



# THINKING OUTSIDE THE BOX

Annual Report 2019





# CONTENTS

Foreword by the Executive Board .....	2
Report by the Supervisory Board .....	5
SICK worldwide .....	11
<a href="#">This way please! .....</a>	<a href="#">14</a>
<a href="#">For cleaner air above the oceans .....</a>	<a href="#">19</a>
<a href="#">“We make visible what is already there” .....</a>	<a href="#">24</a>
<a href="#">Product security – unflustered and undaunted .....</a>	<a href="#">27</a>
<a href="#">Lateral thinking – Vertical networking .....</a>	<a href="#">30</a>
<a href="#">Industry 4.0 comes of age: The Smart Button Factory project .....</a>	<a href="#">33</a>

Combined group management report and management report .....	36
Group financial statements .....	72
Independent auditor's report <sup>1</sup> .....	144
The Supervisory Board .....	148
The Executive Board .....	150
Financial calendar 2020 .....	152
Imprint .....	153



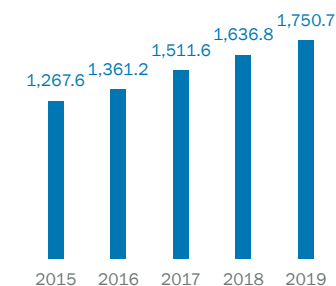


## WHAT MAKES SICK SPECIAL?

SICK is both traditional and unconventional: We do things differently, more unconventionally – this is a tradition of ours. The Start-Up Initiatives are a present-day expression of our “ambidexterity”. Mind you, we have always anticipated new trends, been early in thinking through new concepts, and developed them further. So change is a tradition of ours. We are only true to ourselves when we change and make constant progress.

# AT A GLANCE

**SALES** in EUR million

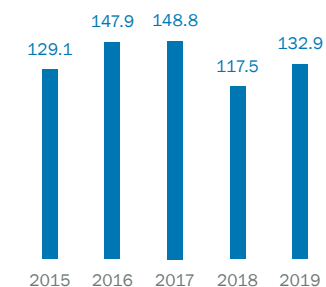


## KEY FIGURES

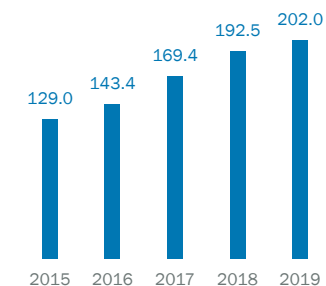
		2015	2016	2017	2018	2019	Change in %
Sales	in EUR million	1,267.6	1,361.2	1,511.6	1,636.8	1,750.7	7.0
EBITDA	in EUR million	175.4	198.8	204.5	180.1	220.1	22.2
EBIT	in EUR million	129.1	147.9	148.8	117.5	132.9	13.1
Net income	in EUR million	90.8	104.0	104.3	81.7	93.9	14.9
Cash flow	in EUR million	112.1	122.8	101.8	20.2	212.7	> 100%
Employees							
on December 31 <sup>1</sup>		7,575	8,253	8,997	9,948	10,204	2.6
annual average <sup>1</sup>		7,397	8,006	8,694	9,565	10,169	6.3
trainees		267	293	324	364	365	0.3
Personnel expenses	in EUR million	526.3	574.3	639.8	699.3	753.5	7.8
Investments	in EUR million	83.8	82.8	95.3	107.1	100.5	-6.2
Depreciation	in EUR million	46.4	50.9	55.7	62.6	87.2	39.3
R&D expenditure	in EUR million	129.0	143.4	169.4	192.5	202.0	4.9
Total assets	in EUR million	862.9	950.1	1,066.2	1,265.7	1,433.8	13.3
Equity	in EUR million	451.8	522.0	584.4	635.6	696.6	9.6
Equity ratio	in %	52.4	54.9	54.8	50.2	48.6	
Net return on equity	in %	25.2	24.9	21.7	14.7	15.6	
ROCE	in %	21.1	21.8	19.5	12.5	12.8	
Net return on sales	in %	7.2	7.6	6.9	5.0	5.4	
Earnings per share	in EUR	3.47	3.97	3.98	3.12	3.58	14.7

<sup>1</sup> Number was adjusted to internal company guidelines

**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.

# FOREWORD BY THE EXECUTIVE BOARD



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

2019 was a turbulent year with difficult economic conditions, despite which our success story continued. The SICK Group grew during the 2019 fiscal year and gained market share.

Overall, the demand for sensor products and solutions was also satisfactory in 2019. Orders received in the various business fields developed with differing intensity and, especially in the Logistics and Process Automation business fields, particularly positively. This again proved the importance of the SICK Group's diversified positioning. Group sales grew by seven percent, within our forecast range.

Digitalization continues its dynamic rise. We are well prepared for this, thanks to our high levels of agility and flexibility. We can react to new situations rapidly. We had already founded our Start-up Initiatives for this purpose two years ago, with the aim of driving forward new technologies in addition to our traditional automation business. We invested here again in 2019.

How are the Start-Ups doing now? With an official mandate to think laterally, our Start-Ups are enthusiastically developing new concepts and solutions for our customers. The strategy is working: Visionary Start-Up management, and networking with existing Group departments create synergies and innovations. But it is not just the Start-up Initiatives that have achieved a lot since their founding. Innovations from all departments also help secure our future.

We are particularly pleased that employees from all SICK departments join in and help seek out and master new innovations. Our good collaboration here is particularly helpful, and can be seen in a variety of projects described in this Annual Report.

Our customers experience the same challenges arising from rapid technical change and digitalization. This is an opportunity for us to take advantage of the new possibilities in tandem with our customers. Recognizing and exploiting opportunities to implement necessary changes rapidly and sustainably is an important prerequisite that enables us to support our customers in improving their efficiency. Companies that invest in digital technologies, and can use them intelligently, can react to changed economic conditions with flexibility. They are also better prepared for challenging times.

Sincerely yours,



Dr. Robert Bauer (Chairman)



Reinhard Bösl



Dr. Mats Gökstorp



Dr. Martin Krämer



Markus Vatter



Dr. Tosja Zywietz



The Executive Board of SICK AG: Reinhard Bösl, Dr. Tosja Zywietz, Dr. Mats Gökstorp,  
Dr. Robert Bauer, Dr. Martin Krämer, Markus Vatter

# REPORT BY THE SUPERVISORY BOARD

of SICK AG in accordance with Sec. 171 (2) AktG ("Aktiengesetz": German Stock Corporations Act)  
on the fiscal year 2019

The SICK Group's fiscal year 2019 was both challenging and successful. Despite the uncertain business conditions and economic slowdown, further growth was successfully generated, particularly in portfolio business – and here, above all, in Logistics and Process Automation. Our investments in the future are also paying off. The Start-up Initiatives founded in the Group during fiscal year 2018 are on a promising path. Their digital business models are proving themselves on the markets, and contributing to Group sales earlier than had been anticipated. This shows that the corporate strategy of expanding our leading position in industrial automation whilst exploiting the opportunities offered by digitalization and Industry 4.0 is the right one. The Supervisory Board of SICK AG stands behind this alignment and completely supports the long-term orientation of investing in future technologies. We believe that this equips the company to successfully master the fundamental technological changes that are occurring while coping with the resultant market upheavals and continuing to grow profitably – even in turbulent economic times.

## Cooperation between Executive Board and Supervisory Board

During the fiscal year 2019, the Supervisory Board comprehensively and carefully performed all the duties incumbent upon it under the law, the articles of incorporation, and the rules of procedure. It provided regular advice to the Executive Board on running the company while continually monitoring and reviewing its management activities. Whereby particular attention was paid to the legality, regularity, expediency, and the economic efficiency of the group-wide management activities carried out by the Executive Board. The Supervisory Board discussed company organization with the Executive Board to assure itself of the performance capabilities of this organization. The Executive Board and the Supervisory Board also continuously coordinated the company's strategic alignment. The current status of strategic implementation was discussed at regular intervals. The Supervisory Board was directly involved in all Executive Board decisions of fundamental importance for the company.

The Executive Board notified the Supervisory Board – both verbally and in writing – promptly, comprehensively, and on a regular basis. The Supervisory Board was thus kept informed throughout about the planning, implementation of the strategy, the business situation and development of SICK AG and the Group – including the risk situation, risk management, and compliance. The Supervisory Board was also always informed about business of special significance for the company or the Group. Deviations in business development from the plans and targets were proactively communicated, and the reasons for these deviations were explained.

Klaus M. Bukenberger,  
Aufsichtsratsvorsitzender



The subject matter and scope of the reports submitted by the Executive Board complied fully with the requirements stipulated by the Supervisory Board. In addition to the reports, the Supervisory Board had the Executive Board provide additional information. In particular, the Executive Board used Supervisory Board meetings to explain and answer any outstanding issues. The Supervisory Board examined the plausibility of the information provided by the Executive Board, critically assessing and challenging it where necessary. The Executive Board also always kept the Chairman of the Supervisory Board and the Chairman of the Audit Committee informed in detail about developments between meetings of the Supervisory Board and its committees. 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 about any major events of fundamental importance for assessing the business situation and development, as well as for the management of the SICK Group.

No conflicts of interest involving members of the Supervisory Board regarding the execution of their duties arose during the reporting year.

### Meetings and decisions of the Supervisory Board

The Supervisory Board of SICK AG held four ordinary meetings during the fiscal year 2019. The Board used these meetings to address all issues of relevance to the company and make the necessary decisions. For some time during each meeting, the Supervisory Board met without the presence of the Executive Board, enabling the Supervisory Board to discuss points on the

agenda that either concern the Executive Board itself or which require strictly internal discussion within the Supervisory Board. The Supervisory Board meetings focused on the following topics, in particular:

At the ordinary Supervisory Board meeting held on March 27, 2019, the Executive Board informed the Supervisory Board comprehensively and in detail about business development during 2018, particularly regarding industries and business fields, Global Business Centers, sales and service, as well as Human Resources. Then, in the presence of the auditor, the Supervisory Board examined the accounting and Group accounting for SICK AG for the fiscal year 2018, with the audits of the financial statements conducted by the auditor Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft (EY) and with the Executive Board's proposed appropriation of the retained earnings generated during the fiscal year 2018. The Audit Committee reported on all aspects for which it is responsible within the context of the accounting and Group accounting of SICK AG, in particular regarding the nature and scope of its audit of the documents relating to the financial statements. The Committee recommended that the entire Board approve these documents. The auditor then explained its audit results and the discussions that took place during the meeting of the Audit Committee on March 19, 2019, during which these results were comprehensively discussed. Subsequently the Auditor answered any questions raised. The Supervisory Board approved the result of the audit of the financial statements. Following the final results of its own review, the Supervisory Board raised no objections and approved the accounting and Group accounting of SICK AG for the fiscal year 2019. The Supervisory Board also reviewed the Executive Board's proposal for the use of the retained earnings and approved it on the recommendation of the Audit Committee. In addition, the Supervisory Board passed its proposed resolutions for the agenda of the Annual General Shareholders' Meeting on May 22, 2019. During this meeting, the Executive Board also provided information on the course of the first months of fiscal year 2019 and gave a brief description of the prospects for the following months, providing information on measures to control costs and increase margins, as well as presenting SICK's stock management approach. In addition, the Supervisory Board examined the analysis of the SICK Group's competitive position compared to its direct competitors and comparable family-run companies. Following this, the Supervisory Board approved the Executive Board's decision to take up a bonded loan in 2019.

At its ordinary meeting on May 22, 2019, the Supervisory Board examined the current business situation and the economic forecasts for the rest of the year. The Executive Board provided information on the current status of measures to control costs and increase margins. The Supervisory Board also unanimously approved enlargement of the Executive Board and appointed Dr. Tosja Zywiets as a new Executive Board member with responsibility for Operations, with effect from January 1, 2020.

Analysis of, and discussion on, the current business situation was the first item on the agenda for the ordinary meeting on September 23 and 24, 2019. This was followed by the detailed presentation of the company's strategic and organizational alignment up to 2030, taking into account the future development of the automation industry – which will be strongly affected by Industry 4.0 and the resultant changes in the competitive environment. The strategy for the Chinese market, the Open SICK Community platform, and the SICK Integration Space (an integrated system to provide digital services to SICK customers) were also presented. In addition, the financial mid-term planning from 2020 to 2022 was explained in detail, and the strategic outlook for the years 2020 to 2030 was presented. Both were acknowledged and approved by the Supervisory Board.

During the ordinary meeting on December 19, 2019, the Executive Board reported on current business development. Whereby the focus was mainly on the positive effects on earnings of the exchange rate situation, as well as of the measures for controlling costs and increasing margins. In addition, the Executive Board provided an overview of the detailed budget and mid-term planning for all Group units and the entire company for the fiscal year 2020. Together with the Executive Board, the Supervisory Board discussed in detail the targets, framework conditions and assumptions contained in them, as well as the resultant opportunities and risks involved in the planning. The Supervisory Board approved the budget presented for 2020 and the corresponding investment measures – also against the background of the financing presented. The purchase of a piece of land in Bloomington (USA) and construction of a building were also approved.

## Work in the Supervisory Board committees

The work of the Supervisory Board was supported by comprehensive preparation and monitoring of subject areas assigned to particular committees. The Audit Committee met twice during the reporting year, the Human Resources Committee met five times, and the Investment Committee once. The committee chairs reported in detail on the work of their respective committees at each of the subsequent plenary sessions. 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). As a result of the extensive preparatory work carried out by the committees, the entire Board had a broad and comprehensive information base regarding all the fields assigned to the committees. It was therefore always in a position to address the relevant topics thoroughly and efficiently.

The following Supervisory Board members are on the committees:

- Audit Committee: Franz Bausch (Chairman), Prof. Dr. Mark K. Binz, Klaus M. Bukenberger, Dr. Matthias Müller, Thomas Weckopp
- Human Resources Committee: Klaus M. Bukenberger (Chairman), Franz Bausch, Sebastian Glaser (since January 1, 2020), Renate Sick-Glaser (until December 31, 2019), Hermann Spieß, Susanne Tröndle
- Investment Committee: Klaus M. Bukenberger (Chairman), Karl-Heinz Barth, Dr. Bernd Cordes, Sebastian Glaser
- Mediation Committee in accordance with Sec. 27 (3) MitbestG: Klaus M. Bukenberger (Chairman), Renate Sick-Glaser, Hermann Spieß, Susanne Tröndle

The committees focused on the following key areas in 2019:

- The Audit Committee concentrated on its assigned duties regarding preparation of the audits of the financial statements and recommendations for the entire Board regarding the financial statements. It also examined compliance, risk management, internal auditing, Group taxes, and financing.
- The Human Resources Committee also examined, in particular, the further development of the structure and composition of the Executive Board against the background of the generational change that will take place in coming years. In this connection, the Committee prepared the appointment of Dr. Tosja Zywiets to the Executive Board as Director of Operations, which was then unanimously approved by the entire committee. The structure and amount of the remuneration of the Executive Board members was also looked at as part of its regular examination.
- Work in the Investment Committee focused on examining the investment plans for 2020 and the corresponding financial planning.

