceeds the recoverable amount. In addition, goodwill is subjected to an annual impairment test.

If the recoverable amount of the asset falls short of the carrying amount, an impairment loss is recognized. The recoverable amount is the higher of the fair value of the assets less costs to sell and the value in use. The fair value less costs to sell is the amount obtainable from the sale of an asset in an arm's length transaction less the costs necessary to make the sale. Value in use is the present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life. The recoverable amount is determined for each asset individually or, if that is not possible, for the cash-generating unit to which the asset belongs.

With the exception of goodwill, impairment losses recognized in prior years are reversed where there is an indication that the impairment recognized for the asset no longer exists or has decreased. The reversal is posted as a gain in the income statement. A reversal or reduction of an impairment loss, however, may not exceed the carrying amount of the asset which would have resulted if no impairment losses had been recognized in prior periods.

FINANCIAL INSTRUMENTS

A financial instrument is any contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another entity.

The Group's financial assets mainly include cash, trade receivables, unlisted financial instruments, loan receivables, other assets and derivative financial instruments with a positive fair value.

The Group's financial liabilities chiefly include trade and other payables, bank overdrafts, loans and borrowings, liabilities from finance leases, and derivative financial instruments with a negative fair value. SICK does not make use of the option to classify financial assets or financial liabilities at fair value through profit or loss upon initial recognition (fair value option).

Financial instruments are split into the following classes based on their nature:

- financial assets and liabilities measured at (amortized) cost
- financial assets and liabilities measured at fair value
- finance lease liabilities

For further information, reference is made to section G. (36) "Financial instruments."

Financial instruments are recognized in the consolidated statement of financial position if a contractual obligation results from the financial instrument. Regular way purchases or sales of financial assets, i. e., purchases or sales under a contract whose terms require delivery of the asset within the time frame established, generally by regulation or convention in the marketplace concerned, are recorded on the date of trading. Financial instruments are initially measured at fair value. The Group takes the directly attributable transaction costs into account in the calculation of the carrying amount only if the financial instruments are not measured at fair value through profit or loss.

Subsequent measurement of financial assets and liabilities depends on their classification into the following categories:

- available-for-sale financial assets
- loans and receivables
- financial liabilities measured at amortized cost or
- financial assets and financial liabilities held for trading

The Group does not make use of the category "for financial instruments held to maturity."

AVAILABLE-FOR-SALE FINANCIAL ASSETS

Available-for-sale financial assets are non-derivative financial assets that are designated as available-for-sale or are not classified in any of the other categories. After initial measurement, available-for-sale financial assets are measured at fair value with unrealized gains or losses recognized in other comprehensive income until the investment is derecognized, at which time the cumulative gain or loss recorded in other comprehensive income is recognized in the income statement, or determined to be impaired, at which time the cumulative loss recorded in other comprehensive income is recognized in the income statement. Under available-for-sale assets, the Group mainly reports shares in unlisted entities, which were valued at amortized cost, since the fair value could not be determined reliably due to a lack of market values. A sale is not planned.

If the fair values of available-for-sale financial assets fall below cost and there is objective evidence, such as a downgraded credit rating or decline in earnings capability, that the asset is impaired, the Group reverses the accumulated loss recognized directly in equity and releases it to the consolidated income statement. The Group reinstates impairment losses of debt instruments in subsequent periods if the reasons for impairment cease to apply.

LOANS AND RECEIVABLES

The Group measures financial assets classified as loans and receivables at amortized cost less impairments using the effective interest method. Impairments that serve to take into account the expected default risks are recognized in the form of allowances for individual risks or general credit risks. To determine allowances for general credit risks, financial assets that could potentially be impaired are grouped together by similar credit risk characteristics and collectively evaluated for impairment and impaired as necessary. The carrying amount of the asset is reduced through the use of an allowance account and the amount of the loss is recognized in the income statement. Receivables and associated allowances are derecognized when there is no realistic prospect of future recovery and all collateral has been realized or has been transferred to the Group.

Interest-free loans and receivables or those with low interest compared to the market level due in more than one year are discounted.

FINANCIAL LIABILITIES

With the exception of the derivative financial instruments, financial liabilities are measured at amortized cost using the effective interest method.

DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGE ACCOUNTING

The Group uses derivative financial instruments such as forward currency contracts and interest rate swaps to hedge its foreign market risks and interest rate risks respectively. Such derivative financial instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

The Group did not conclude any derivative financial instruments during the fiscal years 2016 and 2015 that meet the criteria for hedge reporting pursuant to IAS 39.

OFFSETTING OF FINANCIAL INSTRUMENTS

Financial assets and financial liabilities are offset and the net amount reported in the consolidated statement of financial position if there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the assets and settle the liabilities simultaneously.

INVENTORIES

Inventories are measured at the lower of cost and net realizable value. In addition to direct costs, cost includes an appropriate portion of necessary materials and production overheads as well as production-related depreciation that can be directly allocated to the production process. Administrative and welfare costs that can be allocated to the production process are also considered. Inventories having a similar nature are measured using the weighted average cost formula. Borrowing costs are not capitalized. Appropriate allowance is made for inventory risks associated with slow-moving stocks, reduced salability, etc. When the circumstances that previously caused inventories to be written down below cost no longer exist, the write-down is reversed.

DEFERRED TAXES

Deferred tax assets and liabilities are recognized for all temporary differences between the carrying amounts in the tax accounts and the IFRS statement of financial position in accordance with the balance sheet liability method. Deferred tax assets also include tax credits that result from the expected utilization of existing unused tax losses in subsequent years and the realization of which can be assumed with reasonable assurance. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply based on tax laws that have been enacted or substantively enacted in the individual countries at the time of realization.

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred tax asset to be utilized. Unrecognized deferred tax assets are reviewed at the end of each reporting period and recognized to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be realized.

For transactions and other events recognized in other comprehensive income, any taxes on income are also reported in other comprehensive income, not through profit or loss.

Deferred tax assets and deferred tax liabilities are offset if the Group has a legally enforceable right to offset current tax assets and current tax liabilities and these relate to income taxes levied by the same taxation authority on the same taxable entity.

TREASURY SHARES

Own equity instruments that are reacquired (treasury shares) are recognized at cost and deducted from equity. No gain or loss is recognized in the income statement on the purchase, sale, issue, or cancellation of the Group's own equity instruments.

SHARE-BASED PAYMENTS

Members of the Executive Board of SICK AG receive a remuneration component in the form of equity instruments ("equity-settled transactions") that is measured at fair value. For more details, reference is made to the comments on the remuneration of the members of the Executive Board of SICK AG in section G. (38) "Related party disclosures."

PROVISIONS FOR PENSIONS AND SIMILAR OBLIGATIONS

The Group's post-employment benefits include both defined contribution plans and defined benefit plans.

The Group's net obligation in terms of defined benefit plans is calculated separately for each plan by estimating the future payments that the employees have earned in the current period and in earlier periods. This amount is discounted and the fair value of any plan assets is deducted from that figure.

The calculation of the defined benefit obligations is carried out annually by a recognized actuary using the projected unit credit method. If the calculation results in a potential asset for the Group, the asset recognized is limited to the present value of any economic benefit in the form of any future reimbursements from the plan or reductions in future contributions to the plan. Any applicable minimum funding requirements are taken into consideration in the calculation of the present value of any economic benefit.

Remeasurements of the net liability from defined benefit plans are recognized directly in other comprehensive income. Remeasurement involves the actuarial gains and losses, the return on plan assets (excluding interest), and the effect of any limit on a defined benefit asset (excluding interest). The Group calculates the net interest expenses (income) on the net liability (asset) from defined benefit plans for the reporting period by applying the discount rate that was used to measure the defined benefit obligations at the beginning of the annual reporting period. This discount rate is applied to the net liability (asset) from defined benefit plans as of that date. Any changes are taken into account which result in the net liability (asset) from defined benefit plans during the reporting period as a result of contributions and benefit payments. Net interest expenses and other expenses for defined benefit plans are recognized in the interest result.

If the plan benefits are amended or a plan is curtailed, the resulting amendment is recognized directly in profit or loss. The Group recognizes gains and losses from the settlement of a defined benefit plan on the settlement date.

Under defined contribution plans, the entity pays fixed contributions into a state or private fund in accordance with legal or contractual provisions or on a voluntary basis and will have no legal or constructive obligation to pay further contributions. The current contribution payments are disclosed in the personnel expenses of the respective year.

Further details about pension obligations are given in section F. (28) "Provisions."

OTHER PROVISIONS

Pursuant to IAS 37 “Provisions, Contingent Liabilities and Contingent Assets,” provisions are recognized when an entity has a current obligation from a past event which will probably lead to an outflow of resources embodying economic benefits in future and a reliable estimate can be made of the amount of the obligation. The amount recognized as a provision for recognizable risks and uncertain obligations is based on its probability of occurrence and is not offset against rights of recourse. The amount needed to settle the obligation also includes any expected cost increases at the end of the reporting period. Provisions for warranty claims are recognized taking account of the past or estimated future claims pattern. Non-current provisions due in more than one year are discounted where the effect of the time value of money is material.

ACCOUNTING FOR LEASES – THE GROUP AS THE LESSEE

Leases are classified as finance leases if substantially all the risks and rewards incidental to ownership of an asset have been transferred to the lessee. All other leases are operating leases.

At the inception of the lease, the Group recognizes finance leases and the corresponding liabilities to the lessor as assets in its statement of financial position at amounts equal to the fair value of the leased asset or, if lower, the present value of the future minimum lease payments, and liabilities from finance leases. Depreciation is charged over the shorter of the lease term of the asset and its useful life. The outstanding liability is reduced over the lease term. At the beginning of the lease, the difference between the total lease obligation and the fair value of the leased asset is the finance charge which is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability.

Lease and rent payments paid by the Group under an operating lease are recognized as an expense on a straight-line basis over the lease term.

GOVERNMENT GRANTS

Government grants related to assets are generally deducted from the cost of the subsidized asset.

Government grants related to income are recorded as other operating income to reflect the effect of the corresponding expenses on profit and loss.

BORROWING COSTS

Borrowing costs directly attributable to the acquisition, construction, or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the respective assets. All other borrowing costs are expensed in the period they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. The Group capitalizes borrowing costs for all qualifying assets.

FAIR VALUE MEASUREMENT

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This applies regardless of whether the price is directly observable or has been estimated using a valuation technique.

When calculating the fair value of an asset or a liability, the Group takes into account certain features of the asset or liability that market participants would also take into consideration when setting the pricing for the purchase of the respective asset or the transfer of the liability as of the end of the reporting period. In these consolidated financial statements, the fair value for measurement and/or disclosure requirements is calculated on this basis.

The fair value is not always available as a market price. Often, it has to be calculated based on different measurement parameters. Fair value is rated as Level 1, 2 or 3 depending on the availability of observable parameters and the significance of those parameters for the calculation of the fair value as a whole. The breakdown as of the end of each reporting period is based on the following:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities
- Level 2: other techniques for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly (derived from prices)
- Level 3: techniques which use inputs that have a significant effect on the recorded fair value that are not based on observable market data

CONTINGENT LIABILITIES/ASSETS

Contingent liabilities pursuant to IAS 37 "Provisions, Contingent Liabilities and Contingent Assets" are defined as a possible obligation whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity. This pertains to obligations which are not likely to lead to an outflow of resources embodying economic benefits or for which it is not possible to measure the amount of the obligation with sufficient reliability. Pursuant to IAS 37, contingent liabilities are not disclosed in the statement of financial position. They are, however, disclosed in the notes unless the possibility of an outflow of resources embodying economic benefits is remote.