## Annual and Group accounting for the fiscal year 2019

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft (EY) was responsible for auditing the accounting and Group accounting of SICK AG for the fiscal year 2019. On May 22, 2019, EY was chosen as the auditor and Group auditor by the Annual General Shareholders' Meeting of SICK AG. The Annual General Shareholders' Meeting thus approved the proposal of the Supervisory Board, which corresponded to the recommendation from the Audit Committee. Prior to the Supervisory Board proposing EY to the Annual General Shareholders' Meeting for selection as the auditor, EY had confirmed that there were no circumstances that could 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, prepared in compliance with the HGB ("Handelsgesetzbuch": German Commercial Code), the consolidated financial statements, prepared in line with the International Financial Reporting

Standards (IFRS), as well as 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 combined group management report and management report of SICK AG are consistent with the corresponding annual financial statements and the consolidated financial statements; that, overall, they provide an appropriate view of the position of the SICK Group and SICK AG; and that they suitably represent 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 March 2, 2020, the Executive Board of SICK AG finalized the accounting and Group accounting of SICK AG for the fiscal year 2019, consisting of the annual financial statements, the consolidated financial statements, as well as 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 17, 2020 and at the accounts meeting of the Supervisory Board on March 23, 2020, the Executive Board explained the accounting and Group accounting of SICK AG and its proposals concerning the appropriation of retained earnings. Members of the Executive Board also answered questions from members of the Audit Committee and the Supervisory Board.

After explanations by the Executive Board, the Audit Committee and Supervisory Board reviewed the audit documents for the company and the Group in the light of EY's audit reports. The auditor who attended the Audit Committee meeting and the Supervisory Board's accounts meeting presented detailed reports on the audit and its results and explained the audit reports. Whereby 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 on the results of the audit and on the form and scope of the auditing activities. Discussions with the auditor also dealt with the issue of the legality of the company management, of which the Supervisory Board had assured itself. The Audit Committee also 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, as well as its supervision of the accounting process. The Committee 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 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 into consideration the non-audit-related services EY had provided, and the Committee's assessment that the auditor possessed the necessary level 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 it approved the result of the audit of the financial statements on the basis of the Audit Committee's report and recommendation. Since it had no objections 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 for the fiscal year 2019. 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 combined 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 regarding dividend policy, the effects on the liquidity of the SICK Group, and the interests of the shareholders. Following the recommendation of the Audit Committee, the Supervisory Board then accepted and endorsed the Executive Board's proposal concerning the appropriation of retained earnings. The Supervisory Board finally adopted this report to the Annual General Shareholders' Meeting.

The Executive Board also prepared a report on relationships with affiliated companies in the fiscal year 2019 (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 provided 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 regarding 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 17, 2020, and the Supervisory Board's accounts meeting on March 23, 2020, the Audit Committee and the Supervisory Board, respectively, had the members of the Executive Board explain the dependent company report. The Executive Board also answered questions on this matter from members of the Committee and the Supervisory Board. The auditor also attended these meetings, reporting on its audit of the dependent company report and its principal auditing results, explaining its audit report and answering questions about it. The Supervisory Board could thus 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 against the final 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 the employees in the SICK Group for their great commitment and valuable contributions during fiscal year 2019.

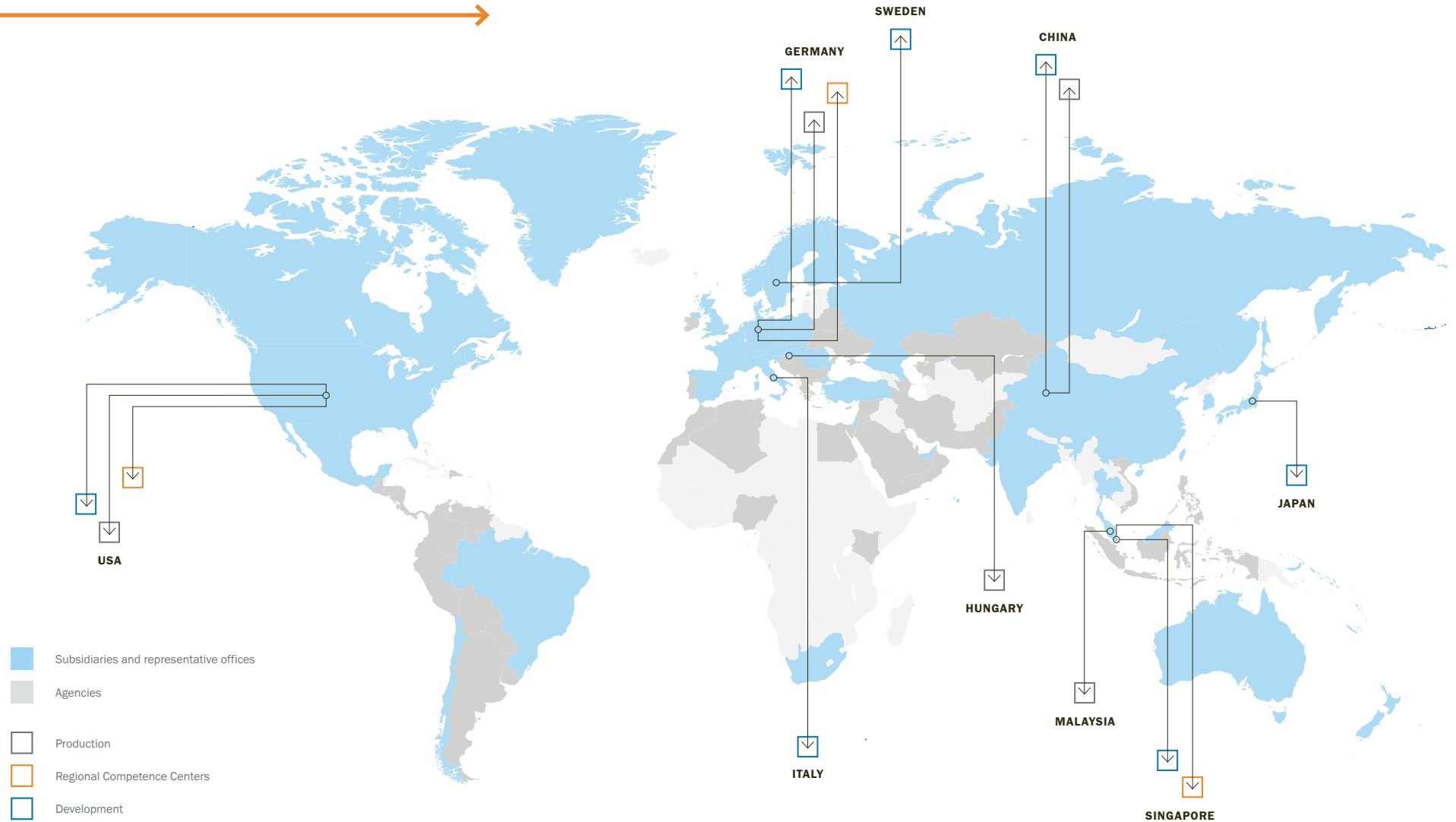
Waldkirch, March 23, 2020

On behalf of the Supervisory Board



Klaus M. Bukenberger  
(Chairman)

# SICK WORLDWIDE



**OUR AIM WAS TO  
LEARN ALONGSIDE  
OUR CUSTOMERS  
AND DEVELOP LOCALI-  
ZATION SOFTWARE.**





Focusing on mobile platforms – Michael Repplinger and Christoph Reinke.



## THIS WAY PLEASE!

Mobile platforms have become indispensable in warehouses and production halls. But now these small vehicles must move around more intelligently because the trend is away from rigid production lines and towards highly flexible logistical and production processes. SICK offers a software solution for this purpose.

SICK has an interesting approach to opening up new markets and rapidly developing product ideas into marketable products: Its so-called Start-Ups. These small agile teams work independently of the usual product development process – and often yield astonishing results. LiDAR localization software is one of these success stories. Its history began with the founding of the Start-Up in September 2016 and the first version of

the software, called LiDAR-LOC for short, was launched on the market in November 2019: In combination with SICK sensors, the software enables mobile platforms to move intelligently within their warehouse or production hall environments by detecting where they are and using this information to find their own way to their ordered destination.

“We were well aware that the logistics and material flow segments were facing upheaval, and that new solutions – also in the form of software – would be needed,” explains Michael Repplinger, Head of Product Management Mobile Platforms, who was a member of the Start-Up team right from the start. The team rapidly focused on the mobile platforms. They are mostly guided by magnetic strips attached to the floor, so they travel

➤ WE WERE WELL AWARE THAT THE LOGISTICS AND MATERIAL FLOW SEGMENTS WERE FACING UPHEAVAL, AND THAT NEW SOLUTIONS – ALSO IN THE FORM OF SOFTWARE – WOULD BE NEEDED.

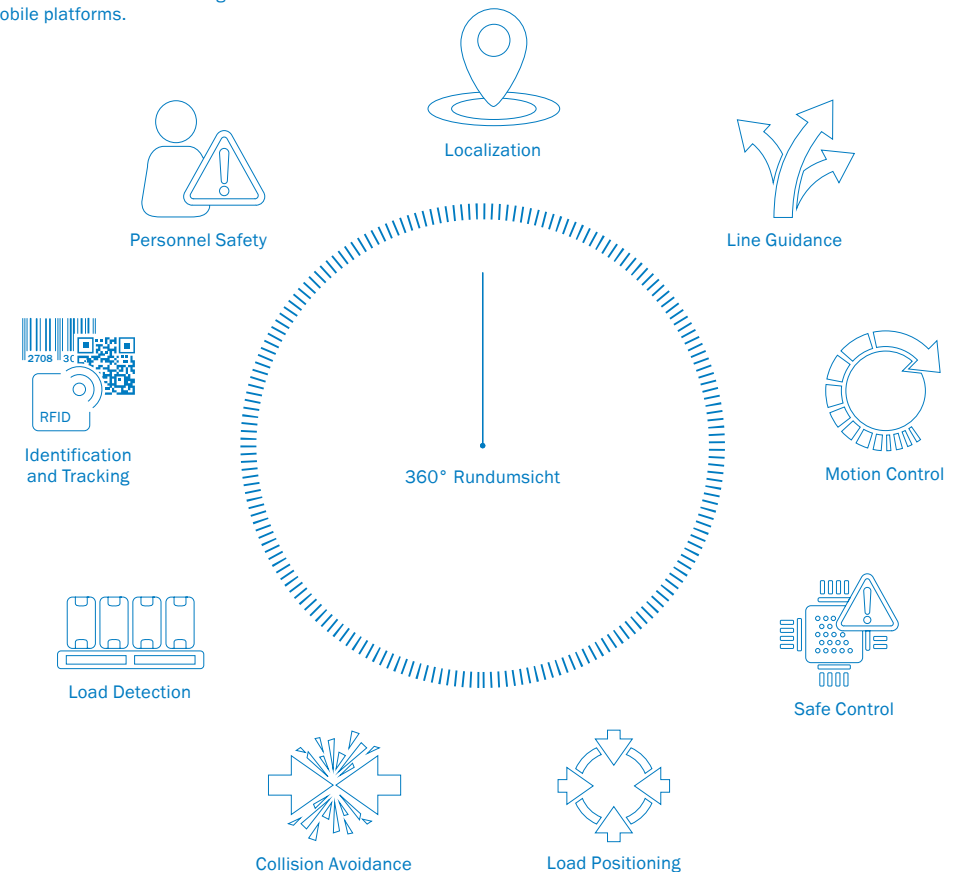
logistical and production processes should be as flexible as possible and capable of dynamic adaptation. This also involves the mobile platforms or automated guided vehicles (AGVs).” Meanwhile, the products themselves are becoming increasingly individualized: The AGVs in a modern production hall receive fewer – and smaller-scale – driving tasks than their old colleagues. A magnetic strip is often no longer the right solution here either.

A range of technologies – for which the necessary software can be purchased from various suppliers – already enable AGVs to move flexibly. “Though some customers make enormous efforts to develop their own solutions,” says Repplinger. “This involves a lot of initial work before any value creation can be achieved with the AGVs. There are also often problems with these ‘home-made’ solutions after a while because it is difficult to adapt them to changed conditions.”

along defined fixed routes – a technology based on reasonably priced sensors that are already about 25 years old. Today, however, these paths are no longer in demand and represent, literally, a dead end: “This is because large rigid production lines are simply no longer up-to-date,” explains Dr. Christoph Reinke, Head of Business Unit Mobile Platforms. “It is often difficult for companies to predict how a product will sell in future and whether their production plants will be working at full capacity. For this reason,

#### INDUSTRY 4.0 PICKS UP SPEED:

Track guidance, navigation, positioning, location recognition, safety and load handling are easy to implement with our modular range of solutions for mobile platforms.



So there is demand among customers for such solutions, which range from simple low-cost to scalable high-end variants. This is the point at which the Start-Up team got involved and began specifically developing localization software. “The research projects run by the Corporate Department Research & Development with SICK’s key customers formed a good basis for this, while other aspects of the software had to be newly developed,” explains Christoph Reinke.

The Start-Up team worked closely with major customers in order to achieve as much market proximity as possible. But Sales – with their good customer relationships – also provided the team with good feedback that they could exploit. “Our aim was to get on to the market as quickly as possible and then learn alongside the customers so that we could further develop the product,” Repplinger sums up the approach.

The secret is that the basis for the software was already, in effect, contained within the mobile platforms themselves – namely in the data constantly provided by their laser scanners. The software combines this with a floor plan of the area and a map of the surroundings that the laser

scanner has recorded. The vehicle always ‘knows’ where it is because the software continuously compares this map with what the scanner ‘sees’ while in motion, and it uses this information to find its own route to the destination autonomously. “In technical terms, this is very complicated because the measurements take place several hundreds to thousands of times per second,” explains Michael Repplinger. In addition, industrial environments are in constant flux and the software must be able to react appropriately. “The software, of course, has a certain level of tolerance. But if there is a lot of change in the surroundings, the customer must carry out a new map-making process so that the vehicles can orient themselves again without making mistakes,” explains Reinke. Thus free movement is possible even in a dynamic environment. The software also visualizes the ground plan on a screen – with the corresponding measurement points, the particular positions of the AGVs, and their paths. So everything can be tracked and controlled. Driving tasks can also be sent to the AGVs.

**7 THE SECRET IS THAT THE BASIS FOR THE SOFTWARE WAS ALREADY, IN EFFECT, CONTAINED WITHIN THE MOBILE PLATFORMS THEMSELVES – NAMELY IN THE DATA.**





Well-connected – Michael Repplinger and Christoph Reinke.

“We are the only supplier with its own hardware and software solution for localization. This is attractive for customers and really does make their lives much easier,” says Michael Repplinger. Major carmakers are already using the new solution from SICK. “In our experience, new developments often first find their way into automotive production. The carmakers are soon followed by other industries, however, and we can offer them our solution too,” adds a confident Reinke. A software product is also economically interesting for SICK because of its scalability: After the initial development effort, the main costs are for maintenance and sales. Strategically, LiDAR localization software is a major step along the path from a pure sensor producer to a supplier of digital solutions.

The history of LiDAR localization software also shows how well the Start-Up approach works at SICK: The team created a marketable and promising product with great potential within just over two years – and has rapidly become a Business Unit in its own right, with about 20 employees in Waldkirch and Hamburg. A second variant of the software, which also compensates for defective or missing magnetic strips, will be launched in late 2020.