Contingent assets are not shown in the statement of financial position. However, they are disclosed in the notes to the financial statements when an inflow of economic benefits is probable.

EXEMPTION FROM THE DUTY OF STOCK CORPORATIONS TO PREPARE FINANCIAL STATEMENTS

For the fiscal year 2016, the following subsidiaries made use of the exemption pursuant to Sec. 264 (3) HGB:

- SICK Engineering GmbH, Ottendorf-Okrilla
- SICK Management GmbH, Waldkirch
- SICK STEGMANN GmbH, Donaueschingen
- SICK Vertriebs-GmbH, Düsseldorf

D. CONSOLIDATED STATEMENT OF CASH FLOWS

GENERAL

The consolidated statement of cash flows presents the source and utilization of cash flows. In accordance with IAS 7 "Statement of Cash Flows," a distinction is made in the statement of cash flows between cash flows from operating activities and cash flows from investing and financing activities.

The cash and cash equivalents presented in the statement of cash flows contain all cash and cash equivalents shown in the statement of financial position, i. e., cash in hand, checks, and bank balances provided they are available within three months. Cash and cash equivalents are not subject to any restrictions.

Cash flows from investing activities and financing activities are derived from the actual cash payments, while cash flows from operating activities are calculated indirectly from consolidated net income. When performing the indirect calculation, changes in items of the statement of financial position considered in connection with ordinary activities are adjusted for effects from currency translation and from acquisition and sales of subsidiaries and other business units. Interest paid and received and included as cash inflow from operating activities as well as dividends received and income taxes paid are disclosed separately. Investing activities comprise additions to property, plant and equipment and financial assets, as well as additions to purchased intangible assets. This item also shows any additions resulting from the recognition of development costs and other internally generated intangible assets.

E. NOTES TO THE CONSOLIDATED INCOME STATEMENT

(1) SALES

For a breakdown of sales by region, reference is made to the group management report.

(2) OWN WORK CAPITALIZED

in EUR k	2016	2015
Capitalized development work	6,662	7,674
Own work for self-constructed intangible assets and property, plant and equipment	12,261	12,706
TOTAL	**18,923**	20,380

(3) COST OF MATERIALS

in EUR k	2016	2015
Cost of materials and supplies and of purchased goods	388,316	356,658
Cost of purchased services	21,368	19,766
TOTAL	**409,684**	376,424

(4) PERSONNEL EXPENSES AND NUMBER OF EMPLOYEES

in EUR k	2016	2015
Wages and salaries	479,663	437,857
Social security, pension, and other benefit costs	94,608	88,403
TOTAL	**574,271**	526,260

The wages and salaries item includes termination benefits of EUR 1,877 k (prior year: EUR 1,350 k).

Employees

	2016			2015		
	Germany	**Abroad**	**Total**	Germany	Abroad	Total
Average headcount (excluding trainees):	4,336	3,177	7,513	4,038	2,934	6,972
of which in R&D	(830)	(134)	(964)	(746)	(118)	(864)
Trainees	261	32	293	251	16	267
TOTAL	**4,597**	**3,209**	**7,806**	4,289	2,950	7,239

(5) DEPRECIATION AND AMORTIZATION

This item pertains to intangible assets and property, plant and equipment.

(6) OTHER OPERATING EXPENSES

in EUR k	2016	2015
Administrative and selling expenses	101,980	96,605
Cost of purchased services and repairs	75,443	68,619
Rent and lease expenses	24,559	23,308
Other expenses	18,537	21,244
TOTAL	**220,519**	209,776

(7) OTHER OPERATING INCOME

In addition to cost reimbursements, other operating income includes income from subsidies and other sales. This item includes a profit of EUR 2,500 k resulting from remeasurement of the interests in SICK Metering Systems NV at fair value as part of a business combination achieved in stages pursuant to IFRS 3.

(8) CURRENCY RESULTS

in EUR k	2016	2015
Exchange gains	32,130	34,569
Exchange losses	34,238	39,810
TOTAL	**-2,108**	-5,241

(9) NET INVESTMENT INCOME / EXPENSE

in EUR k	2016	2015
Expense from investments accounted for using the equity method	137	-748
Income from other equity investments	38	45
TOTAL	**175**	-703

(10) INTEREST EXPENSE

This item includes interest and similar expenses. For details on the interest effects in relation to pension provisions, reference is made to section F. (28) “Provisions.”

In the reporting period, borrowing costs of EUR 130 k (prior year: EUR 330 k) were capitalized in non-current assets. The interest rates used range from 1.8 to 1.9 percent (prior year: from 1.9 to 2.2 percent).

(11) INTEREST INCOME

This item contains other interest and similar income of EUR 330 k (prior year: EUR 394 k).

(12) INCOME TAX

in EUR k	2016	2015
Current income taxes		
current tax expense / income (-) for the reporting period	38,098	41,857
tax expense / income (-) relating to other periods	1,241	-1,343
Deferred tax expense / income (-)		
from temporary measurement differences	901	-5,685
from unused tax losses	40	-577
TOTAL	**40,280**	34,252

Current income tax expense includes corporate income tax (including solidarity surcharge) and trade tax of German entities and comparable income taxes of foreign entities. Withholding taxes are also disclosed here.

As of the end of the reporting period, the German entities have a corporate income tax credit of EUR 324 k (prior year: EUR 648 k), of which EUR 316 k relates to SICK AG (prior year: EUR 631 k). After discounting, the existing corporate income tax credit was recognized as a tax asset with a present value of EUR 324 k as of December 31, 2016 (prior year: EUR 645 k). Of this, EUR 316 k relates to SICK AG (prior year: EUR 628 k).

As in the prior year, no deferred taxes were recognized as of the end of the reporting period on retained earnings by subsidiaries held for the foreseeable future. Timing differences in connection with investments in subsidiaries on which no deferred tax liabilities have been recognized amount to around EUR 9,815 k (prior year: EUR 7,876 k).

Of the deferred taxes recognized in the statement of financial position, an amount of EUR 6,764 k (prior year: EUR 6,119 k) relates to transactions that directly increase equity as of the reporting date.

The income tax expense reported as of the end of the reporting period amounting to EUR 40,280 k (prior year: EUR 34,252 k) is EUR 1,799 k lower (prior year: EUR 2,297 k lower) than the estimated tax expense of EUR 42,079 k (prior year: EUR 36,549 k). The table below reconciles the estimated tax expense to the income taxes reported:

in EUR k	2016	2015
Earnings before tax	145,101	126,031
Theoretical tax rate (%)	29.0	29.0
ESTIMATED TAX EXPENSE	**42,079**	36,549
Reasons for the change in theoretical tax expense:		
Deviating foreign tax rates	-3,919	-3,822
Tax rate change	-46	-260
Taxes from other periods	1,241	-1,343
Tax-free income	-1,161	-4
Non-deductible expenses	1,792	2,822
Tax incentives	-874	-211
Use of unused tax losses that have not yet been recognized	0	-69
Capitalized deferred taxes on unused tax losses in prior years	0	0
Other	1,168	590
INCOME TAXES REPORTED	**40,280**	34,252
Effective tax rate (%)	27.8	27.2

As in the prior year, the calculation of the estimated tax expense for the fiscal year 2016 is based on a theoretical tax rate of 29 percent. This rate is derived from the corporate income tax rate applicable in Germany of 15 percent plus the solidarity surcharge of 5.5 percent of that figure and an average trade tax burden in Germany of 13.2 percent.

Deferred tax assets and liabilities relate to the following:

	Deferred tax assets		Deferred tax liabilities	
in EUR k	**2016**	2015	**2016**	2015
Intangible assets	20	51	7,871	8,070
Property, plant and equipment / financial assets	184	276	4,533	4,276
Inventories	15,953	16,548	1,278	1,477
Other current assets	1,520	1,575	3,057	2,694
Liabilities	25,163	25,327	546	727
Unused tax losses	1,079	1,119	0	0
GROSS VALUE	**43,919**	44,896	**17,285**	17,244
Write-downs of deferred tax assets	0	-77	0	0
Offsetting	-15,474	-15,328	-15,474	-15,328
CARRYING AMOUNT	**28,445**	29,491	**1,811**	1,916

The recognition of deferred tax assets is based on management's estimate that sufficient taxable profits will be available in future and that these will lead to realization of the capitalized deferred taxes. This estimate is based on the findings of the past fiscal years as well as on the estimated taxable income.

No valuation allowances were recognized on deferred tax assets for timing differences (prior year: EUR 77 k).

Unused tax losses developed as follows:

in EUR k	**2016**	2015
Unused tax losses		
on which no deferred tax assets were recognized	4,108	0
of which available for offset for more than ten years	(3,280)	(0)
on which deferred tax assets were recognized	3,533	3,741
TOTAL	**7,641**	3,741

(13) EARNINGS PER SHARE

in EUR k	**2016**	2015
Consolidated net income	106,220	91,779
of which attributable to non-controlling interests	-831	-975
OF WHICH ATTRIBUTABLE TO SHAREHOLDERS OF SICK AG	**105,389**	90,804
Number of shares (weighted average) in thousands	26,205	26,205
Earnings per share (basic and diluted) in EUR / share	3.97	3.47

In accordance with IAS 33, basic earnings per share are calculated by dividing consolidated net income for the year attributable to the shareholders of SICK AG by the weighted average number of shares outstanding during the year. As SICK AG has only issued no-par value bearer shares, there are no dilutive effects.

F. NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

For a presentation of the consolidated statement of changes in non-current assets, reference is made to pages 108 and 109 of this Annual Report.

(14) INTANGIBLE ASSETS

The goodwill acquired from business combinations was allocated to the factory automation, logistics automation, and process automation cash-generating units for impairment testing. These correspond to the business fields. The carrying amounts of the goodwill allocated to the cash-generating units factory automation, logistics automation, and process automation amount to EUR 9,649 k (prior year: EUR 9,131 k), EUR 6,942 k (prior year: EUR 6,629 k), and EUR 7,770 k (prior year: EUR 2,289 k) respectively.

The recoverable amount of the factory automation, logistics automation, and process automation cash-generating units is determined based on a value in use calculation. To calculate this, cash flow projections are based on medium-term planning approved by the management for a three-year period. The financial planning is adjusted to reflect the current information available. Beyond the three-year period, an appropriate growth factor customary for the industry is assumed for the following two years. For the following years, a terminal growth rate of one percent was used.

This planning is based on appropriate assumptions on macroeconomic trends, expected growth rates on the relevant markets, and market shares as well as historical developments. The figures allocated to the key assumptions are based on external sources of information. A discount rate of 9.6 percent (prior year: 11.9 percent) before taxes has been used for the cash flow forecast.