**INTERNET CONNECTION  
IS NOW ALSO POSSIBLE  
ON THE HIGH SEAS. WE  
USE THIS FOR CLOUD-  
BASED SOLUTIONS.**

## FOR CLEANER AIR ABOVE THE OCEANS

A new measurement device from SICK enables ships to maintain reliable exhaust gas cleaning. But that's not all: The data that it provides opens up pioneering new application possibilities.

Important new regulations took effect on 1 January 2020: The International Maritime Organization (IMO), a UNO subsidiary dedicated to the safety and environmental compliance of ships, reduced the sulfur limit value in fuel from 3.5 percent to 0.5 percent in international waters. A value of just 0.1 percent already applied in so-called Sulfur Emission Control Areas (SECAs).

Because most ships are powered with heavy fuel – and therefore emit large quantities of sulfur dioxide – this change requires urgent action for many shipping companies: About 60,000 ships worldwide must either

switch to considerably more expensive low-sulfur fuel or retrofit exhaust gas cleaning equipment. This so-called scrubber washes sulfur oxides from the exhaust gas and is installed with an emission measurement system.

SICK offered a solution at the right time: “We specifically developed our MARSIC measurement device for maritime emission measurement,” explains Hinrich Brumm, Strategic Industry Manager Combustion Engines and Maritime, who has been at SICK AG for five years. “It proves compliance with the IMO regulation, and therefore the efficiency of these exhaust gas cleaning systems – and is an indispensable component of the scrubber.” The device

7 WE SPECIFICALLY DEVELOPED OUR MARSIC MEASUREMENT DEVICE FOR MARITIME EMISSION MEASUREMENT.

Hinrich Brumm and Alexander Wiestler keep an eye on the ship's positional data.

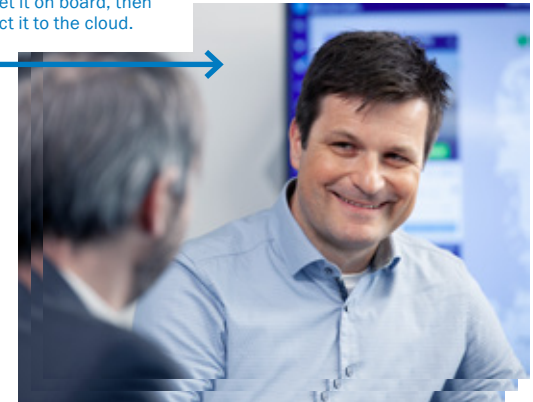


(roughly 130 x 40 cm and weighing about 120 kg) can measure up to nine gas components – SO<sub>2</sub>, CO<sub>2</sub>, CO, NO, NO<sub>2</sub>, NH<sub>3</sub>, CH<sub>4</sub>, H<sub>2</sub>O and O<sub>2</sub> – and is also designed for other on-board process measurements.

The development of MARSIC had already begun as early as 2009: A SICK product that was used onshore at power stations and waste incineration plants was initially adapted for use on board, where completely different conditions prevail, for example heavy vibrations and voltage fluctuations. The specialists for maritime applications at SICK's Meersburg site (now Überlingen) on Lake Constance and at the Hamburg site then developed the MARSIC200 and MARSIC300 between 2013 and 2015. "We collaborated with customers worldwide and took their needs into account," says Brumm, who spent 15 years working at DNV GL – the leading classification society for the maritime industry, responsible for inspecting maritime emission measurement technology, among other things. So he knows the sector inside out. He is also an accredited member of the delegation of German and European shipyard and supplier industries at the IMO. This optimum networking in the maritime sector – as well as with the shipping associations and committees on the national, European and international levels – was one of the crucial factors responsible for the product coming onto the market at exactly the right time.

➤ THE EMISSION MEASUREMENT DEVICES HAVE MEANWHILE BEEN APPROVED BY THE WORLD'S SEVEN LARGEST CLASSIFICATION SOCIETIES, AND THUS COVER 90 PERCENT OF THE WORLD FLEET.

First get it on board, then connect it to the cloud.

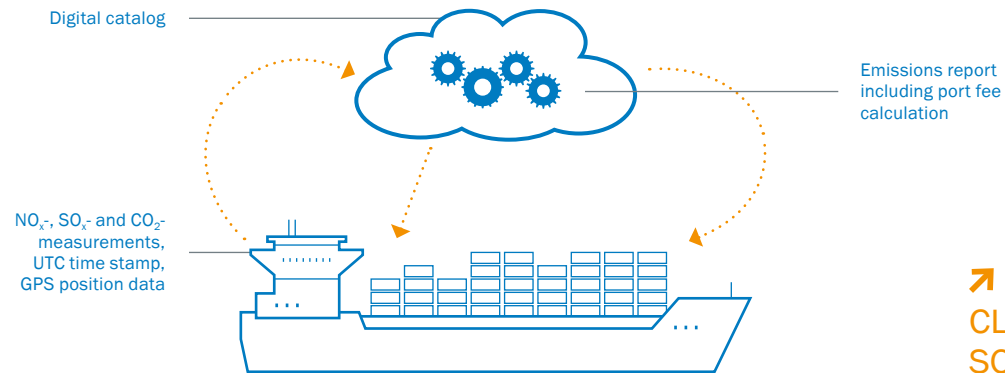


The emission measurement devices have meanwhile been approved by the world's seven largest classification societies, and thus cover 90 percent of the world fleet. "Our customers come from all over the world. Demand has been, and still is, enormous – particularly in China and South Korea, the classic shipbuilding nations. We are the market leader in ships' emission measurement devices. An achievement that is all the more impressive considering that this area was new to us," adds Brumm.

But SICK would not be SICK if the company simply sat on its laurels, because MARSIC offers tremendous potential: The measurement device provides continuous data, and can thus form the basis for new applications because internet connection is now also possible on the high seas – so the data is constantly available via cloud solutions and can be accessed at all times. SICK is using this capability for its current work developing a variety of new maritime applications.

One such is a cloud-based digital twin of the physical MARSIC device – a 'virtualized asset' in Industry 4.0 jargon. Any sensor can be represented, and the device's real-time data visualized on the SICK AssetHub, a cloud-based web service for SICK customers. It is therefore possible to see what

## CLOUD-BASED SERVICES



➤ SICK OFFERS ITS OWN CLOUD-BASED SOFTWARE SOLUTIONS.

the device is measuring at sea, so the shipping company can monitor the emissions. If there is a problem, for example a clogged filter, not only is the crew notified, but also the shipping company – and appropriate measures can be implemented.

It is also possible to link the MARSIC emission data with other data. In future, therefore, digital services will be able to combine these values with the ship's position data and issue warnings when the ship enters a SECA zone, enabling the crew to take action in good time. Severe penalties can be imposed if a ship enters such a zone while its exhaust gas cleaning plant is switched off. Such fines can amount to millions – with potentially dire consequences for a shipping company. "The combination of different data sources always provides a good basis for generating a completely new level of transparency. In this case it offers shipping companies improved productivity and operational security," says Alexander Wiestler, Head of Global Product Management GBC Global Integration Space.

SICK is increasingly focusing on offering customers holistic individualized solutions based on sensor data – not only in shipping, but also in Logistics, Process or Factory Automation. Whereby the SICK Integration Space™ is a fundamental component enabling SICK to offer its own cloud-based software solutions. Users can exploit digital information to obtain valuable knowledge for the continuous optimization of business activities, such as the supply chain, quality management, or production processes. "SICK would thus become a partner for the digital transformation of our customers by developing customized solutions based on sensor applications – creating greater transparency and flexibility on the business process level," explains Wiestler.

This cloud-based approach is also the right solution for the hitherto less-than-transparent data basis in shipping, in particular. SICK is currently working intensively to develop new types of customized digital services for the maritime industry, linking its competences in the maritime sector with its expertise in Industry 4.0 and the digitalization of automated processes.

A digital service based on ship's emissions measured using MARSIC could also, for example, be very helpful in future for collaboration with ports. The complex emissions requirements vary enormously from port to port. Some ports now even have incentive models with reduced port fees if the ship emits lower pollutant levels. Manual completion of the numerous forms required by ports makes enormous demands of the crew with plenty of leeway for mistakes. A digital service that transmitted the emission values to the port authorities via the cloud would improve the process and provide added value in the form of reduced workloads and the security of having complied with all regulations.


But that's not all: SICK is already working on developing new digital services for all aspects of decarbonization or 'green shipping': "The maritime industry is undergoing radical change and, in view of the climate change debate, must stop using heavy fuel and move towards alternative propulsion concepts," explains Hinrich Brumm. "SICK, with about 40,000 different sensors, also has the competence to develop suitable solutions here, too, and offer them in good time – from individual products to complex complete solutions including cloud-based services."

**7 THE MARITIME INDUSTRY IS UNDERGOING RADICAL CHANGE AND, IN VIEW OF THE CLIMATE CHANGE DEBATE, MUST STOP USING HEAVY FUEL AND MOVE TOWARDS ALTERNATIVE PROPULSION CONCEPTS.**

Above all, these digital applications are a pioneering new development for shipping. While the reliable monitoring of ships' emissions was impossible in the past, it can now be achieved thanks to MARSIC and cloud-based services. "Our measurement devices now make emissions transparent," says Brumm. "This is a major step forward at a time when transparency, efficiency, environmental protection and sustainability are becoming increasingly important." So in this case a sensor – as a supplier of valuable data – opens up immense possibilities, ultimately ensuring clean air above our oceans.

Having the right solutions – from individual products to complex complete solutions including cloud-based services.



A woman with short brown hair and glasses, wearing a blue blazer over a white shirt, is holding a black notebook and a pen. She is looking directly at the camera. The background is a blurred office environment. To her right, there is a callout box with an orange border and an arrow pointing towards the top right. Inside the box, the text reads: 

**THE SENSOR HAS ALWAYS HAD THE INFORMATION. WE NOW MAKE IT TRANSPARENT FOR THE CUSTOMER.**



Max Dietrich and Alexandra Schindler use an app to check the installed sensors.

➤ THE TASK OF OUR START-UP WAS TO IMPROVE TRANSPARENCY IN OUR CUSTOMERS' SENSOR WORLD WHILE INCREASING PLANT AVAILABILITY AND PRODUCTIVITY.

## “WE MAKE VISIBLE WHAT IS ALREADY THERE”

The Smart Data Solutions team has a two-pronged approach. On the one hand, it is working on building up a portfolio of new customer-specific and data-based services in the Installed Base Services Start-up Initiative – from management of customers' machinery to full-service contracts to convert plants for the world of Industry 4.0. On the other hand, the same team already markets smart services in the Business Unit Smart Data Solutions, and generates sales with them.

“The task of our Start-Up was to improve transparency in our customers' sensor world while increasing plant availability and productivity. For this purpose, we develop new solutions and business models,” Max Dietrich, Product and Application Manager Smart Data Solutions, describes the starting point. Where is which sensor in the plant? What state is it in?

When is the next service due? What data does the sensor provide? What can one do with these data? How can one use the data to draw conclusions about the future behavior of the machine? What added value can one generate from the data?

The Start-Up developed a smartphone app to survey the installed sensors and devices, as well as their installation locations. The data thus gained is visualized and supplemented with additional service information, such as maintenance plans, and then displayed in a comprehensible form. Customers can thus optimize the entire maintenance management of their installed base.

### ACTION, NOT REACTION

Building upon this basis, one can continuously determine and display the 'state of health' of devices in real time by reading out and analyzing data via condition monitoring – and preventive warnings can be issued, if necessary, when predefined limit values are exceeded. "We offer our customers predictive services to prevent critical situations before they occur by developing algorithms – based on the sensor data collected and the customer's process knowledge – that enable prediction of critical states and their prevention through the use of countermeasures," Alexandra Schindler, Sales Specialist, Smart Data Solutions, describes the possibilities.

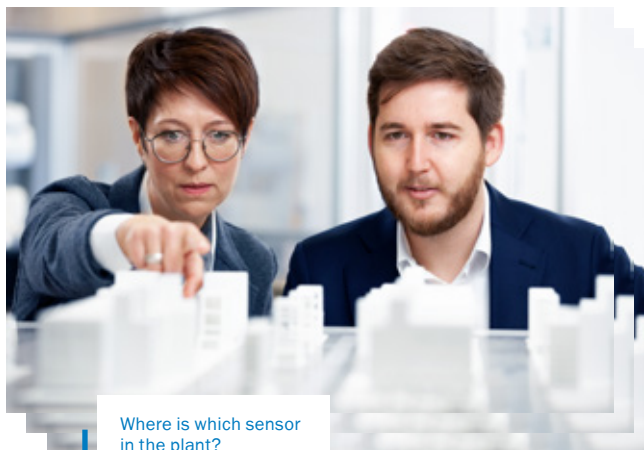
The Start-up Initiative is already developing predictive models for applications with critical environmental conditions, such as those found at ports or waste incineration plants. "In a first step, in collaboration with the customer and experts from the specialist departments at SICK, we create a hypothesis about which factors influence sensor availability. We then examine whether the data support this hypothesis or not. Finally, we develop a predictive model," explains Max Dietrich. "We have already successfully implemented this at customers," reports Alexandra Schindler. "Plant availability has now been greatly improved. The customer is better

informed, and can react appropriately before a failure occurs. In a waste incineration plant, for example, we can now make a concrete prediction about how long the SICK analyzer will continue to operate properly when wear makes a failure probable. Operators can thus plan their maintenance work more efficiently."

### RECOGNIZING RELEVANCE – DATA BECOME RELEVANT INFORMATION

"The sensor has always had the information. We now make it transparent for the customer," Max Dietrich sums up. "Together with the customer, and with support from our specialist departments, we work out which of the thousands of variables and parameters are relevant," adds Alexandra Schindler. Information on the state of production plants – and the accompanying predictions about potential production downtimes made with the help of innovative feedback systems – provides an example of how sensor information can be used to make processes more transparent.

The Start-up Initiative has smoothed the path for smart data solutions with the Installed Base Manager, the service module in the in the SICK AssetHub, the Monitoring Box and Predictive Services.

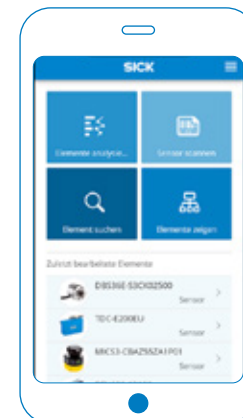


Where is which sensor in the plant?

### THE INSTALLED BASE MANAGER



Available in the App Store



**OUR START-UP-INITIATIVE  
SET UP A CYBERSECURITY  
PLATFORM IN JUST A  
FEW MONTHS.**



## PRODUCT SECURITY – UNFLUSTERED AND UNDAUNTED

### SICK CYBERSECURITY START-UP CREATES TRUST

Mobile phone contracts, internet connections or online banking – private internet users appreciate their service providers treating their data, and access to it, carefully. Regular security updates for mobile phone and computer software are standard, as is the consistent provision of up-to-date information on vulnerabilities and software updates on suppliers' service websites. Cybersecurity in the Industry 4.0 environment provides a dependable system for networkable products, software and services in the cloud, ensuring the security of production plants and communication paths.

SICK has its own Cybersecurity Department for this purpose. It only took SICK's Cybersecurity Start-up Initiative a few months to build up a platform for developing and operating secure products.