The actual recoverable amounts exceed the carrying amounts of the factory automation, logistics automation, and process automation cash-generating units by EUR 1,138,941 k (prior year: EUR 731,506 k), EUR 480,992 k (prior year: EUR 266,997 k), and EUR 40,253 k (prior year: EUR 120,780 k) respectively.

An increase in the discount rate of one percent or a decrease in long-term growth of one percent was assumed in a sensitivity analysis for the cash-generating units. Based on this, SICK came to the conclusion that the goodwill of none of the cash-generating units would need to be impaired.

The carrying amounts of the capitalized development costs and of the other internally generated intangible assets amount to EUR 25,031 k (prior year: EUR 26,560 k).

The following amounts were recognized in profit or loss for R&D activities in relation to product innovations:

in EUR k	2016	2015
Research costs and non-capitalizable development costs	136,162	121,065
Amortization of development costs	7,278	7,929
TOTAL	**143,440**	128,994

Expenses for other self-constructed intangible assets are not included in the amounts listed.

(15) INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

The table below provides a summary of financial information for three joint ventures that are individually immaterial. These entities are presented in the list of group entities on pages 114 and 115 of this Annual Report.

in EUR k	2016	2015
Carrying amounts of the shares:	2,352	2,122
Share in:		
Income from continuing operations	208	-801
Other comprehensive income	0	0
COMPREHENSIVE INCOME	**208**	-801

(16) OTHER FINANCIAL ASSETS

in EUR k	2016	2015
Other equity investments	591	480
Sundry other financial assets	13	14
TOTAL	**604**	494

(17) INVENTORIES

in EUR k	2016	2015
Materials and supplies	95,218	90,109
Work in process	62,521	61,698
Finished goods and goods for resale	81,913	75,159
Payments on account	208	505
TOTAL	**239,860**	227,471

Based on the gross value, the value of the inventories was impaired by EUR 40,222 k (prior year: EUR 31,264 k).

(18) TRADE RECEIVABLES

in EUR k	2016	2015
Trade receivables due from		
third parties	258,108	233,801
entities accounted for using the equity method	724	726
TOTAL	**258,832**	234,527

Appropriate allowance is made for risk of receivables being uncollectible or other risks. As in the prior year, the receivables are generally due in up to one year.

Write-downs on trade receivables break down as follows:

in EUR k	2016	2015
AS OF JANUARY 1	**9,439**	7,823
Exchange rate differences	85	467
Utilization / reversals	1,747	2,159
Additions	2,395	3,308
AS OF DECEMBER 31	**10,172**	9,439

(19) TAX RECEIVABLES

This item records income tax receivables.

(20) OTHER ASSETS

in EUR k	2016	2015
Other tax assets	9,916	6,464
Prepaid expenses	5,371	4,939
Derivative financial instruments (held for trading)	761	1,520
Other	26,605	25,071
TOTAL	**42,653**	37,994

(21) CASH AND CASH EQUIVALENTS

Bank deposits payable on demand are reported in this item as well as checks and cash. Changes in cash and cash equivalents are shown in the statement of cash flows.

(22) ISSUED CAPITAL

As in the prior year, capital stock totals EUR 26,405,400 and is divided into a total of 26,405,400 no-par bearer shares. The imputed nominal value amounts to EUR 1.00 per share.

On the basis of the resolution of the Annual General Shareholders' Meeting of May 12, 2015, the Executive Board was authorized, subject to the approval of the Supervisory Board, to acquire – once or several times – up to 2,640,540 treasury shares for the purpose of redemption or resale in the period up to May 11, 2020.

(23) CAPITAL RESERVES

The capital reserves relate exclusively to share premiums in connection with the capital increases implemented at SICK AG and treasury shares transferred. Owing to the provisions of the German Stock Corporation Act, dividends may not be distributed from the capital reserves.

(24) TREASURY SHARES

On December 31, 2016, SICK AG had 200,160 (prior year: 199,225) treasury shares with a nominal value of EUR 200 k (prior year: EUR 199 k); this is equivalent to 0.8 percent of the capital stock (prior year: 0.8 percent).

Reconciliation of the number of outstanding shares:

in EUR k	2016	2015
OPENING BALANCE	**26,206,175**	26,204,025
Acquisition of treasury shares	-3,035	-50
Disposal of treasury shares	+2,100	+2,200
CLOSING BALANCE	**26,205,240**	26,206,175

(25) REVENUE RESERVES

Revenue reserves include the profits of SICK AG and consolidated subsidiaries earned in prior years and not yet distributed as well as additions due to equity-settled share-based payment transactions. In addition, currency translation differences of EUR 11,292 k (prior year: EUR 7,339 k) are also disclosed here as well as losses from the remeasurement of pension obligations of EUR 25,010 k (prior year: losses of EUR 22,602 k) less deferred taxes of EUR 6,764 k (prior year: EUR 6,119 k).

(26) PROPOSED DIVIDEND

Pursuant to Sec. 58 (2) AktG (“Aktiengesetz”: German Stock Corporations Act), the proposed SICK AG dividend is based on the retained earnings reported in the commercial financial statements of SICK AG.

Pursuant to the resolution of the annual general shareholders’ meeting of SICK AG of May 10, 2016, a dividend of EUR 0.70 per share and a bonus of EUR 0.70 per share was distributed from the retained earnings of SICK AG as of December 31, 2015 for the fiscal year 2015, i. e., taking into account treasury shares totaling EUR 36,685 k that are not entitled to dividends.

For the past fiscal year 2016, the company plans to distribute a dividend of EUR 1.00, i. e., taking into account treasury shares totaling EUR 26,205 k that are not entitled to dividends.

The individual components of equity and their development in 2016 and 2015 are shown in the consolidated statement of changes in equity.

(27) NON-CURRENT AND CURRENT FINANCIAL LIABILITIES

	2016 of which due in			2015 of which due in		
in EUR k	**Total**	**≤ 1 year**	**> 1 year**	Total	≤ 1 year	> 1 year
Liabilities to banks	97,743	6,890	90,853	98,679	11,081	87,598
Finance lease liabilities	3,995	2,073	1,922	613	243	370
TOTAL	**101,738**	**8,963**	**92,775**	99,292	11,324	87,968

Financial liabilities due in more than five years come to a total of EUR 9,213 k (prior year: EUR 29,200 k).

Non-current liabilities owed to banks are predominantly fixed-interest loans. The interest rates range from 0.83 to 4.25 percent (prior year: from 0.83 to 4.25 percent).

Non-current liabilities from leases are subject to customary market interest rates.

For additional information about the interest risks, reference is made to section G. (35) “Financial risk management.”

Financial liabilities contain secured liabilities of EUR 0 k (prior year: EUR 708 k). In the prior year, the collateral has been provided in the form of land charges.

(28) PROVISIONS

Non-current provisions break down as follows:

in EUR k	**2016**	2015
Provisions for pensions and similar obligations	69,518	65,747
Other non-current provisions	14,473	11,760
TOTAL	**83,991**	77,507

Provisions for pensions and similar obligations

Pension provisions are recorded as a result of benefit plans for old age, disability and surviving dependents’ pension obligations. The benefits vary according to local legal, tax and economic conditions and are usually based on the length of service and salary.

The Group’s post-employment benefits include both defined contribution plans and defined benefit plans.

In the case of defined contribution plans, the company makes voluntary contributions to state or private pension funds based on legal or contractual provisions. No further payment obligations arise for the company from the payment of contributions. The current contribution payments are disclosed as a personnel expense for the respective year. Not including contributions to the statutory pension insurance, these amounted to EUR 7,739 k in total in the fiscal year 2016 (prior year: EUR 7,426 k). The contributions to the statutory pension insurance in Germany came to EUR 23,723 k in the fiscal year 2016 (prior year: EUR 21,268 k) .

In addition, some of the company pension schemes are based on defined benefit plans which guarantee the beneficiaries lifelong monthly old-age pensions when they reach retirement age. These are co-funded by the company and by the employees.

If pension obligations are reinsured with insurance firms, these employer's liability insurance claims are netted with the provisions and disclosed as plan assets if the criteria of IAS 19 are satisfied.

The amounts recognized in the income statement are as follows:

in EUR k	2016	2015
Current service cost	4,218	4,015
Interest expense / interest income	959	906
TOTAL	**5,177**	4,921

The amounts cited are generally recorded in the personnel expense of the period; the interest components from the obligations are reported as interest expense.

The defined benefit obligations developed as follows:

in EUR k	2016	2015
AS OF JANUARY 1	**89,822**	82,928
Expenses recognized in income		
Current service cost	4,218	4,015
Interest cost	1,565	1,585
Benefits paid	-2,442	-2,588
Amounts recognized in other comprehensive income		
Change in financial assumptions	2,084	954
Experience adjustments, gains / losses	558	1,968
Employee contributions	421	349
Exchange rate differences / other changes	-645	611
AS OF DECEMBER 31	**95,581**	89,822

The average term of the defined benefit obligations in Germany is between 12.7 and 13.8 years (prior year: 13.7 and 14.4 years).

The plan assets chiefly concern pledged employer's liability insurance claims against insurance companies.

Changes in the fair value of plan assets are as follows:

in EUR k	2016	2015
AS OF JANUARY 1	**24,075**	21,839
Expenses/income recognized in income		
Interest income	404	424
Amounts recognized in other comprehensive income		
Return on plan assets	130	-11
Experience adjustments, gains/losses	-8	0
Employer contributions	2,566	2,214
Benefits paid	-508	-603
Exchange rate differences/other changes	-596	212
AS OF DECEMBER 31	**26,063**	24,075

The Group expects to contribute EUR 1,864 k to its defined benefit pension plans in the fiscal year 2017.

The amounts recognized in the statement of financial position for defined benefit obligations are as follows:

in EUR k	2016	2015
Defined benefit obligations	95,581	89,822
Fair value of plan assets	-26,063	-24,075
PROVISIONS FOR PENSIONS AND SIMILAR OBLIGATIONS	**69,518**	65,747

The reimbursement rights do not qualify as plan assets as they contain unpledged contributions to employer's liability insurance. These developed as follows:

in EUR k	2016	2015
AS OF JANUARY 1	**9,471**	7,981
Expenses/income recognized in income		
Interest income	202	255
Amounts recognized in other comprehensive income		
Experience adjustments, gains/losses	117	-108
Employer contributions	1,417	1,427
Benefits paid	-10	-84
Other changes	0	0
AS OF DECEMBER 31	**11,197**	9,471

Amounts recognized in other comprehensive income from the remeasurement of the pension obligations are as follows:

in EUR k	2016	2015
Change in financial assumptions	2,084	954
Experience adjustments, gains/losses	449	2,076
Return on plan assets	-130	11
TOTAL	**2,403**	3,041

The quantitative sensitivity analysis leads to the following effect on the defined benefit obligations of the significant entities subject to these changes in important assumptions:

in EUR k	2016	2015
Discount rate (+1%)	-5,280	-5,180
Discount rate (-1%)	6,772	6,933
Future salary development (-0.5%)	-282	-290
Future salary development (+0.5%)	293	301
Future pension development (-0.25%)	-1,089	-1,054
Future pension development (+0.25%)	1,138	1,101
Life expectancy (+1 year)	1,788	2,738

The method used to calculate the sensitivity of the obligations to the authoritative actuarial assumptions was the same as that used to calculate the obligation. The effects of the changes in assumptions were determined separately in each case. As a result, possible interdependencies were not analyzed. If a number of assumptions are simultaneously changed, the total impact does not necessarily equate to the sum of the individual effects.

The following mortality tables were used for the main countries as of December 31, 2016:

- Germany: Heubeck 2005 G mortality tables (modified)
- Switzerland: BVG 2010 generation table

Pension payments of EUR 3,071 k are expected to be made in the subsequent year as part of defined benefit obligations.

Assumed developments on the capital markets over the period in which the obligation is fulfilled are reflected both in the discount rate and in the estimated return on plan assets.

The calculation of pension provisions is based on the following assumptions:

in %	Germany 2016	Germany 2015	Switzerland 2016	Switzerland 2015
Discount rate	1.75	2.00	0.70	0.88
Future salary development	3.00	3.00	1.75	1.75
Future pension development	2.00	2.00	0.00	0.00

Other provisions

Other non-current and current provisions developed as follows:

in EUR k	Jan 1, 2016	Exchange rate differences/ changes in basis of consolidation	Utilization	Reversal	Additions	Discount rate adjustment	Dec. 31, 2016
Personnel and welfare expense	10,544	-14	1,104	313	4,454	93	13,660
Warranties and onerous contracts	13,110	136	9,184	1,145	8,637	0	11,554
Sundry other provisions	9,199	344	3,831	878	4,054	20	8,908
TOTAL	**32,853**	466	14,119	2,336	17,145	113	**34,122**

The provisions for personnel and welfare expense essentially comprise special German phased retirement obligations ("Altersteilzeit"), long-service bonus obligations, severance payments, and similar obligations.

The provisions for warranties and onerous contracts mainly contain obligations from statutory warranty and non-contractual warranty agreements.

Sundry other provisions account for various discernible individual risks and contingent liabilities based on their probable occurrence.

Other provisions are classified based on their expected utilization as follows:

	2016 of which due in			2015 of which due in		
in EUR k	**Total**	**≤ 1 year**	**> 1 year**	Total	≤ 1 year	> 1 year
Personnel and welfare expense	13,660	1,680	11,980	10,544	791	9,753
Warranties and onerous contracts	11,554	11,554	0	13,110	13,110	0
Sundry other provisions	8,908	6,415	2,493	9,199	7,192	2,007
TOTAL	**34,122**	**19,649**	**14,473**	32,853	21,093	11,760

(29) TAX LIABILITIES

This item records income tax liabilities.

(30) TRADE PAYABLES

in EUR k	2016	2015
Trade payables due to		
third parties	104,210	96,569
entities accounted for using the equity method	456	734
other	108	238
TOTAL	**104,774**	97,541

As in the prior year, the liabilities are generally due in less than one year.

(31) OTHER LIABILITIES

in EUR k	2016	2015
Liabilities to employees	76,280	71,540
Other tax liabilities	14,327	13,551
Social security liabilities	3,949	3,379
Deferred income	2,289	1,401
Derivative financial instruments held for trading	1,445	596
Sundry other liabilities	4,295	6,324
TOTAL	**102,585**	96,791

As in the prior year, other liabilities are generally due in less than one year.

G. OTHER NOTES

(32) CONTINGENT LIABILITIES

As an internationally active company with various areas of business, the Group is exposed to many legal risks. This is especially true of risks relating to warranties, tax litigation, and other legal disputes. The outcome of currently pending and / or future litigation cannot be predicted with certainty. Decisions may therefore result in expenses that are not fully covered by insurance and that may have significant effects on the business and its results. Group management does not expect pending litigation to result in judgments that will significantly and negatively influence the financial position and performance of the Group.

(33) CONTINGENT LIABILITIES AND OTHER FINANCIAL OBLIGATIONS

Contingent liabilities

There are no contingent liabilities subject to disclosure requirements.

Other financial obligations

in EUR k	2016	2015
Obligations from operating leases		
due within 12 months	22,122	18,123
due in 13 to 60 months	39,184	32,816
due in more than 60 months	4,652	3,733
TOTAL	**65,958**	54,672

The obligations from operating leases mainly relate to rent for office space, vehicles, and furniture and fixtures. There are prolongation options for individual agreements. There are no significant restrictions imposed on the Group by entering into these lease agreements.

In addition, the Group has purchase obligations (mainly for property, plant and equipment) and the like amounting to EUR 12,779 k (prior year: EUR 8,989 k) which are due in the next 12 months as well as several maintenance agreements and other obligations which will lead indefinitely to other financial obligations of EUR 21,718 k per year (prior year: EUR 23,347 k).

The remaining financial obligations are on a scale customary for the industry.

(34) LEASES

Lessee

The net carrying amount of assets covered by finance leases breaks down as follows:

in EUR k	2016	2015
Industrial rights and licenses	4,896	548
Other equipment, furniture and fixtures	285	171
TOTAL	**5,181**	719

The finance leases are generally designed to include a purchase option and the automatic transfer of ownership. There are no significant restrictions imposed by lease agreements.

Minimum lease installments over the remaining terms of the finance lease agreements and their present value are as follows:

in EUR k	2016	2015
due within 12 months	2,076	243
due in 13 to 60 months	1,966	343
due in more than 60 months	0	29
Minimum lease payments from finance leases	4,042	615
less expected future interest payments	-47	-2
PRESENT VALUE OF MINIMUM LEASE PAYMENTS	**3,995**	613
Residual term of liabilities		
due within 12 months	2,073	243
due in 13 to 60 months	1,922	341
due in more than 60 months	0	29
TOTAL	**3,995**	613

(35) FINANCIAL RISK MANAGEMENT

Through its financial activities, the Group is subject to various risks that are assessed, managed, and monitored by a systematic and documented risk management system which aims to avoid concentrations of risk.

The Group is exposed to market price risks due to changes in exchange rates or interest rates. On the procurement side, the Group faces commodity price risks. Furthermore, the Group is subject to credit risks resulting primarily from trade receivables. There are also liquidity risks in connection with the credit and market price risks or a deterioration in operations or disruptions on the financial markets. These financial risks could impact negatively on the financial position and performance of the Group.

Details of the Group's management of market risks (exchange rates, interest rates, commodity prices), credit risks and liquidity risks are presented below.

(A) EXCHANGE RATE RISKS

The Group performs foreign currency transactions worldwide and is therefore subject to exchange rate fluctuations which have an effect on the assets and earnings of the Group denominated in euro. Foreign currency risks in financing stem from financial receivables and liabilities in foreign currency and loans in foreign currency granted to finance group entities. As far as operations are concerned, the individual group entities mainly carry out their activities in their functional currency. There is also an intensive exchange of goods and services between the group entities.

Furthermore, there are transaction-related exposures due to financial assets and liabilities listed in foreign currencies. Exchange rate risks are managed by forward exchange contracts and options. Derivative financial instruments are used to hedge future sales revenue against exchange rate risks. Portions of the exposure expected for the next fiscal year in the most important currencies for the Group are hedged.

Risks from the use of derivative financial instruments include, on the one hand, counterparty risks which can be avoided in the selection process. On the other, they lie in the change in the fair value of derivatives; this is, however, generally counterbalanced by the opposing development of the fair value of the underlying.

The hedged sales revenue amount is calculated on the basis of the estimate for the coming fiscal year. This is derived mostly from past figures based on sales revenue which are highly probable. The figures are monitored constantly.

IFRS 7 requires that sensitivity analyses be carried out to present market risks, showing how profit or loss and equity would have been affected by changes in the relevant risk variables. Apart from exchange rate risks, the Group is exposed to interest rate risks. The periodic expenses are determined by relating the hypothetical changes of the risk variables to the financial instruments as of the end of the reporting period. It is assumed that the financial instruments as of the end of the reporting period are representative for the entire year.

Exchange rate risks or currency risks as defined by IFRS 7 arise on financial instruments that are denominated in a currency other than the functional currency and that have a monetary nature; differences from the translation of financial statements to the group currency caused by exchange rates are not taken into account. The relevant risk variables are all currencies (other than the functional currency) in which the Group uses financial instruments.

The currency sensitivity analyses are based on the following assumptions:

- Significant non-derivative monetary financial instruments are either denominated in functional currency or transferred to the functional currency using derivatives.
- Interest income and expenses from financial instruments are also either reported directly in functional currency or transferred to the functional currency using derivatives. As a result, there cannot be any material effects on the volumes under consideration.

The following table demonstrates the sensitivity of the consolidated net income before income tax due to changes in fair value of monetary foreign currency items.

	Change in foreign exchange rates in %		**Effect on earnings in EUR k**	
2016			**Income (+)**	**Expense (-)**
AUD	+10	-10	321	-321
CNY	+10	-10	2,866	-1,952
GBP	+10	-10	509	-509
KRW	+10	-10	296	-296
USD	+10	-10	3,112	-2,648
TOTAL			7,104	-5,726

	Change in foreign exchange rates in %		Effect on earnings in EUR k	
2015			Income (+)	Expense (-)
AUD	+10	-10	516	-516
CNY	+10	-10	1,506	-1,070
GBP	+10	-10	759	-759
USD	+10	-10	5,168	-4,282
TOTAL			7,949	-6,627

(B) INTEREST RATE RISKS

By interest rate risks, the Group means the negative effects on the financial position and performance resulting from changes in interest rates. The external financing consists primarily of fixed-interest rate loans. This is one of the methods used to manage these risks. In addition, derivative financial instruments are used in risk management. Due to the structure of assets and liabilities, interest rate risks are mostly linked to liabilities to banks. Fixed-interest agreements amounting to EUR 96,660 k (prior year: EUR 96,735 k) have been entered into for these. Floating-interest liabilities to banks amount to EUR 1,083 k (prior year: EUR 1,944 k).

In the prior year, EUR 8,056 k of the floating-interest liabilities to banks were hedged by swaps as of the end of the year.

Of the liabilities to banks, an amount of EUR 6,890 k (prior year: EUR 11,081 k) is due for repricing within a year, while EUR 90,853 k (prior year: EUR 87,598 k) of these liabilities are due for repricing at a later date.

Under IFRS 7, interest rate risks are presented using sensitivity analyses. These present the effects of changes in market interest rates on interest payments, interest income and expenses, other comprehensive income and, if applicable, on equity. The interest rate sensitivity analyses are based on the following assumptions:

- Market interest rate fluctuations of non-derivative financial instruments with fixed interest only affect profit or loss if they are measured at fair value. Therefore, the financial instruments with fixed interest that are measured at amortized cost do not constitute interest rate risks as defined by IFRS 7.
- Market interest rate fluctuations affect the interest result of non-derivative financial instruments with floating interest for which the interest payments are not designed as underlyings using cash flow hedges against interest rate risks, and are thus included when calculating the earnings-related sensitivities.
- Market interest rate fluctuations of interest derivatives (interest rate swaps, interest / currency swaps) that are not part of a hedge relationship pursuant to IAS 39 affect the other financial result (measurement result from adjusting the financial assets to the fair value) and are therefore taken into account when calculating the earnings-related sensitivities.
- Currency derivatives are not subject to any interest rate risks and therefore do not affect interest rate sensitivities.