"Corporate Department IT naturally had, and maintains, an overview of information security. But in addition to our own computer center security, we also saw a need to ensure that our products were developed with security in mind," Andreas Teuscher,

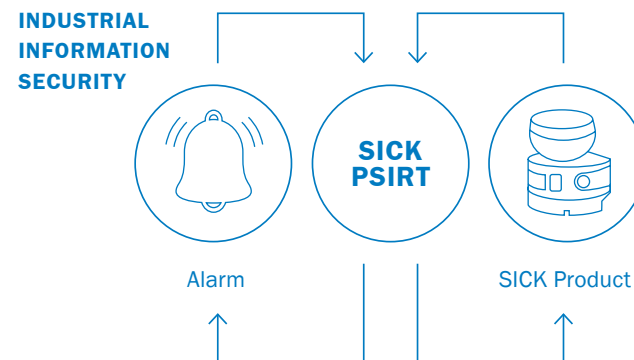
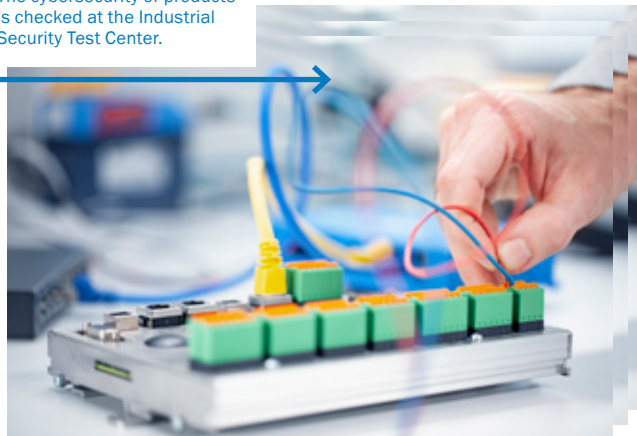
Chief Industrial Security Officer, describes the situation before the Start-Up began its work. "Each department, of course, also safeguarded the security of its own products – but individually and independently of one another."

### PREVENTION. RECOGNITION. REACTION.

It is necessary to take security aspects into account during product and software development to ensure cybersecurity throughout the life cycle of SICK products. This is not straightforward, and is the reason why a training program has been developed in collaboration with the SICK Academy. The Start-up Initiative also set up an Industrial Security Test Center at SICK to test the cybersecurity of products.

➤ AN IMPORTANT TASK FOR US LAST YEAR WAS TO BRING THE TOPIC TO THE ATTENTION OF THE WHOLE COMPANY AND BUILD UP A COMMUNITY. WE ORGANIZED EVENTS AND FOUND THAT THERE WERE NOT JUST TEN OF US, BUT LOTS.

The cybersecurity of products is checked at the Industrial Security Test Center.





Wolfgang Stadler, Mirko Böttger and Benjamin Holdermann have built up a community that functions well.

## 7 THE OPPORTUNITIES RESULTING FROM INCREASINGLY NETWORKED AND MERGED PRODUCTION AND IT ALSO INCREASE THE RISKS.

"I find the change during the last two years quite remarkable," adds Wolfgang Stadler, Product Security Architect. "This is also because of the attitude of the people here. One approaches a new challenge openly and positively."

Acceptance of the Cybersecurity Start-Up is also the result of a well-functioning cybersecurity community within SICK. "An important task for us last year was to bring the topic to the attention of the whole company and build up a community," explains Benjamin Holdermann, Cybersecurity Specialist. "We organized events and found that there were not just ten of us, but lots."

The opportunities resulting from increasingly networked and merged production and IT also increase the risks. The rise in digitalization leads to greater replacement of analog bus systems by digital communication interfaces based on internet technologies. The advantage is that communication is considerably more transparent and interoperable.

So it is necessary to have a dependable system to secure SICK products. This is what the Cybersecurity Start-up Initiative is committed to achieving.

### OPEN HANDLING OF WEAKNESSES

The SICK Product Security Incident Response Team (SICK PSIRT) is the central contact for customers and other interest groups (e.g. authorities and security researchers) regarding product security. A major task of SICK PSIRT is to coordinate the handling of weaknesses in products. Any report of a weakness – either from outside the company, by employees, or through active observation of the security situation – results in a reaction. A risk assessment is carried out if a weakness is verified in a product, after which customer communication is coordinated and corrective measures are defined. "I still remember what happened when, one year after our unit was founded, I explained that from now on product weaknesses would be published on our website – I got incredulous stares," Mirko Böttger, Cybersecurity Specialist, describes the Start-Up's first steps. "But this is now the case. The treatment of faults, the fault culture, has changed. We had very good feedback after the initial cases that we worked on."



**WE CLOSE THE GAPS  
BETWEEN SENSOR DATA  
ACQUISITION AND THE  
CUSTOMERS' MANAGEMENT  
AND PLANNING SYSTEMS.**

## LATERAL THINKING – VERTICAL NETWORKING

### MIDDLEWARE MAKES THE CONNECTION!

The strategy works: Visionary Start-Up management accompanied by networking with existing Group departments creates synergies and ensures a good exchange of information. The Start-Up teams thus receive rapid feedback from Sales about which new approaches customers find desirable. SICK is implementing more and more projects with vertical integration concepts thanks to the involvement of the Connectivity / Middleware Start-up Initiative.

The opportunities offered by digitalization are not all to be found in production. A new understanding of logistics is required to exploit digitalization along the entire supply chain – from procurement logistics, through warehouse and production logistics, to distribution logistics.

Commissioned by a package and logistics service provider, SICK equipped the new distribution center of a textile brand producer with an automatic RFID-based incoming goods control system. “In the past, not only were the bar codes of all packaging units scanned and booked on arrival, but random sample packages were also opened and their contents checked in

order to ensure continuously high stock quality. This naturally took time,” explains Manfred Pierl, Sales Manager International Key Accounts, SICK Vertriebs-GmbH. “It made sense to use an RFID-based solution because textile producers now label almost all products with RFID tags.”

During the very first test runs, the RFMS Pro RFID reading system reliably detected the number of products contained in the dispatch boxes without even opening them. “The semi-automated target-actual comparison already saved a lot of time. But integration of the RFID hardware directly in the producer’s goods management system also resulted in considerably greater customer benefit,” explains Manfred Haberer, a member of the Connectivity / Middleware Start-up Initiative team. “Our middleware enables us to provide the results of this goods comparison to the producer’s Warehouse Management System. We were thus able to convince both the logistics service provider and the producer to go with a fully automatic solution for incoming goods.”

“I’m glad that I contacted my colleagues in the Connectivity / Middleware Start-Up during an early phase of this project. The horizon of the incoming goods inspection was continuously expanded with additional advantages during detailed discussions between the customer’s own experts and the Start-Up team,” explains Manfred Pierl.



Manfred Pierl (left) is glad that he contacted his colleague Manfred Haberer from the Connectivity / Middleware Start-Up during an early phase of the project.

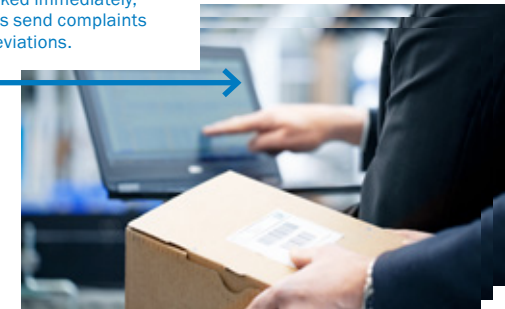


The exchange of information between Sales and the Start-up Initiative works very well.



7 THE HORIZON OF THE INCOMING GOODS INSPECTION WAS CONTINUOUSLY EXPANDED WITH ADDITIONAL ADVANTAGES DURING DETAILED DISCUSSIONS BETWEEN THE CUSTOMER'S OWN EXPERTS AND THE START-UP TEAM.

The quality of the delivery can now be checked immediately, and suppliers send complaints about any deviations.

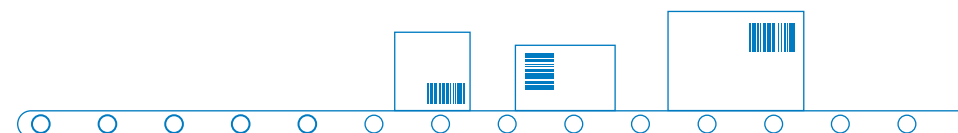


The solution finally agreed on was supplemented with conveyor systems and ejection points and now enables fully automatic rejection of incorrect packages based on an inspection of the unit numbers and the article numbers. The quality of the delivery can now be checked immediately, and suppliers send complaints about any deviations. This not only reduces costs resulting from inventory faults, but also ensures availability of the necessary articles – so shops are supplied with the correct goods on time.

“As a Start-up Initiative we offer comprehensive support to Sales. We have created questionnaires, for example, that enable our Sales colleagues to ask customers very precise questions right from the start, even if they themselves are not experts in this area. We are operating in a new

business field – together with Sales and Project Managers. In the past we mostly worked with software integrators, but now we can cover this area ourselves. And the demand is there. Our customer-specific integration solutions enable us to close the gaps between sensor data detection and the customer's management and planning systems while building up new customer relationships for software solutions,” adds Manfred Haberer.

Integration capability and consistency are important features of intelligent and future-oriented communication structures – particularly regarding Industry 4.0.





**INDUSTRY 4.0 INTERESTS  
ALL TRAINEES BECAUSE  
IT IS OUR COMPANY'S  
FUTURE.**

For Philipp Burger (below left), Jonathan Adler and Julian Sütterlin, the Smart Button Factory is more than a one-off training project.



## INDUSTRY 4.0 COMES OF AGE: THE SMART BUTTON FACTORY PROJECT

It was first presented to the public in October 2019: The Smart Button Factory constructed by SICK AG trainees and students on sandwich courses. What began as a practical project for up-and-coming talent is now being further developed – and may even become a teaching device at schools.

Everybody's talking about Industry 4.0 – and SICK even has a trainee project on it: Working with their trainers, about 50 trainees as well as students from dual-studies vocational colleges constructed the Smart Button Factory – a robot arm plant that automatically produces name badges – over a period of one-and-a-half years.

“The initial question was: How do we teach our trainees about Industry 4.0 so that they are ideally equipped for the job market?” explains Philipp Burger, a Training Manager at SICK AG. “Some companies purchase ready-made platforms for this purpose. But we wanted to implement it ourselves using our own sensor technology, especially as we already had all the job profiles and study programs that we would need to develop such a plant in-house. Training here is anyway mainly organized in project form.” A most

suitable and sensible project, therefore, during which trainees could develop their Smart Button Factory themselves right from the start. “The learning effect could not be better,” Burger is convinced. “And we constantly need name badges – which have had to be manually produced up to now. So the plant really does provide added value and ease the workload.”

What initially sounded relatively simple became the longest, largest and most complex training project ever carried out at SICK. Julian Sütterlin, Project Manager for the Smart Button Factory, explains: “We divided the project up into different work packages that were then distributed among the trainees

➤ **THE YOUNG SPECIALISTS WERE SUPPORTED BY THE CENTRAL UNIT MANUFACTURING SOLUTIONS.**

and their trainers.” The young specialists were supported by the Central Unit Manufacturing Solutions, a department dedicated to the construction of comparable plants. Other specialist departments, however, were also always available to provide advice and assistance, for example for the creation of the safety concept. Trainees and students studying mechanics, mechatronics, IT and technical product design at dual studies vocational colleges were directly involved in the development and construction of the Smart Button Factory. One of them is Jonathan Adler, trainee IT specialist for application development: “It was a very exciting project,” he recalls. “I found the hands-on treatment of Industry 4.0 and working within the project environment particularly valuable experiences that have helped me personally and professionally.” The trainers also learnt something: “The great thing was that we were facing a completely new task that we had to solve with these young people,” says Sütterlin. “For us too this was the first project with a robot, and we had never had any experience of this before.” But the hard work was worth it: The team achieved its main goal of presenting the Smart Button Factory in public for the first time at the Science Days at the Europa Park in Rust, Germany, in October 2019.

The plant is currently located at the Gisela Sick Education Center in Waldkirch and diligently produces individually designed round and rectangular name badges. These can be ordered on a website via a mobile phone, tablet or computer using a day code – to prevent unauthorized orders. Incidentally, the website was also part of the project, and the participants programmed it themselves.



Design and order your own badge via a QR code.

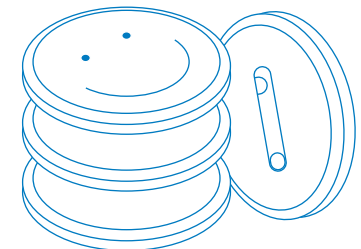


Whoever thinks that the story of the Smart Button Factory is now over is mistaken: SICK is currently examining whether it offers sales potential as a learning unit for schools. Vocational school teachers who have heard about the project from SICK's trainees have approached the company and expressed interest in such a plant for teaching purposes. An accompanying teaching concept, as well as after-sales support from SICK, however, would be prerequisites for marketing to schools. “We are at the very beginning of our considerations here, and we need to find out exactly what schools require and whether, and how, these needs can be met,” says Philipp Burger.

Regardless of whether the Smart Button Factory will soon be available at schools as a teaching device for Industry 4.0 – its story at SICK is far from over: It will undergo continuous optimization and development as part of further trainee and student projects. Thus, for example, new sensors will be integrated or the stamping technology improved. It is also conceivable that the plant could use artificial intelligence to determine whether rectangular or round badges are required. Expansion of the website and visualization of the production process on the internet via a live stream are in the planning stage. Burger and Sütterlin agree that: “The Smart Button Factory was not just a one-off training project, but is in all respects an active plant with which we will all continue to learn.”

Public presentations of the Smart Button Factory – at “Jugend forscht” (a youth research competition) in mid-February and for the Federal Ministry for Economic Affairs and Energy in early March – were complete successes, convincingly demonstrating just how practical and demanding training at SICK AG is.

➤ THE SMART BUTTON FACTORY WAS NOT JUST A ONE-OFF TRAINING PROJECT, BUT IS IN ALL RESPECTS AN ACTIVE PLANT WITH WHICH WE WILL ALL CONTINUE TO LEARN.



# COMBINED GROUP MANAGEMENT REPORT AND MANAGEMENT REPORT

of SICK AG

## A. FUNDAMENTAL INFORMATION ABOUT THE GROUP 37

I. Organizational structure of the Group	37
II. Business model and business fields	38
III. Advantages of the SICK business model	39
IV. Company strategy	40
V. Corporate governance and compliance management	41

## B. RESEARCH AND DEVELOPMENT 42

I. General	42
II. Overview of the most important product innovations	44

## C. SUSTAINABILITY AND COMPLIANCE 45

I. Employees	46
II. Environment	50
III. Responsibility toward society	51

## D. REPORT ON ECONOMIC POSITION 52

Macroeconomic environment	52
Financial solidity	59
Overall assessment	60

## E. RISK AND OPPORTUNITY REPORT 61

Risk and opportunity policy	61
Risk and opportunity management system	61

## F. REPORT ON EXPECTED DEVELOPMENTS 67

Economic prospects for 2020	67
Sales forecasts for the sales regions	67
EBIT forecast	68
Development of other financial performance indicators	68
Development of non-financial performance indicators	68
General summary of projected development	68

## G. DEPENDENT COMPANY REPORT 69

## H. MANAGEMENT REPORT OF SICK AG 69

# COMBINED GROUP MANAGEMENT REPORT AND MANAGEMENT REPORT

of SICK AG

## A. FUNDAMENTAL INFORMATION ABOUT THE GROUP

Pursuant to Sec. 315 (5) HGB (“Handelsgesetzbuch”: German Commercial Code) in conjunction with Sec. 298 (2) HGB, the SICK group management report has again been combined with the management report of SICK AG. 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 notes to the consolidated financial statements.

The combined management report for the SICK Group and SICK AG for the fiscal year is presented below as of the end of the reporting period December 31, 2019:

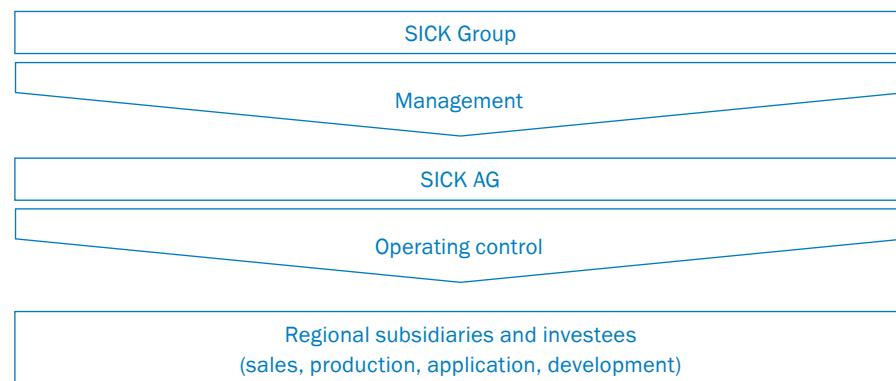
### I. Organizational structure of the Group

SICK AG and its subsidiaries (referred to in the following as “the SICK Group,” “SICK,” or “the Group”) are one of the world’s leading manufacturers of sensors and sensor solutions for industrial applications.

The parent company of the SICK Group is SICK AG. The company was founded by Dr. e.h. Erwin Sick in Vaterstetten near Munich in 1946. SICK AG carries out the tasks of group management from its head office in Waldkirch near Freiburg in Germany. The SICK Group’s basis of consolidation comprised **49 entities** in fiscal year 2019. The SICK Group reports on the performance of business in four **sales regions**: Germany, EMEA (comprising Europe, the Middle East, and Africa), Asia-Pacific, and Americas (consisting of North, Central, and South America).

The SICK Group is managed by an **Executive Board** that comprises six members. A twelve-member **Supervisory Board** with equal numbers of employer and employee representatives forms the oversight body.

## ORGANIZATIONAL STRUCTURE OF THE SICK GROUP



The regional 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. Regional product centers have been set up in Savage/ Eagle Creek and Stoughton for the US, in Singapore and Johor Bahru (Malaysia) for Asia, and at the German locations as well as in Kunsziget (Hungary) for Europe. These centers develop and produce products for their respective regions and for the global market. The largest manufacturing and development location in Germany is the Group's headquarters in Waldkirch near Freiburg.

## II. Business model and business fields

The SICK Group is a global technology company that employed more than 10,000 people at the end of 2019. In fiscal year 2019, the SICK Group generated sales of EUR 1,750.7 million and consolidated net income of EUR 93.9 million.

SICK has a successful business model, extensive technological expertise, and a pronounced sense of responsibility for its **employees**, **society** and the **environment**. The section on "Fundamental information about the Group" contains more details about this.

The SICK Group is one of the world's leading companies in the field of sensor technology. 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. Business activities center on creating added value for customers from a wide range of target industries with sensor intelligence.

SICK offers solutions in this field globally in the form of components, systems including software, or individual services, for the business fields of Factory, Logistics, and Process Automation. The SICK Group's reporting is based on the four sales regions.

The Group's business activities are broken down into three **business fields**:

The **Factory Automation (FA) 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, complete solutions, and software solutions under the safetyIQ® 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 if necessary.

The **Logistics Automation (LA) 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 application 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, automobile 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 (PA) 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 helps its customers reduce greenhouse gas emissions with carbon dioxide analyzers for combustion, process, and drying units, for example. 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 incinerators, power stations, steel and cement plants, for the oil and gas industry as well as for chemical and petrochemical facilities, 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, particularly in Asia and Latin America. SICK extends its regional reach by setting up new sales companies and by continuously maintaining a global network of distributors. Alongside innovation, SICK's regional proximity to its customers is one of its main competitive advantages. The distribution center in Buchholz near Waldkirch ensures rapid deliveries to the sales and service companies worldwide.

## EXTERNAL FACTORS INFLUENCING THE BUSINESS

The main external factors influencing the business of SICK include changes in economic developments, sector-specific framework conditions, and currency effects. These are explained below in "D. Report on economic position – Macroeconomic environment." Other external factors influencing the business and their effects, for example technological progress, more intense competition, changed price levels, changing legal framework conditions and norms, changes in the prices of commodities and intermediate products as well as exchange rate fluctuations, are presented in the opportunity and risk report.

## III. Advantages of the SICK business model

SICK's business model is essentially based on the continued success development of an independent market for sensor systems. Smart, high-quality products and solutions can only be offered and efficiently implemented or produced by means of industrial automation by companies that focus entirely on sensor-based solutions. In line with the "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 move the digitalization of industrial manufacturing and logistics processes forward towards a Smart Factory, which is rapidly gaining ground as part of Industry 4.0. Industry 4.0 thus promises further growth potential for SICK.

### SENSOR INTELLIGENCE – A PREREQUISITE FOR INDUSTRY 4.0

Global demand for systems and system solutions for intelligently rationalizing and improving the efficiency of production, logistics, and other processes remains high. The "Smart Factory" that is the aim in connection with Industry 4.0 offers particular development opportunities for SICK. Intelligent connectivity in production, logistics, and administrative processes can only be implemented if robust and intelligent sensors capture reality in the form of data and provide these data in the volumes required for Industry 4.0. Industry experts expect the average growth rates of the global sensor technology industry to remain high, with global sales in the sector of USD 241 billion in 2022 (source: Allied Market Research: Global Sensor Market 2022). SICK will continue to gear its product portfolio and its research and development activities 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 application 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 e.V. 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.

The strategy of driving forward the core business through cross-divisional Start-up Initiatives, and exploiting additional prospects for growth, is a successful one. The strong momentum of the Start-up Initiatives meant that solutions could already be drawn up and implemented at customers in 2019.

The Start-up Initiatives focus on three fields:

- Infrastructure: the secure use of digital sensor data
- Applications: software-based solutions using sensor data
- Customer services: the expansion of customer services based on digital data

The Start-up Initiatives operate largely independently within the existing group structure, but make use of the wide range of know-how that is available and the strengths of SICK's existing organization.

As with the development of the Start-up Initiatives, it is essential that SICK's products are compatible with as many automation systems as possible and that they have the ability to communicate with overarching cloud levels. Consequently, two of SICK's focal areas of development in its core expertise of industrial automation 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, if they are considered important, incorporates these in development or cooperation processes.

In addition to the business with smart products, SICK's business model is based on developing solutions in the systems business and individual customer service support. In its systems and services business, SICK provides customers with complex solutions that go beyond the individual product and that have been customized in line with the respective requirements. As a highly innovative company with a global presence and its own production, development, and sales activities in all important growth regions, SICK is in a good position to be able to benefit accordingly from the growth of the sectors and markets.

## IV. Company strategy

Independence as a company, a high degree of innovation, and a leading competitive position with sustainable, continuous growth are the core aims of the SICK Group's strategy – both in the key regions and product areas.

SICK reinforces its position as a highly innovative company through [substantial spending on research and development](#). SICK is constantly offering its customers new products and applications. This reinforces local relationships and the Group's position on the global market. SICK consistently uses the opportunities presented by the ongoing digitalization of production and business processes as part of Industry 4.0 to reinforce its leading position on the market and its competitiveness. The continuous improvement of its organizational structure and internal processes, and its strong appeal as an employer, are also key aspects of its corporate concept.

The Supervisory Board fully supports the Executive Board's strategy of comprehensively aligning the SICK Group with the requirements of ongoing digitalization so that it can play a leading role in the development of the digital world of Industry 4.0.

The financial parameters for measuring the successful implementation of the company's strategy are sustainable and continuous growth, strong operating profitability, and a good return on equity. This is because only a substantial return on shareholders' capital ensures that the company is free to act in the long term.

**GROWTH OF SALES AND EBIT MARGIN**

	2019	2018	+/-
Sales	1,750.7	1,636.8	7.0%
EBIT margin (%)	7.6	7.2	0.4 pp
Return on equity	15.6	14.7	0.9 pp

By consistently implementing a strategy focusing on innovation, growth, and profitability, SICK has been able to continuously increase its sales while maintaining good operating profitability and a good return on equity in recent years.

**V. Corporate governance and compliance management****CORPORATE GOVERNANCE**

The SICK Group is a family-owned company, with a successful history that goes back more than 70 years. SICK's corporate governance structures rely on a trust-based partnership between the Supervisory Board and Executive Board of the SICK Group, with a clear separation of responsibility for corporate governance and monitoring. SICK's separation between operating authority and ownership meets the standards prescribed by law for stock corporations.

The Executive Board of the SICK Group was expanded to include six (previously five) members as of January 1, 2020. The new "Operations" portfolio in the Executive Board consolidates all production-relevant functions.

As a whole, the Executive Board has many years of experience of working for SICK. It is responsible for managing the company, as well as for the business development strategy and its implementation. The Executive Board works closely with the monitoring body, the Supervisory Board. The Supervisory Board and Executive Board are united in their commitment to their responsibility for the independence and long-term growth of the SICK Group.

The Supervisory Board has 12 members, with equal representation for shareholders. Many of the Supervisory Board's members have been part of the SICK Group's monitoring body for many years. The Annual General Shareholders' Meeting appoints six shareholder representatives to the Supervisory Board. The term of office is five years. The owner family holds more than 95 percent of the shares in SICK AG. They are represented by two elected members of the Supervisory Board. The honorary chairwoman of the Supervisory Board is Ms. Gisela Sick, widow of the company's founder Dr. e.h. Erwin Sick. Most of SICK AG's shares are bundled in Sick Holding GmbH. The Supervisory Board monitors the Executive Board's activities and advises it on the key aspects of the company's policies and strategy.

Please refer to the Supervisory Board's report in this Annual Report for details of the Supervisory Board's activities, the composition of its committees, and their activities in fiscal year 2019. Further information on the Executive Board and Supervisory Board is provided in [section \(44\)](#) of the notes to the consolidated financial statements.

**COMPLIANCE MANAGEMENT**

The success of the SICK Group's global activities requires compliance with a large number of external and internal standards, guidelines, and laws. The aim of the compliance management system at SICK is to be aware of and comply with all statutory regulations and internal guidelines that apply to SICK AG and its group entities. Monitoring compliance in this regard is one of the main tasks of the compliance organization. The Executive Board introduced the compliance management system back in 2010 and expressly emphasized its expectation that all employees in the SICK Group around the world would observe the regulations relevant for SICK. Dr. Martin Krämer is responsible for compliance within SICK AG's Executive Board.

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 behavior 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 handling of trade secrets, and also requires staff to observe the relevant statutory and internal rules.

SICK's compliance management system is directly subordinate to the Executive Board. The Compliance Officers, who report to the Executive Board, and the employees with compliance duties at SICK AG and the subsidiaries, are responsible for implementing, monitoring, and continuously refining compliance management in the Group. The Compliance Officers regularly report to the Supervisory Board on compliance at SICK.

If a particular subsidiary has not appointed a Compliance Officer, the management of that subsidiary is responsible for ensuring compliance. The Compliance Committee led by the Compliance Officer defines the compliance requirements in the Group and helps the operating entities introduce and maintain appropriate measures. It monitors the effectiveness of compliance management and initiates additional compliance activities as required. The committee

is supported by regular internal and external audits that examine both potential breaches of compliance and weaknesses in the compliance processes. All of the Group's compliance-relevant units are represented on the Compliance Committee, including those responsible for data protection, export controls, occupational health and safety, quality and environmental management, but also the works council and risk management. Those responsible for risk management and compliance examine risks – including compliance risks – across the Group on an annual basis, using a standard risk and compliance management system throughout the Group. Standardized systems and processes are particularly suitable when seeking out new compliance risks, as it is often not possible to clearly demarcate economic process and compliance risks.

## B. RESEARCH AND DEVELOPMENT

### I. General

The future of industry is shaped by the increasing networking of production and control processes in complex mechanical environments (Industry 4.0). The opportunities from using data in a better and more targeted way to produce and deliver more efficiently, with greater flexibility, using fewer resources, and to a higher standard of quality depend to a large extent on the reliability and robustness of the data inputted into many process chains.

Back in 2004, SICK adapted to the changes in the world of automation, which were only just starting to appear at the time. Since then, the company's "Sensor Intelligence." claim has expressed its early identification of and focus on technical intelligence.

With sensor intelligence, the company's focus extends well beyond the application of mechanical automation technology. Particular attention will be given in the next few years to expanding the existing product portfolio, the networking capacity of sensor systems in the context of Industry 4.0, and the subject of data sovereignty.

SICK responded to the growing importance of the recording, analysis, and use of data to manage industrial processes by establishing a number of Start-up Initiatives.

The Start-up Initiatives focus on the three fields of infrastructure (the secure use of digital sensor data), applications (the best possible incorporation and connection of sensors and software) and customer services (the expansion of customer services based on digital data).

They combine the existing wide range of know-how and the strengths of the existing SICK organization with the visionary mindset and actions of a start-up culture. The aim of the Start-up Initiatives is to quickly make Industry 4.0 beneficial using SICK's expertise, offering customers additional added value from the improved use of data.

The range of technological solutions available and the number of technical interfaces in products are growing. This calls for the successful mastery of increasing complexity and diversity.

In view of the significant technological possibilities and competition, substantial investment is needed in research and development (R&D) in order to secure and strengthen the leading market position. Only a financially strong and innovative group can afford this. The main aim of the innovation process at SICK is to offer solutions consisting of sensor products, systems, or services that help customers improve their productivity and flexibility while also conserving resources. Together with the Start-up Initiatives founded in 2018, we are in a very good position to benefit extensively from the ongoing networking and digitalization of industrial production (Industry 4.0).

## INVESTMENT IN INNOVATION

As in past years, SICK spent considerable amounts on R&D activities in fiscal year 2019.

Overall, the SICK Group expanded its R&D activities in fiscal year 2019, and spent EUR 202.0 million to achieve its R&D goals (2018: EUR 192.5 million). This includes the expenses for the Start-up Initiatives.

## INVESTMENT IN INNOVATION

	2019	2018	Change in %
Sales (in EUR million)	1,750.7	1,636.8	7.0
R&D expenses (in EUR million)	202.0	192.5	4.9
R&D expenses as % of sales	11.5	11.8	-0.3 pp
R&D employees on reporting date	1,310	1,239	5.7

The expense ratio for R&D in 2019 was roughly on a par with the prior year. R&D activities are still focused in the German locations.

Thanks to the intense R&D activities, SICK has 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 SICK to compensate for any uneven development in its target industries, provoked for instance by cyclical swings, and achieve growth that is above average for the market.