If the market interest level had been 100 basis points higher as of December 31, 2016, earnings before tax would have been EUR 233 k higher (prior year: EUR 168 k higher). The hypothetical effect on earnings results from the potential positive effects from interest derivatives of EUR 0 k (prior year: EUR 124 k) and potential positive effects from non-derivative floating-rate financial liabilities and assets of EUR 233 k (prior year: negative effects of EUR 44 k).

If the market interest level had been 100 basis points lower as of December 31, 2016, earnings before tax would have been EUR 233 k lower (prior year: EUR 170 k lower). The hypothetical effect on earnings results from the potential positive effects from interest derivatives of EUR 0 k (prior year: negative effects of EUR 126 k) and potential negative effects from non-derivative floating-rate financial liabilities and assets of EUR 233 k (prior year: negative effects of EUR 44 k).

(C) COMMODITY PRICE RISKS

The Group is exposed to risks from changes in commodity prices that stem from the procurement of the goods used in production. The Group generally does not use derivative financial instruments to hedge against this risk. Instead, the Group minimizes the risk in relation to quality and procurement assurance aspects using a procurement strategy adjusted to reflect current circumstances and changes. This involves continuously assessing potential procurement sources according to regional, technological, qualitative, and price aspects, approving the sources and embedding these in development and production processes accordingly. Sudden price fluctuations due to the cost of materials or supply bottlenecks for certain product groups are countered using a planning basis that is constantly updated and also includes strategic buffer stocks.

(D) CREDIT RISKS

Credit risk describes the risk of financial loss resulting from counterparties failing to discharge their contractual payment obligations. Credit risk involves both the direct risk of default and the risk of a deterioration in creditworthiness, linked to the risk of a concentration of individual risks.

Credit risk is countered by only maintaining business relationships with first-class banks. Default risks from receivables are minimized by ongoing monitoring of the creditworthiness of the counterparty and by limiting the aggregated risks from the individual counterparty. The maximum risk of default on financial assets corresponds to their carrying amounts.

Business with major customers is subject to special credit monitoring. However, measured in terms of the overall risk potential from the default risk, the receivables from these customers are not significant enough to constitute an extraordinary concentration of risk.

The following table provides information on the extent of the credit risk included in trade receivables (without specific bad debt allowances):

in EUR k	2016	2015
Neither impaired nor past due as of the end of the reporting period	199,101	184,190
Not impaired as of end of the reporting period but past due by the following time periods		
less than 30 days	29,254	31,639
30 to 90 days	8,818	10,693
91 to 360 days	3,744	5,448
more than 360 days	2,612	2,031

There was no indication as of the end of the reporting period that any impairment losses needed to be recognized on the trade receivables recorded as not impaired.

(E) LIQUIDITY RISKS

Liquidity risk describes the risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities. The Group generates liquidity primarily from operations and external financing. The funds are chiefly used to finance working capital and capital expenditures. The Group controls its liquidity by maintaining sufficient cash and cash equivalents and lines of credit at banks in addition to cash inflows from operating activities. Cash and cash equivalents comprise cash and other assets.

At the end of 2016, short and long-term lines of credit and loans totaled EUR 206,390 k (prior year: EUR 207,339 k), of which EUR 97,743 k (prior year: EUR 98,679 k) was utilized.

Operative liquidity management comprises a cash concentration process whereby cash and cash equivalents are pooled on a daily basis. This allows liquidity surpluses and shortages to be controlled in line with the requirements of the Group as a whole as well as of individual group entities. The maturities of financial assets and financial liabilities as well as estimates of cash flows from operating activities are included in short and medium-term liquidity management. Detailed information is included in the comments on section F. (27) “Non-current and current financial liabilities.”

The following repayment schedule shows how the payments made for financial liabilities as of December 31, 2016 influence the Group's liquidity situation.

The schedule describes the procedure for undiscounted

- principal and interest payments for financial liabilities
- net payments for derivative financial instruments as a total for the respective year
- payments for trade payables and
- payments for other financial liabilities.

The undiscounted payments are subject to the following conditions:

- If the contractual party can demand a payment at different times, the liability is reported at the earliest possible repayment date.
- Derivative financial instruments include derivatives with negative fair values.
- The interest payments for floating-rate financial instruments are calculated on the basis of forward interest rates. This procedure corresponds to calculating the fair value of other financial instruments.

The financial liabilities of the Group have the following terms. The disclosures are based on contractual payments without discounting.

in EUR k	Total	2017	2018	2019	2020	2021	≥ 2022
Liabilities to banks	104,382	8,554	7,941	27,531	26,395	24,611	9,350
Finance lease liabilities	4,042	2,076	1,756	35	66	109	0
Derivative financial instruments	1,445	1,445	0	0	0	0	0
Trade payables	104,774	104,774	0	0	0	0	0
Other financial liabilities	4,295	4,295	0	0	0	0	0
TOTAL	218,938	**121,144**	9,697	**27,566**	26,461	**24,720**	9,350

The cash flows from the derivative financial instruments are shown as net figures.

These include foreign exchange contracts with negative market values which break down into a cash outflow of EUR 12,404 k and a cash inflow of EUR 13,849 k.

There are also derivative financial instruments with a positive market value that break down into a cash outflow of EUR 100,840 k and a cash inflow of EUR 101,601 k.

As of December 31, 2015, the financial liabilities of the Group had the following terms. The disclosures are based on contractual payments without discounting.

in EUR k	Total	2016	2017	2018	2019	2020	≥ 2021
Liabilities to banks	106,763	12,828	6,460	6,300	26,230	25,105	29,840
Finance lease liabilities	615	243	214	46	23	60	29
Derivative financial instruments	596	596	0	0	0	0	0
Trade payables	97,541	97,541	0	0	0	0	0
Other financial liabilities	6,324	6,324	0	0	0	0	0
TOTAL	211,839	**117,532**	6,674	**6,346**	26,253	**25,165**	29,869

The retained liquidity as well as short-term and long-term lines of credit give the Group adequate flexibility to cover the Group's refinancing needs. The Group is not subject to any concentration of liquidity risk on account of the diverse nature of its financing sources and its cash and cash equivalents.

(F) CAPITAL MANAGEMENT

The Group's primary capital management objective is to ensure that it maintains a healthy equity ratio with a low-risk and flexible financing structure in order to support its business activity.

The Group manages the way its capital base is structured in light of changes in economic conditions and adjusts it accordingly. To adjust the way the capital base is structured, the dividend payment to shareholders may be adjusted, capital may be returned to shareholders, or new shares may be issued.

The Group monitors its capital taking into account the underlying parameters, e. g., consolidated net income, mainly using the equity ratio. The equity ratio is the ratio of equity in the statement of financial position to total assets. As of December 31, 2016, the equity ratio amounted to 54.9 percent (prior year: 52.4 percent).

(36) FINANCIAL INSTRUMENTS

(A) FAIR VALUE OF FINANCIAL INSTRUMENTS

Financial assets and financial liabilities regularly measured at fair value:

	Level 1		Level 2		Level 3		Total	
in EUR k	2016	2015	2016	2015	2016	2015	2016	2015
Assets								
Other financial assets	0	0	761	1,520	0	0	761	1,520
thereof derivatives not used for hedging	0	0	761	1,520	0	0	761	1,520
Equity and liabilities								
Other financial liabilities	0	0	1,445	596	0	0	1,445	596
thereof derivatives not used for hedging	0	0	1,445	596	0	0	1,445	596

The fair value of forward exchange contracts is measured using the closing rates on the forward exchange markets. The fair values are calculated on the basis of the mean exchange rate. The calculation method and the variables used are in line with the provisions of IAS 39. In the case of interest swaps, the fair value is calculated as the present value of the estimated future cash flows including accrued interest based on the market value.

The fair value of options is determined using the Black-Scholes model modified by Garman and Kohlhagen. An option is measured primarily by reference to exchange rates, the respective interest rates of the currency pair, and volatility as of the reporting date as well as its remaining term. Since the option premium has already been recognized as an asset, measurement is at fair value only.

During the reporting periods ending December 31, 2016 and December 31, 2015, there were no transfers between Level 1 and Level 2 fair value measurements, and no transfers into and out of Level 3 fair value measurements.

Financial assets and financial liabilities not regularly measured at fair value:

	Level 1		Level 2		Level 3		Total	
in EUR k	**2016**	2015	**2016**	2015	**2016**	2015	**2016**	2015
Assets								
Other financial assets	0	0	604	494	0	0	604	494
Trade receivables	0	0	258,832	234,527	0	0	258,832	234,527
Other assets	0	0	8,502	9,710	0	0	8,502	9,710
Cash and cash equivalents	0	0	31,100	18,408	0	0	31,100	18,408
Equity and liabilities								
Liabilities to banks	0	0	99,161	100,569	0	0	99,161	100,569
Finance lease liabilities	0	0	3,995	613	0	0	3,995	613
Trade payables	0	0	104,774	97,541	0	0	104,774	97,541
Other liabilities	0	0	4,295	5,694	0	630	4,295	6,324

The fair value of securities that are included in the portfolio of available-for-sale financial assets and held-for-trading financial assets is determined based on the market price at the end of the reporting period, if available.

The carrying amounts of trade receivables and payables, other assets, cash and cash equivalents and other liabilities closely correspond to the fair values due to the short-term maturities.

For liabilities to banks and from finance leases, the present value of the future cash flows was calculated on the basis of matched market interest rates. In the prior year, other liabilities included obligations from contingent consideration from acquisitions calculated as the present value of estimated cash flows.

For the presentation of the carrying amounts and fair values by class and category, reference is made to pages 112 and 113 of this Annual Report.

Measurement of the financial instruments held as of December 31, 2016 at fair value gave rise to the following total gains and losses.

Total income and expenses from assets and liabilities measured at fair value:

	Assets		Liabilities	
in EUR k	**2016**	2015	**2016**	2015
Recognized in the income statement:				
Derivatives not used for hedging	-330	755	-1,445	-596
Other	0	0	0	0
Recognized in equity:				
Derivatives used for hedging	0	0	0	0

Income and expenses from measuring held-for-trading financial assets and liabilities at fair value are presented in the currency results or the interest expense and income.

(B) NET RESULTS BY MEASUREMENT CATEGORY

The following table presents the net gains and net losses from financial instruments taken into account in the income statement:

Categories pursuant to IAS 39

in EUR k	**2016**	2015
Loans and receivables	-381	-93
Financial assets and financial liabilities at fair value through profit or loss (held for trading)	-2,035	4,457
Financial liabilities at amortized cost	-3,398	-3,367
TOTAL	**-5,814**	997

The net gains and losses from loans and receivables chiefly include the effects of interest, currencies, and impairments.

The net gains and losses from financial assets and financial liabilities at fair value through profit or loss include the results of changes in fair value and from interest income and expenses from these financial instruments.

The net gains and losses from financial liabilities at amortized cost relate first and foremost to results from interest expenses.