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.

The number of employees working in research and development was increased as planned, and helped translate innovative ideas into marketable products. Additional employees for R&D activities were hired around the world, but mainly at the German locations.

## PRODUCT INNOVATIONS

The fiscal year 2019 saw the SICK Group drive forward innovations in all product areas, thus supplementing its widely diversified portfolio in key areas. Initial developments from the Start-up Initiatives already contributed to the Group's commercial success in 2019. With customer-specific integration solutions, for example, SICK is filling the gap between the recording of sensor data and customers' management and planning systems.

## II. Overview of the most important product innovations

Product innovation (2019)	Business field	Description	Benefit to customers
deTem4 A/ P multiple light beam safety device	FA, LA	<ul style="list-style-type: none"> <li>Compact, multiple light beam safety device, active/ passive system</li> </ul>	<ul style="list-style-type: none"> <li>Increased productivity for access protection and entry/ exit monitoring (muting)</li> <li>Process optimization options thanks to real-time diagnostic data</li> <li>Easy commissioning and configuration</li> </ul>
nanoScan3 safety laser scanner	FA, LA	<ul style="list-style-type: none"> <li>World's smallest safety laser scanner to be certified in accordance with SIL 2</li> <li>Optimized for AGV applications</li> </ul>	<ul style="list-style-type: none"> <li>Space-saving design-in for mobile platforms</li> <li>2-in-1: Reliable safety and precise localization</li> <li>Saves time during configuration and diagnostics thanks to user-friendly Safety Designer software</li> <li>Maximum flexibility when adjusting the vehicle speed and direction</li> </ul>
MCS200HW gas analyzer	PA	<ul style="list-style-type: none"> <li>Multi-component gas analyzer system for continuously monitoring the flue gas emissions of industrial furnaces (such as waste incineration)</li> </ul>	<ul style="list-style-type: none"> <li>Allows furnaces to be operated in line with the latest statutory regulations</li> <li>Measurement of up to ten gas components in exhaust fumes using NDIR technology, as well as oxygen and total carbon</li> <li>No need for the costly use of test gas</li> <li>Simple, remote access for remote maintenance</li> </ul>
MEAC300 BEP2017 emissions data computer	PA	<ul style="list-style-type: none"> <li>Certified system for analyzing emissions data and transmitting it to the regulatory authorities</li> </ul>	<ul style="list-style-type: none"> <li>Automated transmission of emissions data to authorities' systems in order to comply with operators' obligations in accordance with the applicable emissions monitoring guidelines, laws and directives</li> <li>Evaluation, rendering and report creation</li> </ul>
ICR890-4 track-and-trace systems	LA	<ul style="list-style-type: none"> <li>Next generation of push broom scanner, networked with systems for the best-possible image quality</li> <li>Integrated computing power</li> </ul>	<ul style="list-style-type: none"> <li>Improved image quality at higher conveyance speeds</li> <li>Increased scanning rate for code and address identification</li> <li>Higher throughput thanks to reduction in minimum objective opening due to larger rotation angle</li> <li>Direct availability of vision-based, enhanced functionalities such as HazMat label recognition, object classification or single item verification in the camera</li> </ul>
Vision-based axle counting profiling system	LA	<ul style="list-style-type: none"> <li>Matrix camera with adjusted lighting for use outdoors.</li> <li>Deep learning-based analysis software to expand the range of products offered for axle-based toll systems</li> </ul>	<ul style="list-style-type: none"> <li>Improved performance when determining the number of axles in outside lanes (multi-lane)</li> <li>The system can detect and report axles in middle lanes.</li> <li>Significant improvement in the performance of the customer's overall system</li> </ul>
SICK AssetHub	FA, LA, LA	<ul style="list-style-type: none"> <li>Used in the SICK IntegrationSpace to realize the digital added value of sensors</li> </ul>	<ul style="list-style-type: none"> <li>Linking of live data with the Cloud</li> <li>Dashboard and alarm functions</li> <li>Online parameterization of maintenance intervals and compliance documents</li> </ul>
Software Analytics 4.1	LA	<ul style="list-style-type: none"> <li>Enterprise version</li> </ul>	<ul style="list-style-type: none"> <li>Process analysis of logistics centers etc. at group level, with an extensive toolbox of analysis functions down to individual lines</li> </ul>
SIM1012 Sensor Integration Machine SIM1012	FA, LA	<ul style="list-style-type: none"> <li>Compact, efficient Sensor Integration Machine for edge computing and connectivity</li> </ul>	<ul style="list-style-type: none"> <li>The programmable SIM10xx Sensor Integration Machines offer multiple sensor data acquisition and integration, and therefore scope for new application solutions.</li> <li>The data obtained is processed and rendered as valuable information, for example for quality control or process analysis.</li> <li>IoT gateway functionality for connecting to the internet, from the edge to the Cloud, in the context of Industry 4.0</li> </ul>
TIM150 2D LiDAR sensors	LA	<ul style="list-style-type: none"> <li>First SICK 2D LiDAR with SiPM receiver technology</li> </ul>	<ul style="list-style-type: none"> <li>Extremely well suited for AGV/ AGC anti-collision tasks thanks to its good sensor performance and low costs</li> </ul>

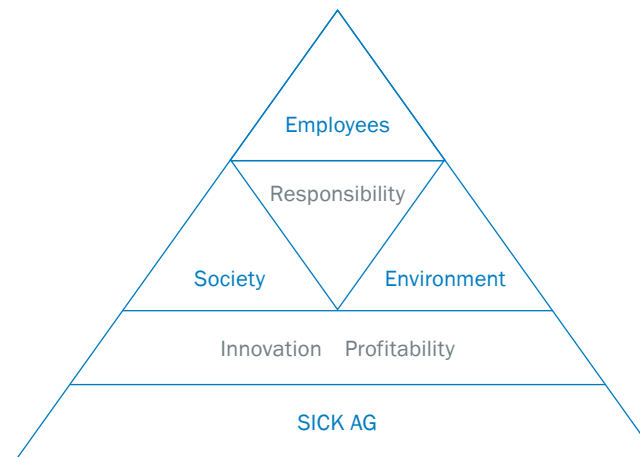
Product innovation (2019)	Business field	Description	Benefit to customers
TiM-P and MRS1000-P LiDAR sensors	LA	<ul style="list-style-type: none"> <li>Entry-level, programmable LiDAR sensors on the basis of SICK App Space</li> </ul>	<ul style="list-style-type: none"> <li>System integrator or customer can carry out application-specific adjustments to the SICK LiDAR sensor themselves.</li> </ul>
MAX48 CANopen linear encoder	LA	<ul style="list-style-type: none"> <li>Non-contact, linear path measurement system to measure absolute positioning in hydraulic cylinders</li> </ul>	<ul style="list-style-type: none"> <li>Reliable, magnetostrictive technology for use in harsh environments</li> <li>Extremely stable signal behavior and very good EMC properties, particularly with mobile machinery</li> <li>Enhanced status-monitoring diagnostics functions, such as hours in operation or monitoring piston strokes</li> </ul>
AHS/AHM36 IO-Link rotating absolute encoder	FA, LA	<ul style="list-style-type: none"> <li>Compact absolute encoder</li> <li>Parameterization and process data documentation using IO-Link</li> </ul>	<ul style="list-style-type: none"> <li>Easy to adapt to customers' applications thanks to rotating connector or cable connection</li> <li>Robust, reliable magnetic sensors that can also be used in harsh environments</li> </ul>

## C. SUSTAINABILITY AND COMPLIANCE

SICK's concept of sustainability comprises the company's responsibility for its employees, the environment, and society. Only sustainable and transparent corporate governance that takes ecological and social factors into consideration guarantees long-term economic success. As a family-owned company, SICK has a long tradition of sustainability, which is both a matter of course and an integral component of the company's philosophy and culture.

This is based on SICK's high standard of quality, consistent innovation, and solid profitability. This is the only way that SICK can live up to its entrepreneurial responsibility as an independent, family-owned company.

### CORPORATE RESPONSIBILITY AT SICK



## I. Employees

SICK's employees are at the center of its success. Their expertise and collaboration within the company's network are the foundation for sustainable growth and a key USP. Consequently, both the corporate and HR strategies ultimately lead back to their expertise. This is because innovation and success in business are the product of the work of dedicated, inspired, and effective employees. Both can only thrive if the groundwork has been laid for respectful and fair coexistence and a trusting work atmosphere. This includes creating an environment that fosters pride, motivation, identification, and health among employees.

In addition to this trusting coexistence, the key elements of the company's culture are opportunities for development, the development of skills, a balance between supporting and challenging employees, and the numerous opportunities to get involved outside their own work context and assume responsibility – guided by the conviction that tasks and abilities should match as closely as possible. Only then are the conditions in place for employees to fulfill their individual potential and contribute their skills.

Finding, integrating, and retaining the right employees is very important. In order to achieve this, it is necessary for the promises of the strategy and HR policy to be made visible and tangible in the culture as practiced. Actively influencing the workplace culture is therefore particularly important, and is expressed by a transparent, comprehensible, and consistent HR policy.

### HR POLICY AND DEVELOPMENT

SICK's HR policy is characterized by its vision with its core values of "Independence," "Innovation," and "Leadership." "Leadership" not only refers to technological leadership and leadership of the market, but also to the development of the corporate and management culture.

The actions of SICK's people around the world are based on the same principles and values. Increasing globalization makes values-based management, networking, and constructive cooperation more and more important but also more challenging. SICK is guided by its principles of management and collaboration, which provide a binding framework that applies to all employees and managers around the world.

High workplace quality, trust, passion, and teamwork have been firmly entrenched in SICK's vision and corporate culture since the company was established more than 70 years ago. Our employees practice these values every day, and in so doing lay the foundation for commercial success.

HR work covers a wide variety of topics. The following were some of the key themes in fiscal year 2019:

- Building up and managing skills at all specialist and management levels in preparation for the company strategy and employee retention
- Developing the culture of leadership and collaboration
- The organizational development of the capacity to adapt and change
- Strategic HR and succession planning
- Talent management, involving the definition of potential and career paths
- Recruitment, including successful onboarding
- The development of performance management

The clear goals of this are to reinforce the skills necessary for inter-unit collaboration in a global setting and to develop suitable organizational methods in order to best enable the company to overcome the challenges of digitalization.

In accordance with the principle of "We acknowledge and recognize performance," SICK offers extensive non-tariff compensation in addition to the basic, collectively agreed pay, such as profit-sharing, variable remuneration components, performance bonuses, compensation for inventions made during employment" and a company pension scheme. This range of services is complemented by flexible working hours models, mobile working, flextime and working time accounts for personalized life phase planning, as well as active healthcare services and needs-based training. The core of the culture of recognition, however, is treating each other with respect and appreciation, as well as a practiced culture of feedback that is heavily promoted by HR work.

In connection with the sales growth, the global headcount also increased in the past fiscal year based on the number of employment contracts. The table below shows the SICK Group's headcount as of the end of the reporting period, and other information relating to its employees:

### EMPLOYEES AS OF DECEMBER 31

(by sales regions)

	2019	2018	Change in %
Germany	5,847	5,799	0.8
Europe, Middle East, and Africa (EMEA)	1,972	1,878	5.0
North, Central, and South America (Americas)	970	911	6.5
Asia-Pacific	1,415	1,360	4.0
Total headcount:	10,204	9,948	2.6
<b>Other information:</b>			
Average age of SICK's workforce (years)	40.5	40.2	
Average number of years working for the company	8.9	8.5	
Proportion of women (%)	32.0	32.4	-0.4 pp
Research and development employees	1,310	1,239	5.7
Apprentices and trainees in the SICK Group	365	375	-2.7
Training expenses (in EUR million)	12.2	13.1	-6.9

The way in which the employee figures are recorded and reported was changed in response to internal specifications for the 2019 reporting date and also for 2018.

The growth in the headcount was in line with the forecasts. This increase in capacity mainly boosted SICK's capabilities in the fields of R&D and production as well as in its global sales and service organizations.

The average period of time spent working for the company only changed marginally.

The percentage of women in the workforce of the SICK Group remained almost unchanged in relation to the prior year.

### BASIC AND ADVANCED TRAINING

For SICK, life-long learning is not just key to long-term success but also a genuine development opportunity for its employees. One key element of internal training is skills management as an integrated, dynamic HR management system aimed at shaping the transformation of SICK's culture with respect to leadership and collaboration.

The essential principle of "Expertise counts" also expresses a high degree of recognition and appreciation of employees. SICK's skills management system supports the necessary development of specialist, management, and interpersonal skills, particularly against the backdrop of the challenges of the digital revolution. This ensures that every employee has the necessary know-how and skills, and the proper attitude, to carry out their specific tasks. Because SICK places a great deal of confidence in responsibility on the part of its employees, the training services of the internal Sensor Intelligence Academy (SIA) are open to all employees during work hours.

The SIA coordinates training based on requirements, and with the wide variety of services it offers, acts as a center of competence for training and life-long learning. It has established itself as a provider of technical and non-technical training. The learning management system facilitates the harmonization and standardization of training processes, and guarantees uniformly high standards of quality. The targeted accrual of knowledge and enablement are gaining in importance as the digital revolution progresses. It is therefore increasingly important to provide employees rapid and simple access to the knowledge and information required at the "point of doing." To this end, the SIA offers efficient learning formats based on new technologies such as web-based training, blended learning, virtual reality and social collaboration learning.

The SIA also offers a wide range of training formats. In addition to conventional, face-to-face training, these include e-learning courses, short videos, and webinars. The aim is to offer digital learning media in support of self-directed learning processes in order to facilitate learning at any time and in any place and thus make learning more effective.

International management training was also intensified in fiscal year 2019. This was done in particular with respect to dealing with changes, agility, and increasing complexity – key skills given the dynamic development of the requirements imposed by the market and customers.

Another focus of HR work in fiscal year 2019 was once again on the field of training. Learning in projects and the training of social and methodological skills (off-the-job measures) played a key role in addition to specialist training. This is why SICK offers a range of training that has been specifically tailored to the needs of trainees and cooperative university students.

Trainees also have access to the SIA program. In order to promote intercultural skills and prepare them for a position in an international context, cooperative university students are also given the opportunity to complete some of their practical phase or training at a subsidiary abroad.

SICK establishes contact with interested school leavers through educational partnerships with schools, for example in connection with the children's research center in Waldkirch, the Summer University or the open training days.

In fiscal year 2019, SICK continued to offer the international 12-month graduate entry program (mainly at SICK's engineering division, SensorING). The program's objective and goals are as follows:

- Creating potential junior talent for specialist and project tasks at an early stage
- Supporting medium and long-term HR planning
- Attracting employees for positions that are difficult to fill and are built up and expanded through internal development
- Building up knowledge across divisions
- Promoting and building up networks (formal and informal)

The cost of basic and advanced training, and therefore for the global development of skills, remained high in the past fiscal year. The training offered continued to focus among other things on building up specialist expertise and promoting skills for efficient, group-wide collaboration.

## HEALTH MANAGEMENT AND FAMILY-FRIENDLINESS

Our employees are a key factor in our success, and promoting their professional development and preserving their health is in the best interests of both the employees and the company.

The main focus of SICK's active health management system is on prevention, and to make a lasting contribution to the long-term preservation and promotion of the health and well-being of all employees, at work and elsewhere.