(C) TOTAL INTEREST INCOME AND EXPENSES

The total interest income and expenses for financial assets and financial liabilities not measured at fair value through profit or loss are as follows:

in EUR k	2016	2015
Total interest income	327	394
Total interest expenses	-2,199	-2,969
TOTAL	**-1,872**	-2,575

(D) DERIVATIVE FINANCIAL INSTRUMENTS

As of the end of the reporting period, the replacement values of the derivative financial instruments are as follows:

	Contract value or nominal value		Positive replacement value		Negative replacement value	
in EUR k	**2016**	2015	**2016**	2015	**2016**	2015
Currency instruments without hedging relationship						
Forward exchange contracts	82,358	93,735	553	1,022	1,445	496
Currency options (OTC)[1]	32,331	24,708	208	498	0	0
TOTAL CURRENCY INSTRUMENTS	**114,689**	118,443	**761**	1,520	**1,445**	496
Interest instruments without hedging relationship						
Interest rate swap	0	10,000	0	0	0	100
TOTAL INTEREST INSTRUMENTS	**0**	10,000	**0**	0	**0**	100

[1] OTC: over the counter

The foreign currency instruments are principally used to hedge exchange rate risks in USD, CNY, AUD, GBP and KRW. Currency instruments of EUR 114,689 k (prior year: EUR 118,443 k) have maturities of less than 12 months.

The interest instruments primarily serve to hedge interest exposures relating to floating-rate liabilities to banks in euro. The maximum term is 12 months.

(37) GOVERNMENT GRANTS

The Group reports government grants of EUR 22 k in the fiscal year (prior year: EUR 669 k) which are earmarked. EUR 22 k (prior year: EUR 669 k) of the grants received were deducted from the acquisition costs of the related assets. This amount includes payments for grants from 2016 and 2015. Government grants mainly consist of subsidies provided for the capital expenditures at the Dresden location to support regional economic development. If earmarked subsidies are not used for the designated purpose, they may have to be repaid.

The Group also reported government grants for R & D projects of EUR 2,890 k (prior year: EUR 2,607 k); these are not dependent on the success of the projects. These were recognized as income in full in 2016 in accordance with the percentage of completion of the projects.

(38) RELATED PARTY DISCLOSURES

Related parties are members of the Executive Board, members of the Supervisory Board of the Group, members of the Sick family, joint ventures as well as Sick Holding GmbH, Freiburg, Germany. Sick Holding GmbH, Freiburg, is the ultimate parent company of SICK AG.

All transactions with joint ventures are made at normal market prices.

The table below provides the total amount of transactions with related parties for the fiscal year, which relate mostly to joint ventures:

in EUR k	2016	2015
Goods and services sold	1,339	1,530
Goods and services purchased	925	4,275
Receivables as of the end of the reporting period	1,104	2,280
Liabilities as of the end of the reporting period	456	734

The Group's goods and services sold mainly relate to deliveries of goods. The Group mainly received goods deliveries and development services as part of the goods and services purchased. No bad debt allowances were recognized on trade receivables.

As in the prior year, there were no transactions between the Group and Sick Holding GmbH, Freiburg, during the fiscal year other than dividends paid.

In the Group as of December 31, 2016, as in the prior year, there are no receivables and liabilities due from or to members of the Executive Board, apart from outstanding remuneration.

The members of the Executive Board of SICK AG are classified as key management personnel.

Remuneration of EUR 4,562 k (prior year: EUR 4,135 k) granted to these individuals includes short-term employee benefits of EUR 4,105 k (prior year: EUR 3,757 k) expensed in the reporting period, post-employment benefits of EUR 390 k (prior year: EUR 367 k) as well as other long-term benefits of EUR 67 k (prior year: EUR 11 k) of which EUR 33 k (prior year: EUR 6 k) can relate to share-based payments.

A long-term incentive arrangement ("LTI") was concluded with the members of the Executive Board of SICK AG in the fiscal years 2014, 2015 and 2016. One of the prerequisites for receiving the LTI is to belong to the Executive Board of SICK AG for a period of three years.

The assessment base for the LTI is a positive value added accumulated over three fiscal years (either 2014 to 2016, 2015 to 2017, or 2016 to 2018, depending on the contract, referred to as the "time frame"). The LTI is measured as a percentage of the average value added calculated in this period. It is limited to a certain percentage of the fixed remuneration. At the end of the time frame, the LTI is paid out in shares in SICK AG (max. 50 percent) and in cash (min. 50 percent). In the fiscal year 2016, 2,100 shares were paid out at a price of EUR 43.78 at the end of the 2013 to 2015 time frame under the LTI. The obligations from the cash settlement amount to EUR 330 k as of December 31, 2016. The percentage of shares is determined by the company, taking treasury shares into account. The rate authoritative for translating the percentage to be paid out in shares is the current rate specified by the tax authorities or the respective market price on the date of maturity. If a member of the Executive Board leaves during this three-year period, any entitlement to an LTI for this period is forfeited.

The SICK shares transferred as part of the LTI must be kept in a custodian account with a blocking notice stating that the shares can only be issued subject to the approval of the company. These shares can only be accessed if the member steps down from the Executive Board or retires.

The 50 percent share of the LTI that can be paid in shares – at the discretion of SICK AG – is treated as an equity-settled transaction (IFRS 2.34) and is recognized in equity accordingly. Measurement as of December 31, 2016 was based on the consolidated financial statements as of December 31, 2014 to 2016 as well as the planning for the Group for future fiscal years, taking the contractually stipulated limit into account. Based on the share price of EUR 43.78 observed in the fiscal year 2016, this share of the LTI amounting to EUR 330 k corresponds to approximately 7,548 shares.

Compensation to former members of management and their surviving dependents totaled EUR 1,118 k in the fiscal year (prior year: EUR 1,081 k). Provisions totaling EUR 13,919 k (prior year: EUR 13,946 k) were recognized for pension obligations for this group of persons.

Remuneration of the Supervisory Board of SICK AG came to EUR 744 k (prior year: EUR 748 k) for supervisory board activities and to EUR 427 k (prior year: EUR 473 k) for activities for SICK AG. Additional compensation for advisory services was not paid.

As of December 31, 2016, as in the prior year, the Sick family has no receivables or liabilities due from or to the Group.

(39) STOCK OPTION PLANS

From 1999 to 2003, SICK AG had annual employee stock option plans. Around 1.3 million shares were issued as part of employee stock option plans, of which SICK AG has since repurchased 0.3 million shares at market price.

(40) FEES AND SERVICES PROVIDED BY THE AUDITORS

The following table shows, on aggregate, the fees incurred for the services provided by the auditor Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, Germany, in the fiscal year 2016:

in EUR k	2016	2015
Audits of the financial statements	316	319
Other attestation services	0	0
Tax advisory services	10	7
Other services	214	209
TOTAL	**540**	535

(41) ACCOUNTING STANDARDS NOT EARLY ADOPTED

The Group elected not to early adopt standards and IFRIC interpretations which have already been issued but have not entered into force yet. Generally speaking, the Group intends to adopt all standards when their adoption becomes mandatory for the first time.

The following list of standards and interpretations issued are those that the Group reasonably expects to have a material impact on disclosures, financial position or performance when applied at a future date. The Group intends to adopt these standards when they become effective.

IFRS 9	Financial Instruments
IFRS 15	Revenue from Contracts with Customers
IFRS 16	Leases

The IFRS issued in July 2014 replaces the existing guidelines of IAS 39 “Financial Instruments: Recognition and Measurement.” Companies must apply IFRS 9 for the first time to reporting periods beginning on or after January 1, 2018, although early adoption is permitted. The Group is currently assessing the potential impact of the standard on its future financial position and performance.

IFRS 15 sets an extensive framework for determining whether, in what amount, and at what point in time revenue is recognized. It replaces existing guidelines on recognizing revenue, including IAS 18 “Revenue,” IAS 11 “Construction Contracts,” and IFRIC 13 “Customer Loyalty Programmes.” Companies must apply IFRS 15 for the first time to reporting periods beginning on or after January 1, 2018, although early adoption is permitted. The Group is currently assessing the potential impact of the standard on its future financial position and performance.

The EU has not yet adopted IFRS 16, which was issued in January 2016. At the heart of the new standard is the principle that the lessee should generally recognize all leases as well as the associated contractual rights and obligations in its statement of financial position. In future, lessees will no longer have to make the distinction previously required under IAS 17 between finance leases and operating leases. For lessors, however, the new standard sets forth similar rules to those previously contained in IAS 17. The lease agreements continue to be classified either as operating leases or finance leases. The new requirements are mandatory for fiscal years beginning on or after January 1, 2019. Without being able to make any concrete quantitative disclosures, first-time application will significantly increase assets and liabilities and thus reduce the equity ratio. Earlier adoption is permitted, provided IFRS 15 is also applied. The Group is planning to perform an analysis of the potential impact of the standard on its future financial position and performance.

(42) SUBSEQUENT EVENTS

There were no significant events after the end of the reporting period.

(43) EXECUTIVE BOARD AND SUPERVISORY BOARD DISCLOSURES

Executive Board
Dr. Robert Bauer, Emmendingen (Chairman)
Products & Technology

Reinhard Bösl, Freiburg
Systems & Industries

Dr. Mats Gökstorp, Freiburg
Sales & Service

Dr. Martin Krämer, Waldkirch
Human Resources, Procurement, Legal & Compliance

Markus Vatter, Vörstetten
Finance, Controlling & IT

Supervisory Board
In accordance with Sec. 95 AktG in conjunction with Art. 8 paragraph 1 of the articles of incorporation and bylaws, the Supervisory Board has 12 members. Six members are elected by the Annual General Shareholders' Meeting and six by the employees in accordance with the provisions of the 1976 MitbestG ("Mitbestimmungsgesetz": German Co-Determination Act). The members of the Supervisory Board are:

Gisela Sick, Waldkirch (Honorary Chairwoman)
Retired

Shareholder representatives:
Klaus M. Bukenberger, Schenkenzell (Chairman)
Corporate Governance Consulting, Stuttgart

Franz Bausch, Hinterzarten
Tax consultant, chartered accountant

Prof. Dr. Mark K. Binz, Stuttgart
Lawyer

Dr. Ronaldo H. Schmitz, Frankfurt
Former member of the Executive Board of Deutsche Bank AG, Frankfurt

Renate Sick-Glaser, Freiburg
Managing Director of Sick Holding GmbH, Freiburg

Prof. Dr. Dr. h. c. mult. Horst Wildemann, Munich
Head of the Research Institute for Corporate Management, Logistics and Production at the Technical University of Munich

Employee representatives:
Roberto Hernandez, Waldkirch (Deputy Chairman)
Chairman of the Works Council of SICK AG, Waldkirch
Chairman of the Central Works Council of SICK AG, Waldkirch

Engelbert Herbstritt, Waldkirch
Deputy Chairman of the Works Council of SICK AG, Waldkirch
Chairman of the Group Works Council

Dr. Matthias Müller, Braunschweig
Head of Finance in the Federal Presidium of the DGB ("Deutscher Gewerkschaftsbund": Confederation of German Trade Unions), Berlin

Gabriele Pontiggia, Winden
Human Resources Consultant of SICK AG, Waldkirch

Roland Schiller, Hinterzarten
Member of the Management Board of SICK AG, Waldkirch

Hermann Spieß, Breisach
Trade Union Secretary of IG Metall

(44) APPROVAL OF THE CONSOLIDATED FINANCIAL STATEMENTS

The consolidated financial statements were approved by the Executive Board on February 13, 2017. The financial statements were then submitted to the Supervisory Board for review.

Waldkirch, March 16, 2017

SICK AG

The Executive Board

Dr. Robert Bauer
(Chairman)

Reinhard Bösl | Dr. Mats Gökstorp | Dr. Martin Krämer | Markus Vatter

CONSOLIDATED STATEMENT OF CHANGES IN NON-CURRENT ASSETS FOR THE PERIOD FROM JANUARY 1 TO DECEMBER 31, 2016

NON-CURRENT ASSETS	Acquisition or production costs						
in EUR k	Balance as of Jan. 1, 2016	Currency translation differences	Additions	Disposals	Reclassifications	**Balance as of Dec. 31, 2016**	
I. Intangible assets							
1. Purchased industrial property rights and similar rights and assets as well as licenses to such rights and assets	71,922	238	11,583	1,918	508	82,333	
2. Goodwill	19,073	735	5,577	0	0	25,385	
3. Capitalized development costs and other internally generated intangible assets	86,528	-19	6,672	4,282	0	88,899	
4. Payments on account	596	4	702	0	-508	794	
	178,119	958	24,534	6,200	0	**197,411**	
II. Property, plant and equipment							
1. Land and buildings including buildings on third-party land	177,500	415	3,677	238	14,410	195,764	
2. Technical equipment and machinery	140,752	415	13,061	3,261	15,135	166,102	
3. Other equipment, furniture and fixtures	123,491	1,003	18,443	4,735	7,915	146,117	
4. Payments on account and assets under construction	42,961	28	23,048	0	-37,460	28,577	
	484,704	1,861	58,229	8,234	0	**536,560**	
TOTAL	662,823	2,819	82,763	14,434	0	**733,971**	

Additions include the acquisition in Belgium (industrial property rights and similar rights: EUR 967 k and property, plant and equipment: EUR 19 k).

	Accumulated depreciation / amortization						Net carrying amounts	
	Balance as of Jan. 1, 2016	Currency translation differences	Additions	Disposals	Reclassi-fications	**Balance as of Dec. 31, 2016**	**Balance as of Dec. 31, 2016**	Balance as of Dec. 31, 2015
	57,438	236	8,326	1,887	0	64,113	18,220	14,484
	1,024	0	0	0	0	1,024	24,361	18,049
	59,968	-19	8,201	4,282	0	63,868	25,031	26,560
	0	0	0	0	0	0	794	596
	118,430	217	16,527	6,169	0	**129,005**	**68,406**	59,689
	54,630	180	5,738	126	0	60,422	135,342	122,870
	92,424	262	15,838	3,261	-966	104,297	61,805	48,328
	89,729	925	12,766	4,618	966	99,768	46,349	33,762
	0	0	0	0	0	0	28,577	42,961
	236,783	1,367	34,342	8,005	0	**264,487**	**272,073**	247,921
	355,213	1,584	50,869	14,174	0	**393,492**	**340,479**	307,610

CONSOLIDATED STATEMENT OF CHANGES IN NON-CURRENT ASSETS FOR THE PERIOD FROM JANUARY 1 TO DECEMBER 31, 2015

NON-CURRENT ASSETS	Acquisition or production costs						
in EUR k	Balance as of Jan. 1, 2015	Currency translation differences	Additions	Disposals	Reclassifications	**Balance as of Dec. 31, 2015**	
I. Intangible assets							
1. Purchased industrial property rights and similar rights and assets as well as licenses to such rights and assets	66,806	306	8,032	3,362	140	71,922	
2. Goodwill	19,205	-132	0	0	0	19,073	
3. Capitalized development costs and other internally generated intangible assets	83,225	22	8,755	5,474	0	86,528	
4. Payments on account	162	0	574	0	-140	596	
	169,398	196	17,361	8,836	0	**178,119**	
II. Property, plant and equipment							
1. Land and buildings including buildings on third-party land	172,942	788	6,191	3,732	1,311	177,500	
2. Technical equipment and machinery	126,137	53	13,061	5,218	6,719	140,752	
3. Other equipment, furniture and fixtures	115,230	2,422	13,803	9,177	1,213	123,491	
4. Payments on account and assets under construction	18,778	54	33,372	0	-9,243	42,961	
	433,087	3,317	66,427	18,127	0	**484,704**	
TOTAL	602,485	3,513	83,788	26,963	0	**662,823**	

	Accumulated depreciation / amortization						Net carrying amounts	
	Balance as of Jan. 1, 2015	Currency translation differences	Additions	Disposals	Reclassi-fications	**Balance as of Dec. 31, 2015**	**Balance as of Dec. 31, 2015**	Balance as of Dec. 31, 2014
	53,401	250	7,129	3,342	0	57,438	14,484	13,405
	1,024	0	0	0	0	1,024	18,049	18,181
	56,694	22	8,726	5,474	0	59,968	26,560	26,531
	0	0	0	0	0	0	596	162
	111,119	272	15,855	8,816	0	**118,430**	**59,689**	58,279
	51,879	305	5,574	3,111	-17	54,630	122,870	121,063
	83,802	134	13,550	5,239	177	92,424	48,328	42,335
	85,529	1,981	11,394	9,015	-160	89,729	33,762	29,701
	0	0	0	0	0	0	42,961	18,778
	221,210	2,420	30,518	17,365	0	**236,783**	**247,921**	211,877
	332,329	2,692	46,373	26,181	0	**355,213**	**307,610**	270,156

CARRYING AMOUNTS AND FAIR VALUES BY MEASUREMENT CATEGORY IN EUR K

			Carrying amount pursuant to IAS 39					
ASSETS	Measure-ment category pursuant to IAS 39	**Carrying amount 2016**	(Amortized) cost	at fair value not through profit and loss	at fair value through profit and loss	Carrying amount pursuant to IAS 7	Other carrying amounts	**Fair value 2016**
Other financial assets								
Other equity investments	FAAFS	591	591					591
Other financial assets	FAAFS	13	13					13
Trade receivables	LAR	258,832	258,832					258,832
Other assets								
Derivatives held for trading	FAHFT	761			761			761
Other	FAAFS/ LAR/n.a.	26,605	8,502				18,103	26,605
Cash and cash equivalents	LAR	31,100	31,100					31,100
EQUITY AND LIABILITIES								
Financial liabilities								
Liabilities to banks	FLAC	97,743	97,743					99,161
Finance lease liabilities	n.a.	3,995				3,995		3,995
Trade payables	FLAC	104,774	104,774					104,774
Other liabilities								
Derivatives held for trading	FLHFT	1,445			1,445			1,445
Other	FLAC	4,295	4,295					4,295
Of which aggregated by measurement category pursuant to IAS 39:								
Financial assets held for trading (FAHFT)		761			761			
Loans and receivables (LAR)		298,290	298,290					
Financial assets available for sale (FAAFS)		748	748					
Financial liabilities held for trading (FLHFT)		1,445			1,445			
Financial liabilities at amortized cost (FLAC)		206,812	206,812					

CARRYING AMOUNTS AND FAIR VALUES BY MEASUREMENT CATEGORY IN EUR K

			Carrying amount pursuant to IAS 39					
ASSETS	Measure-ment category pursuant to IAS 39	**Carrying amount 2016**	(Amortized) cost	at fair value not through profit and loss	at fair value through profit and loss	Carrying amount pursuant to IAS 7	Other carrying amounts	**Fair value 2016**
Other financial assets								
Other equity investments	FAAFS	480	480					480
Other financial assets	FAAFS	14	14					14
Trade receivables	LAR	234,527	234,527					234,527
Other assets								
Derivatives held for trading	FAHFT	1,520			1,520			1,520
Other	FAAFS/ LAR/ n.a.	25,071	9,710				15,361	25,071
Cash and cash equivalents	LAR	18,408	18,408					18,408
EQUITY AND LIABILITIES								
Financial liabilities								
Liabilities to banks	FLAC	98,679	98,679					100,569
Finance lease liabilities	n.a.	613				613		613
Other financial liabilities	FLHFT	–			–			–
Trade payables	FLAC	97,541	97,541					97,541
Other liabilities								
Derivatives held for trading	FLHFT	596			596			596
Other	FLAC	6,324	6,324					6,324
Of which aggregated by measurement category pursuant to IAS 39:								
Financial assets held for trading (FAHFT)		1,520			1,520			
Loans and receivables (LAR)		262,559	262,559					
Financial assets available for sale (FAAFS)		580	580					
Financial liabilities held for trading (FLHFT)		596			596			
Financial liabilities at amortized cost (FLAC)		202,544	202,544					

LIST OF MAIN SHAREHOLDINGS AS OF DECEMBER 31, 2016

Name and registered office of the entity	Investment in %	Indirect investment via no.	Consolidation
Parent company			
SICK AG, Waldkirch / Germany			
I. Shares in affiliates			
1. SICK S.à.r.l., Émerainville / France	100.0		
2. SICK (UK) Ltd., St. Albans / United Kingdom	100.0		
3. SICK, Inc., Minneapolis, Minnesota / USA	100.0		
4. SICK B.V., Bilthoven / Netherlands	100.0		
5. SICK AG, Stans / Switzerland	100.0		
6. SICK Pty Ltd., Heidelberg West, VIC / Australia	100.0		
7. SICK A / S, Birkerød / Denmark	100.0		
8. SICK NV / SA, Zellik-Asse / Belgium	100.0		
9. SICK K.K., Tokyo / Japan	100.0		
10. SICK Optic-Electronic S.A., Sant Just Desvern / Spain	100.0		
11. SICK Engineering GmbH, Ottendorf-Okrilla / Germany[1]	100.0		
12. SICK Oy, Vantaa / Finland	100.0		
13. SICK Pte. Ltd., Singapore / Singapore	100.0		
14. SICK AS, Rud / Norway	100.0		
15. SICK AB, Vårby / Sweden	100.0		
16. SICK Sp. z. o.o., Warsaw / Poland	100.0		
17. SICK Solução em Sensores Ltda., São Paulo / Brazil	100.0		
18. Sick Optic-Electronic Co., Ltd., Hong Kong / China	100.0		
19. SICK S.p.A., Vimodrone (MI) / Italy[2]	100.0		
20. SICK Kft., Kunsziget / Hungary	100.0		
21. SICK GmbH, Wiener Neudorf / Austria	100.0		
22. SICK spol. s. r.o., Prague / Czech Republic	100.0		
23. SICK Management GmbH, Waldkirch / Germany[1]	100.0		
24. SICK Co., Ltd., Seoul / Korea	85.0		
25. SICK Automatisierung International GmbH, Waldkirch / Germany	100.0		
26. SICK China Co., Ltd., Guangzhou / China	100.0	18	
27. SICK STEGMANN GmbH, Donaueschingen / Germany[1, 3]	100.0	23	
28. SICK MAIHAK (Beijing) Co., Ltd., Bejing / China	85.0		
29. SICK IVP AB, Linköping / Sweden	100.0		
30. Sensörler ve İleri Cihazlar Kontrol A.Ş., Istanbul / Turkey	100.0		
31. SICK LLC, Moscow / Russia[4]	100.0	25	
32. SICK Vertriebs-GmbH, Düsseldorf / Germany[1]	100.0		
33. SICK d.o.o., Ljubljana / Slovenia	100.0	21	N
34. SICK INDIA Pvt. Ltd., Mumbai / India	100.0	25	