That is why we analyze potential detrimental factors and health hazards both at the work-place and in specific work processes. Concepts for solutions are then developed in partnership with employees in order to minimize the risks to health and both preserve and promote employees' health.

The range of services offered to employees includes extensive health promotion programs. These go far beyond what is required by law and are seamlessly integrated in the daily work routine. A variety of operating health promotion measures, such as a company medical service, medical checks, sports working groups, preventive and ergonomics consultations, and the use of comprehensive risk assessments are intended to help maintain employees' health and performance. SICK's employees also receive assistance in emergencies. The company cares for its employees through professional reintegration management following periods of illness, and by offering social care or acute assistance with mental health.

The health management services offered by the company have been boosted significantly by the family and health center at the Waldkirch facility. The core elements are physiotherapy and ergonomic treatments, as well as a wide range of health courses. Treatment by internal doctors is also complemented by orthopedic and GP services. This facilitates the seamless connection of internal and external structures with the aim of offering employees a comprehensive range of services that can easily be linked to working hours and therefore integrated into the working day.

SICK also attaches great value to a holistic, family-based HR policy. The aims of this include facilitating the best possible work / life balance, and therefore improved motivation and job satisfaction among employees. The work / life balance measures on offer were already significantly expanded in the prior year. In 2019, additional childcare spaces were available for children aged between six months and six years, as well as flexible afternoon care for school-children. These complement the existing range of services including holiday and emergency care, as well as a number of social events (such as PC taster courses, applicant training, and skiing/ snowboarding trips).

Opportunities for flexible working hours planning, mobile working, and part-time arrangements are also an important prerequisite for enabling employees to achieve a work / life balance.

## EMPLOYER BRANDING

The growth of sensor technology in the fields of industrial automation and Industry 4.0 is fueling strong demand for well-trained specialists, particularly in the MINT professions (mathematics, IT, natural science and technology). The central aim of employer branding is therefore to position SICK as an employer of choice and bring potential specialists into contact with SICK at an early stage, and to inspire them to work for the company.

In February 2020, SICK AG was again named as one of Germany's best employers. More than 800 companies of all sizes and in all industries throughout Germany took part in the Great Place to Work® competition "Deutschlands Beste Arbeitgeber 2020" (Germany's Best Employer 2020). They subjected themselves to a voluntary assessment by the Great Place to Work® Institute of the quality and appeal of their workplace culture, and the judgment of their own employees. The award not only reflects the company's appeal as an employer, but also the good standing that SICK enjoys among its employees. SICK is constantly working on its appeal as an employer by means of targeted employer branding measures.

## DIVERSITY AND EQUAL OPPORTUNITIES

The SICK Group is an international company that attaches great value to diversity and equal opportunities. One of the most important frameworks guiding SICK's activities in this regard is its vision. SICK's values (Independence, Innovation, and Leadership) lay the foundation for working together in a global network. They provide a guideline for the everyday activities of each individual.

The concept of diversity is a broad one that relates to a wide range of potential diversity within an organization, for example with respect to gender, age, disability, religion, and culture, as well as the variety of specialisms.

In this sense, the diversity of SICK's employees and the resulting variety of perspectives is crucial to the company's success. The wide range of specialisms, opinions, and perspectives is a resource and also an opportunity to advance the company and reach the right decisions. Managers support employees' ability and willingness to work together globally in order to meet the challenges of a complex, global environment. Curiosity, optimism, and treating each other with respect will help us to successfully overcome our shared challenges.

Collaboration at SICK is based on the trusting and respectful coexistence of people belonging to various different organizations and nations, whose different capabilities and perspectives form the foundation for SICK's success. Agreeing on this coexistence makes it possible for everyone to act in the company's best interests, to build up faith in colleagues' abilities, and to share information and knowledge. The management culture aims to support,

encourage, and enable employees so that they can develop the power of their skills, creativity, and potential for joint and responsible implementation that focuses on solutions, results and success. These principles of management and collaboration also ensure that the culture and actions of employees around the world are based on the same principles and values, given ongoing growth and increasing international networking. Diversity is an issue and motivator for management, employees, and workforce representatives alike. It is for example documented in the authority model, in management models, and therefore also in courses for employees and managers. The inclusion agreement, which was concluded with the aim of promoting equal opportunities and preventing discrimination and the social exclusion of people with disabilities, is further proof of the seriousness with which these issues are being tackled.

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

As part of the company's efforts to achieve equal opportunities, targets were set in 2015 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 ("Aktiengesetz": German Stock Corporations Act). As a 'flexible' female quota, this target was to be met or exceeded by June 30, 2017. This percentage was 17 percent on December 31, 2019. The same applies to the target for the percentage of women on the Executive Board of SICK AG, which was set at 0 percent. This target was 0 percent at the end of the reporting period.

Furthermore, effective as of September 30, 2015, the Executive Board of SICK AG set a target of 6 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 to be met or exceeded by June 30, 2017. This share came to 15 percent as of the reporting date. 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 6 percent was likewise set effective as of September 30, 2015 that was to be met or exceeded by June 30, 2017. This figure stood at around 13 percent on the reporting date.

## II. Environment

SICK assumes responsibility for the environment as part of its corporate environmental management activities. By this means, SICK continues to pursue the aim of creating measurable ecological added value for the Group through sustainable activity. Measures aimed at reducing our impact on the environment focus on four areas: CO<sub>2</sub> emissions, waste and waste water, the use of materials, and the use and development of SICK products that conserve resources for customers.

The aim of this is to make more efficient use of resources and energy, and help protect the environment more and more by actively managing hazardous materials.

As a manufacturing company, energy-efficiency and the constant improvement thereof are key aspects of SICK's long-term environmental protection. The goals and implementation of the sustainability and environmental strategy are defined and monitored by the energy and environmental management function, under the management of a member of the Executive Board.

The three strategic channels for the climate and environmental strategy are: avoid, reduce and optimize.

### AVOID

In the field of avoidance, SICK focuses on using renewable energy, improving energy-efficiency, and offsetting unavoidable CO<sub>2</sub> emissions.

Another production process that is relevant to the environment is the use of solvent-based paints. The switch to environmentally friendly water-based paints is being successively pursued. Apart from the CO<sub>2</sub> emissions SICK causes in travel or transport, all other intra-group processes are of little relevance for the environment. All CO<sub>2</sub> emissions that are directly caused and measurable (e. g., through business trips or heat generation) are compensated for in accordance with the highest standards (CDM Gold). SICK tries to select logistics partners that also compensate for their CO<sub>2</sub> 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.

### REDUCE

The energy-efficiency of the company's buildings and production plants are improved by using modern energy concepts for new buildings, for example in Donaueschingen, and also through the properties of production facilities. Installed measurement systems help identify potential savings.

SICK has a "green car policy" when it comes to the use of company cars. Incentives are offered for using vehicles with below-average CO<sub>2</sub> emissions. A maximum figure for CO<sub>2</sub> emissions applies.

### OPTIMIZE

SICK also helps protect the environment by developing products that reduce emissions. These include volume measurement systems that help make the best use of storage space and thus reduce the emissions generated by the transportation of goods. Using markless sensors for the packaging of products allows the material used per label to be cut by up to 5 percent, which translates into up to 1.5 million meters of labeling materials per year per machine.

Encoders for solar and wind energy facilities automatically turn solar modules to face the sun, and position rotor blades in the optimal position to catch the wind. Facility systems for thermal waste recovery allow the optimized operation of systems, thus minimizing emissions of harmful substances.

One ongoing 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.

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. <https://www.sick.com/de/de/unternehmerische-verantwortung-wahrnehmen/klima-und-umweltschutzmanagement-bei-sick/w/csr-environmental-protection/>

## ENVIRONMENTAL MANAGEMENT ACHIEVEMENTS

SICK consistently implements the goals of its environmental strategy by using renewable energy sources, reducing the consumption of pollutants and supporting conservation projects. The company's achievements to date include the following:

- Certified green electricity has been used at all German facilities since February 1, 2013. This electricity is generated entirely from renewable energy sources. In addition to receiving green electricity, we generate renewable electricity from photovoltaic installations and block CHP plants.
- An internal energy standard for new buildings and the operation of existing buildings was ratified in 2019. This includes a mandatory energy concept for new buildings, as well as the installation of meters for principal consumers.
- For the first time, the environmental declaration reports in accordance with the ecological standards of the internationally recognized Global Reporting Initiative (GRI).
- SICK offsets all unavoidable CO<sub>2</sub> emissions generated throughout Germany, as well as all business trips. In accordance with GRI standard 205, these are all Scope 1 and 2 emissions, as well as a substantial portion of Scope 3 emissions. The offsetting is carried out via atmosfair on the basis of CDM Gold, the highest standard available. Since 2019, the Group has also offset emissions by planting trees through the organization Plant for the Planet.
- In 2018, deadwood trunks and stone walls were installed as reptile refuges and around 50 rare, ecologically valuable tree species and shrubs including checker trees and sorb trees were planted in Buchholz as part of a pilot project aimed at enhancing biodiversity. Efforts to promote biodiversity continued in 2019 with the creation of a bat habitat in Waldkirch, and the conversion of more lawn space into natural meadows. Sheep were used for the first time for sustainable landscaping at our distribution center in Buchholz.
- More than 40 children were also trained as climate ambassadors in Dresden in 2019 as part of the Plant for the Planet Academy.

In 2019, the Executive Board and management of SICK AG committed to a global sustainability strategy that will be rolled out successively in the years ahead, and that integrates sustainable activity into all relevant areas.

## III. Responsibility toward society

SICK is involved in numerous regional and multi-regional activities around the world aimed at promoting social cohesion, both as a company and through its employees.

SICK supports and promotes regional and social engagement through internal events such as Tech4Teens, Science Days, Girls' Days and activities in schools and daycare centers, with the Red Cross or volunteer firefighters, and by supporting "Jugend forscht." Many of SICK's employees also act as volunteers. SICK is a shareholder in the employment and training company WABE gGmbH, which offers prospects to young men and women with no training.

As part of its efforts in the field of science and training, SICK works closely with universities, colleges, and institutions such as the University of Stuttgart's Institute of Applied Optics. Academic institutions are also supported by means of endowed professorships such as the Gisela and Erwin Sick professorship for micro-optics at the University of Freiburg. SICK is also a member of the Association for the Promotion of Science and Humanities in Germany and the German Academy of Science and Engineering, and a founding member of the International Data Space Association. By supporting and promoting research and teaching, SICK helps keep the standard of innovation high in Germany.

## QUALITY, INNOVATION AND PROFITABILITY

SICK is an independent, family-owned company with a focus on growth. The high quality of its products and its capacity for innovation are the foundation for long-term growth and profitability as the core elements of corporate responsibility. That is why these factors are firmly entrenched in the company's strategy, and they are described in more detail in the "Company strategy" and "Research and development" sections.

SICK ensures quality by means of quality assurance measures in product development and its in-house production, which help monitor the individual steps of the production process through to a precisely defined approval process for the production and sale of the products.

Quality assurance agreements are concluded with suppliers. The quality of procured parts is monitored. Strategic partnerships have been entered into with suppliers in order to avoid bottlenecks in procurement. Major suppliers are checked with the help of internal certification. Special processes monitor and control the stockpiling of strategically relevant components.

Quality management in production is complemented by observation in the field following delivery. Quality assurance and monitoring procedures are employed for this purpose. 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 both internal and external audits.

An information security system based on the internationally recognized ISO 27001 standard was created and introduced in 2017.

### CERTIFICATION

All of the SICK Group's relevant production facilities (SICK AG's facilities in Germany, SICK STEGMANN GmbH, Donaueschingen, SICK Engineering GmbH, Ottendorf-Okrilla, SICK Kft., Hungary, SICK Product & Competence Center Americas LLC, USA, SICK Sdn. Bhd. Malaysia,

SICK MAIHAK (Beijing) Co., Ltd., China), and SICK Vertriebs-GmbH, Düsseldorf, are certified in accordance with the international quality and environmental standards EN ISO 9001 (quality management) and EN ISO 14001 (environmental management).

Individual facilities with particular relevance are also certified in accordance with:

- EN ISO/IEC 80079-34 (protection against explosions)
- EMAS (Eco-Management and Audit Scheme)
- EN ISO 50001 (energy management)
- Safety Certificate Contractors (SCC)

SICK AG's facilities in Waldkirch, Reute, and Hochdorf, SICK Vertriebs-GmbH and SICK Engineering GmbH are also certified in accordance with OHSAS 18001 (BG ETEM, protection in the workplace). You can find out more about SICK's certifications at: <https://www.sick.com/de/de/ueber-sick/zertifizierungen/w/certificates/>.

## D. REPORT ON ECONOMIC POSITION

### Macroeconomic environment

Global growth slowed significantly in 2019. This was due to both economic and structural factors. Economists at the International Monetary Fund (IMF) estimate that global economic growth came to 2.9 percent in 2019. This is 0.6 percentage points less than the previous forecast issued in January 2019.

Increasing protectionism and the ongoing trade dispute between the US and China are noticeably unsettling companies, and leading to reduced investment. This is exacerbated by weak industrial output and a low volume of global trade.

Public and private debt is still high. The trend in the services sector and the stable employment market are positives. A high level of disposable income makes private consumption in the developed economies an important mainstay of global growth. A recovery is also becoming apparent in the emerging economies.

In its current outlook for the global economy (IMF, World Economic Outlook, January 2020), the International Monetary Fund expects global economic output to rise 3.3 percent.

## OVERVIEW OF GLOBAL ECONOMIC GROWTH

in %	2021 (expected)	2020 (expected)	2019	2018
Industrialized nations	1.6	1.6	1.7	2.2
USA	1.7	2.0	2.3	2.9
Eurozone	1.4	1.3	1.2	1.9
Germany	1.4	1.1	0.5	1.5
Emerging and developing economies	4.6	4.4	3.7	4.5
Latin America and the Caribbean	2.3	1.6	0.1	1.1
Emerging and developing economies, Asia	5.9	5.8	5.6	6.4
Global	3.4	3.3	2.9	3.6

Source: IMF, World Economic Outlook January 2020

On the international currency exchange markets the US dollar, Turkish lira, Chinese renminbi, pound sterling, Brazilian real and Russian ruble fluctuated significantly relative to the euro.

The economies of developed and also emerging nations were impacted by weak industrial output in 2019. From the middle of 2019 onward, the developed economies even exhibited negative growth rates, while the growth of the emerging economies remained positive and offset the production losses of the developed economies to some extent.

**Germany's** domestic economy has proved robust thus far. However, the German economy was impacted by weak global demand for capital goods, which it specializes in. The industrial sector has been in decline for five consecutive quarters now. Weak unit sales in the most important consumer sectors of the automotive, mechanical engineering and electrical engineering industries were reflected in the figures. The German Mechanical Engineering Industry Association (VDMA), for example, expects manufacturing output to decline by 2 percent in both 2019 and 2020. Global mechanical engineering sales are expected to stagnate during the same period. In the summer semester of 2019, the German Council of Economic Experts reduced its forecast for GDP growth in its fall forecast to 0.5 percent (2019) and 0.9 percent in 2020 (much more conservative than the Monetary Fund).