Name and registered office of the entity	Investment in %	Indirect investment via no.	Consolidation
35. SICK Sensors Ltd., Misgav / Israel	100.0		
36. SICK S.R.L., Timisoara / Romania[5]	100.0	25	N
37. SICK TAIWAN Co., Ltd., Taipei / Taiwan	100.0		
38. SICK Automation Solutions S.A. de C.V., Tlalnepantla / Mexico	100.0	25	
39. SICK Ltd., Moncton, New Brunswick / Canada	100.0	3	
40. SICK Automation Southern Africa (Pty) Ltd., Roodepoort, Johannesburg / South Africa	100.0	25	
41. SICK Sdn. Bhd., Johor Bahru / Malaysia	100.0	43	
42. SICK System Engineering AG, Buochs / Switzerland	100.0		
43. SICK Product Center Asia Pte. Ltd., Singapore / Singapore	100.0		
44. SICK FZE, Dubai / United Arab Emirates	100.0	25	
45. SICK Sensor (Malaysia) Sdn. Bhd., Petaling Jaya / Malaysia	100.0	25	N
46. SICK (THAILAND) Co., Ltd., Bangkok / Thailand	100.0	25	N
47. SICK NZ Ltd., Auckland / New Zealand	100.0	25	
48. SICK Értékesítő és Szolgáltató Kft., Budapest / Hungary	100.0	25	N
49. SICK Metering Systems NV, Kalmthout / Belgium	82.0	11	
50. Vision Solution Engineering s.r.o., Prague / Czech Republic	100.0	25	
II. Investments and other interests			
51. SICK OPTEX Co., Ltd., Kyoto / Japan	50.0		A
52. SICK kluge GmbH, Königswartha / Germany	50.0	11	A
53. Beijing BAIF-Maihak Analytical Instrument Co., Ltd., Beijing / China	15.0		N
54. Puls Design A / S, Hvidovre / Denmark	25.0	7	N
55. WABE gGmbH, Waldkirch / Germany	16.7		N
56. Schädler SICK SpA, Santiago de Chile / Chile	50.0	25	A

1 The entities have exercised the exemption provision pursuant to Sec. 264 (3) HGB.
2 10 percent of the shares are held by SICK Engineering GmbH, Ottendorf-Okrilla / Germany (no. 11).
3 6 percent of the shares are held by SICK AG, Waldkirch / Germany.
4 15 percent of the shares are held by SICK AG, Waldkirch / Germany.
5 0.5 percent of the shares are held by SICK AG, Waldkirch / Germany.

N The entities marked N are not included in the consolidated financial statements on grounds of immateriality.
A The entities marked A are included in the consolidated financial statements at equity.

The Supervisory Board of SICK AG

GISELA SICK, Waldkirch (Honorary Chairwoman)
Retired

KLAUS M. BUKENBERGER, Schenkenzell (Chairman)
Corporate Governance Consulting, Stuttgart
Member of the Supervisory Board since 2002

Additional Supervisory Board memberships:

- Carl Mahr GmbH & Co. KG, Göttingen, Chairman of the Advisory Board
- Deutsche Bank AG, Stuttgart, member of the Advisory Board
- ILLIG Maschinenbau GmbH & Co. KG, Heilbronn, Deputy Chairman of the Advisory Board
- Investcorp Group, London (United Kingdom), Advisory Director
- 7-Industries B.V., Amsterdam (Netherlands), member of the Supervisory Board
- TRICOR AG, Bad Wörishofen, Deputy Chairman of the Supervisory Board

FRANZ BAUSCH, Hinterzarten
Tax consultant, chartered accountant
Member of the Supervisory Board since 1999

Additional Supervisory Board memberships:

- Deutsche Steuerberater-Versicherung – Pensionskasse des steuerberatenden Berufs VVaG, Bonn, Chairman of the Supervisory Board

PROF. DR. MARK K. BINZ, Stuttgart
Lawyer
Member of the Supervisory Board since 2007

Additional Supervisory Board memberships:

- Faber-Castell AG, Stein, Deputy Chairman of the Supervisory Board
- Fielmann Aktiengesellschaft, Hamburg, Chairman of the Supervisory Board

ENGELBERT HERBSTRITT, Waldkirch *
Deputy Chairman of the Works Council of SICK AG, Waldkirch
Chairman of the Group Works Council
Member of the Supervisory Board since 2012

ROBERTO HERNANDEZ, Waldkirch *
(Deputy Chairman)
Chairman of the Works Council of SICK AG, Waldkirch
Chairman of the Central Works Council of SICK AG, Waldkirch
Member of the Supervisory Board since 2007

DR. MATTHIAS MÜLLER, Braunschweig *
Head of Finance in the Federal Presidium of the DGB ("Deutscher Gewerkschaftsbund": Confederation of German Trade Unions), Berlin
Member of the Supervisory Board since 2002

Additional Supervisory Board memberships:
- Berufsfortbildungswerk Gemeinnützige Bildungseinrichtung des DGB GmbH (bfw), Düsseldorf, member of the Supervisory Board
- BGAG GmbH, Frankfurt, member of the Advisory Board
- RWE Power AG, Essen, member of the Supervisory Board

GABRIELE PONTIGGIA, Winden *
Human Resources Consultant of SICK AG, Waldkirch
Member of the Supervisory Board since 2012

ROLAND SCHILLER, Hinterzarten *
Member of the Management Board of SICK AG, Waldkirch
Member of the Supervisory Board since 2002

DR. RONALDO H. SCHMITZ, Frankfurt
Former member of the Executive Board of Deutsche Bank AG, Frankfurt
Member of the Supervisory Board since 2005

RENATE SICK-GLASER, Freiburg
Managing Director of Sick Holding GmbH, Freiburg
Member of the Supervisory Board since 2007

HERMANN SPIESS, Breisach *
Trade Union Secretary of IG Metall
Member of the Supervisory Board since 2002

Additional Supervisory Board memberships:
- Constellium Deutschland GmbH, Singen, Deputy Chairman of the Supervisory Board

PROF. DR. DR. H. C. MULT. HORST WILDEMANN, Munich
Head of the Research Institute for Corporate Management, Logistics and Production at the Technical University of Munich
Member of the Supervisory Board since 2007

Additional Supervisory Board memberships:
- Hamberger Industriewerke GmbH, Stephanskirchen, member of the Advisory Board
- Interroll Holding AG, S. Antonino (Switzerland), member of the Supervisory Boards
- Möhlenhoff GmbH, Salzgitter, Chairman of the Advisory Board
- Rudolf GmbH, Geretsried, Chairman of the Advisory Board
- ZEPPELIN GmbH, Garching, member of the Supervisory Board

* Employee representative

Audit opinion *

We have audited the consolidated financial statements prepared by SICK AG, Waldkirch, comprising the income statement, the statement of comprehensive income, the statement of financial position, the statement of cash flows, the statement of changes in equity as well as the IFRS notes to the consolidated financial statements together with the group management report, which has been combined with the management report for SICK AG, for the fiscal year from January 1 to December 31, 2016. The preparation of the consolidated financial statements and the group management report in accordance with IFRS as adopted by the EU, the additional requirements of German commercial law pursuant to Sec. 315a (1) HGB ("Handelsgesetzbuch": German Commercial Code), and the supplementary provisions of the articles of incorporation and bylaws is the responsibility of the company's management. Our responsibility is to express an opinion on the consolidated financial statements and the group management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with Sec. 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position, and results of operations in the consolidated financial statements in accordance with the applicable financial reporting framework and in the group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements and the group management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of those entities included in consolidation, the determination of entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements and the group management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements comply with IFRS as adopted by the EU, the additional requirements of German commercial law pursuant to Sec. 315a (1) HGB, and the supplementary provisions of the articles of incorporation and bylaws; they give a true and fair view of the net assets, financial position, and results of operations of the Group in accordance with these requirements. The group management report is consistent with the consolidated financial statements, complies with the legal requirements, and as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Freiburg, March 17, 2017

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Nietzer
German Public Auditor

Busser
German Public Auditor

* Translation of the German audit opinion concerning the audit of the consolidated financial statements and combined management report prepared in German

The Executive Board of SICK AG

DR. ROBERT BAUER, CHAIRMAN

Products & Technology
Member of the Executive Board
since January 1, 2000

Dr. Robert Bauer came to the company in 1994 as Division Manager of Research & Development in the area of automation technology; in 1998, he assumed overall responsibility on the Management Board for Research & Development. Born in Munich in 1960, Robert Bauer studied Electrical Engineering with special emphasis on Electrophysics / Optics at the Technical University of Munich and he received his doctorate in 1990.

MARKUS VATTER

Finance, Controlling & IT
Member of the Executive Board since July 1, 2006

Markus Vatter was born in Wiesbaden in 1966. After obtaining his degree at the Technical University in Darmstadt, the industrial engineer started his professional career at Robert Bosch GmbH, Stuttgart. Afterward, he worked for Müller Weingarten AG, before joining KaVo Dental GmbH, Biberach, in 2001. His most recent position there was that of a Commercial Managing Director.

REINHARD BÖSL

Systems & Industries
Member of the Executive Board since July 1, 2007

Born in the East Bavarian Parkstein in 1958, Reinhard Bösl studied Computer Science in Munich. Afterward, he held a variety of positions at Witron Logistik + Informatik GmbH, Parkstein, and became the company's Managing Director in 1998. Since 2004, he had been active in management positions at Krones AG, Neutraubling, including as Managing Director of the subsidiary Syskron GmbH.

DR. MATS GÖKSTORP

Sales & Service
Member of the Executive Board since May 1, 2013

Born in Stockholm in 1965, Dr. Mats Gökstorp studied Computer Engineering at Linköping University in Sweden and at Case Western Reserve University in the USA. He received his doctorate in 1995. He joined the small university spin-off company Integrated Vision Products AB, where he learned all aspects of entrepreneurship and became the company's Managing Director in 2001. Since 2003, he has held various positions within the SICK Group. In 2007, he was appointed to the Management Board, first as Division Manager and later with overall responsibility for Customer Fulfillment.

DR. MARTIN KRÄMER

Human Resources, Procurement, Legal & Compliance
Member of the Executive Board since July 1, 2012

Born in Rottweil in 1960, Dr. Martin Krämer studied law at the universities of Tübingen and Freiburg. He received his doctorate in 1998. From 1991 onward, he practiced initially as a lawyer and partner at the law firm of Dr. Müller und Kollegen in Künzelsau. Then he joined the Lidl & Schwarz Corporate Group, where he worked as Head of the Legal Division. Four years later, he assumed his position as Head of the Legal Department at SICK AG.

Financial calendar 2017

APRIL 20	**Publication of the 2016 balance sheet ratios**
MAY 17, 5 P. M.	**Annual General Shareholders' Meeting** SICK AG's company restaurant, Waldkirch
MAI 22	**Dividend payment**
AUGUST	**Publication of the 2017 half-year figures**

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SICK
Sensor Intelligence.