The pace of economic growth in the **Europe, Middle East, and Africa (EMEA)** region slowed in 2019. Modest investment activity and exports, and a weak processing sector, are hampering the eurozone's economy, with the automotive sector and related sectors particularly affected. The ECB has maintained its expansionary monetary policy in order to bolster the economy. In 2020, growth in central and eastern Europe, the Middle East and Africa is expected to be stronger than it was in 2019. The eurozone's economy should stabilize on the whole in 2020.

**North, Central and South America (Americas):** Economic growth in the US slowed in 2019, following two strong years in 2017 and 2018. Government consumer spending and investment, and investment in intellectual property, made positive contributions in some respects in 2019. Investment in equipment, however, was low due to the poor performance of the oil price. The Fed reduced its base interest rate again for the first time since 2009 in response to the weaker trend. GDP growth is expected to flatten even more in 2020, but the US is still the main source of growth in the Americas region.

**Asia-Pacific:** The slowdown in growth in the Asian emerging economies and in China contributed to a reduction in the region's volume of imports in 2019. The lower growth rates in China can be attributed to the trade disputes with the US as well as cyclical factors. At the same time, growth is being supported by the government's fiscal and monetary policies. China's growth rates are expected to slow even further in the future due to demographic trends, shifts from the industrial sector to services, and slower growth in productivity.

Global economic growth is stable on the whole. However, there are still geopolitical risks around the world with the potential to impact economic growth.

There may be opportunities for more positive growth if the cyclical downturn in the manufacturing sector ends sooner and global trade recovers thanks to rising international demand. Willingness to invest should increase if companies become more confident and the economic situation in the emerging economies improves.

## CONDITIONS IN THE SENSOR TECHNOLOGY INDUSTRY

Despite the challenging global situation, sales of products and system solutions in the sensor technology industry have risen. According to the sector association AMA ("AMA Verband für Sensorik und Messtechnik e.V.": AMA Association for Sensors and Measurement), the sector saw sales increase by another 2 percent in both the second and third quarters of 2019. However, orders received fell due to declines in the automotive and mechanical engineering sectors.

## COURSE OF BUSINESS

The mandatory application of IFRS 16 for the first time means that leases are reported in greater detail. The figures are being reported in accordance with IFRS 16 for the first time for fiscal year 2019. This influences the way in which the Group's results of operations, net assets and financial position are reported. Further information on the exact effects is provided in [section \(35\)](#) of the notes to the consolidated financial statements.

## RESULTS OF OPERATIONS

The SICK Group continued to grow in fiscal year 2019.

The results of operations break down as follows:

## CONSOLIDATED INCOME STATEMENT

in EUR million	2019	2018	Change in %
Sales	1,750.7	1,636.8	7.0
Changes in inventory	3.3	19.4	-83.0
Own work capitalized	26.5	24.5	8.2
Cost of materials	549.4	517.8	6.1
<b>Gross profit</b>	<b>1,231.1</b>	<b>1,163.0</b>	<b>5.9</b>
Personnel expenses	753.5	699.3	7.8
Depreciation and amortization	87.2	62.6	39.3
Other operating expenses	266.4	289.0	-7.8
Other operating income	13.2	13.2	0.0
Net currency income/expense	-4.5	-7.8	42.3
Net investment income/expense	0.1	0.1	0.0
<b>EBIT</b>	<b>132.9</b>	<b>117.5</b>	<b>13.1</b>
EBIT margin	7.6%	7.2%	0.4 pp
Net interest income/expense	-4.4	-4.7	6.4
<b>Earnings before tax</b>	<b>128.4</b>	<b>112.8</b>	<b>13.8</b>
Income tax	34.5	30.5	13.1
Net income for the year	93.9	82.3	14.1
Minority interests	0.0	0.6	-100.0
<b>Consolidated net income for the year</b>	<b>93.9</b>	<b>81.7</b>	<b>14.9</b>
Net return on sales	5.4%	5.0%	0.4 pp
Return on equity <sup>1</sup>	15.6%	14.7%	0.9 pp

<sup>1</sup> Return on equity = consolidated / (equity less consolidated net income)

The continued strong profitability shaped business developments.

The **EBIT margin** as a percentage of sales amounted to 7.6 percent (2018: 7.2 percent). This meant that the growth anticipated at the start of the year was achieved.

The **net return on sales** came to 5.4 percent, which was an increase in comparison to the prior year.

SICK once again achieved a high rate of interest on capital employed (**return on equity**) in 2019 (15.6 percent). This provides clear confirmation of the business model's value.

### ORDER BACKLOG

Demand for sensor products and applications was encouraging on the whole again in 2019. The trend for orders received varied in intensity between the business fields, and was particularly positive for Logistics Automation and Process Automation. In this way, the SICK Group's broad positioning has paid off.

	2019	2018	Change in %
Sales (in EUR million)	1,750.7	1,636.8	7.0
Orders received	1,774.1	1,701.0	4.3
Book-to-bill ratio (%)	101.3	103.9	-2.6 pp

The reduction in the ratio of orders received to sales (book-to-bill ratio) in fiscal year 2019 was mainly influenced by the global economic slowdown in the second half of the year.

### TREND FOR SALES

SICK's **group sales** continued to grow, and the growth of 7 percent was in line with the forecast. This meant that SICK performed significantly better than the German mechanical engineering sector as a whole. The VDMA estimates that growth came to negative 2 percent in 2019.

The good development of **group sales** was once again influenced by currency effects in fiscal year 2019. Assuming that average exchange rates were unchanged in comparison to the prior year, growth would have been solid at around 6 percent.

Thanks to its strong competitive position around the world, the growth of the SICK Group was once again broad-based in fiscal year 2019. 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. The increase in sales was in line with the projected sales figures for 2019 on the whole, which foresaw growth in the high single-digit percentages.

Sales growth in the four sales regions was as follows:

### SALES BY REGION

in EUR million	2019	2018	Change in %
Germany	315.9	317.7	-0.6
Europe, Middle East and Africa (EMEA)	644.8	597.6	7.9
North, Central, and South America (Americas)	380.0	353.1	7.6
Asia-Pacific	410.0	368.4	11.3
<b>Total</b>	<b>1,750.7</b>	<b>1,636.8</b>	<b>7.0</b>

In the Group's domestic **German** market, sales growth was impacted by the reluctance of companies in the automotive and intralogistics/transport logistics to invest. As a result, sales were down slightly year on year. This meant that the forecasted growth could not be achieved.

The **Europe, Middle East, and Africa (EMEA)** sales region saw a 7.9 percent increase in sales, which was in line with the prior year's forecast. Particular impetus for business came from Italy, Austria, Sweden, Norway and the UK.

Sales growth in **North, Central and South America (Americas)** came to 7.6 percent, falling short of the forecast. The increase in sales stems from the ongoing rise of demand in North America – particularly among customers in the intralogistics and transport logistics sectors, as well as the oil and gas industry. At the same time, growth in the region was boosted by exchange rate effects.

The **Asia-Pacific** region once again saw dynamic growth. With growth of 11.3 percent, the increase in sales was once again in the double digits in 2019. This meant that the forecast for growth was met. The volume of business rose again in China and Japan in particular.

## TREND FOR INCOME AND EXPENSES

The income and expense items of the consolidated statement of comprehensive income changed as follows:

### KEY EXPENSE ITEMS

in EUR million	2019	2018	Change in %
Cost of materials	549.4	517.8	6.1
Personnel expenses	753.5	699.3	7.8
Depreciation and amortization	87.2	62.6	39.3
Other operating expenses	266.4	289.0	-7.8
Other operating income	13.2	13.2	0.0
Net currency income/expense	-4.5	-7.8	42.3
Net investment income/expense	0.1	0.1	0.0
Net interest income/expense	-4.4	-4.7	6.4
Income tax	34.5	30.5	13.1

The increase in the **cost of materials** was not as pronounced as the increase in sales. The cost of materials amounted to 31.4 percent of sales, which is a slight decline in comparison to the prior year (31.6 percent).

The increase in **personnel expenses** was slightly higher than the increase in sales. New employees were hired in operating production units in particular, as well as the R&D, Sales, and Service areas.

The sharp increase in **depreciation and amortization** reflects high ongoing levels of investment and increased write-downs in connection with the Group's transition to IFRS 16. The focus of investment for fiscal year 2019 was once again on buildings and production facilities.

**Other operating expenses** fell as a result of the first-time application of IFRS 16, savings of administration and sales expenses, and a lower volume of purchased services.

The Group's **other operating income** remained largely unchanged.

The **net balance of other operating income and other operating expenses** fell from EUR 275.8 million to EUR 253.2 million.

The **net currency income/expense** improved largely due to the favorable performance of the US dollar in relation to the euro.

On account of the aforementioned trend for sales and the most important expense item, **earnings before interest and taxes (EBIT)** rose sharply in fiscal year 2019, from EUR 117.5 million to EUR 132.9 million.

The **net interest income/expense** improved slightly in the past fiscal year.

The income tax expense rose on account of the improved pre-tax profit. The **tax rate** remains largely unchanged.

After deducting the tax burden, the share in the **consolidated net income** that is attributable to the shareholders of SICK AG thus amounts to EUR 93.9 million, an increase of around 14.9 percent on the prior year.

## NET ASSETS

SICK's net assets break down as follows:

### CHANGES IN ASSET STRUCTURE

in EUR million	2019	2018	Change in %
<b>Assets</b>			
Non-current assets	546.2	426.8	28.0
Deferred taxes	38.6	31.8	21.4
Current assets	849.0	807.1	5.2
<b>Total assets</b>	<b>1,433.8</b>	<b>1,265.7</b>	<b>13.3</b>
<b>Equity and liabilities</b>			
Equity	696.6	635.6	9.6
Non-current liabilities	357.8	168.3	112.6
Current liabilities	379.4	461.8	-17.8
<b>Total equity and liabilities</b>	<b>1,433.8</b>	<b>1,265.7</b>	<b>13.3</b>

The increase in **total assets** reflects the continued increase in business and investing activities in fiscal year 2019.

**Non-current assets** break down as follows:

### NON-CURRENT ASSETS

in EUR million	2019	2018	Change in %
Non-current assets	546.2	426.8	28.0
of which intangible assets	74.9	67.9	10.3
of which property, plant and equipment (including right-of-use assets)	465.8	353.1	31.9
of which financial investments	3.6	4.2	-14.3
of which other financial assets	1.8	1.6	12.5

The increase in **non-current assets** can mainly be attributed to the increase in **property, plant and equipment**. This is for one thing influenced by the first-time application of IFRS 16 and investment in innovative production facilities and buildings for another.

**Current assets** break down as follows:

### CURRENT ASSETS

in EUR million	2019	2018	Change in %
Current assets	849.0	807.1	5.2
of which inventories	378.6	380.4	-0.5
of which trade receivables	336.7	334.4	0.7
of which tax receivables	9.0	13.1	-31.3
of which other assets	58.4	58.1	0.5
of which cash and cash equivalents	66.3	21.2	212.7

Ongoing inventory management activities brought about a slight reduction in **inventories** despite the increased volume of business. Days of Inventory Outstanding (DIO) fell by 6 days to 78 days (2018: 84 days).

**Trade receivables** also remained virtually unchanged. Days of Sales Outstanding (DSO) fell by 5 days to 69 days as of the end of the year (2018: 74 days).

The volume of **cash and cash equivalents** rose substantially as a result of the developments described.

The Group's **equity and liabilities** break down as follows:

in EUR million	2019	2018	Change in %
Equity	696.6	635.6	9.6
Debt capital	737.2	630.1	17.0
of which non-current liabilities	357.8	168.3	112.6
of which current liabilities	379.4	461.8	-17.8
Total equity and liabilities	1,433.8	1,265.7	13.3
Equity ratio (%)	48.6%	50.2%	-1.6 pp

On the equity and liabilities side of the consolidated statement of financial position, the SICK Group's equity rose due to the increase in earnings and the reinvestment of profits.

**Non-current liabilities** change as follows:

in EUR million	2019	2018	Change in %
Non-current liabilities	357.8	168.3	112.6
of which financial liabilities	248.9	76.3	226.2
(including lease obligations)	69.8	0.1	> 100
of which provisions and other liabilities	107.1	90.1	18.9
of which deferred taxes	1.7	1.8	-5.6

The sharp increase in non-current financial liabilities stems from the first-time application of IFRS 16, as well as the restructuring of the Group's financing in favor of long-term financing instruments.

**Non-current provisions and other liabilities** increased due to an increase in pension provisions in particular.

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 [section \(36\)](#) of the notes to the consolidated financial statements.

**Current liabilities** break down as follows:

in EUR million	2019	2018	Change in %
Current liabilities	379.4	461.8	-17.8
of which financial liabilities	51.5	154.8	-66.7
(including lease liabilities)	20.1	0.2	> 100
of which provisions	24.3	21.6	12.5
of which tax liabilities	21.5	18.9	13.8
of which trade payables	117.5	93.3	25.9
of which contractual liabilities	56.0	49.0	14.3
of which other liabilities	108.6	124.1	-12.5

The volume of **current financial liabilities** fell due to changes in the structure of the Group's financing.

**Current trade payables** increased due to changes in cash management.

Increased advance payments for projects led to an increase in **contractual liabilities**.

**Other current liabilities** were reduced.

**Working capital** changed as follows:

in EUR million	2019	2018	Change in %
Inventories	378.6	380.4	-0.5
Trade receivables	336.7	334.4	0.7
Less trade payables	-117.5	-93.3	25.9
Less contractual liabilities	-56.0	-49.0	14.3
Working capital	541.8	572.5	-5.4
Sales	1,750.7	1,636.8	7.0
Days of Working Capital	111	126	-15

Working capital requirements were reduced in fiscal year 2019. The changes in inventories, trade receivables, trade payables and contractual liabilities that brought this about are described in the preceding sections.

Efficiency, measured on the basis of Days of Working Capital, improved.

**Net debt** changed as follows:

in EUR million	2019	2018	Change in %
Financial liabilities	300.5	231.2	30.0
of which lease liabilities	89.9	0.3	> 100
Cash and cash equivalents	66.3	21.2	212.7
Net debt	234.2	210.0	11.5
Net debt (before lease liabilities)	144.3	209.7	-31.2
Equity	696.6	635.6	9.6
Debt-equity ratio (%) <sup>1</sup>	33.6	33.0	0.6 pp
Equity ratio (%) <sup>2</sup>	48.6	50.2	-1.6 pp

<sup>1</sup> Ratio of net debt to equity

<sup>2</sup> Ratio of equity to total assets

Changes in the Group's net debt in fiscal year 2019 were influenced by the reporting of lease liabilities in accordance with IFRS 16 for the first time. If lease liabilities had not been included in financial liabilities, net debt would have fallen significantly, by more than 30 percent.

## FINANCIAL POSITION

The financial position can be summarized as follows:

### ABRIDGED STATEMENT OF CASH FLOWS

in EUR million	2019	2018	Change in %
Cash flow from operating activities	212.7	20.2	> 100
Cash flow from investing activities	-100.2	-108.0	-7.2
<b>Free cash flow</b>	<b>112.5</b>	<b>-87.8</b>	<b>&gt; 100</b>
Cash flow from financing activities	-68.1	88.7	> 100
<b>Change in cash and cash equivalents</b>	<b>44.4</b>	<b>0.9</b>	<b>&gt; 100</b>

The financial position is influenced by the significant improvement in cash flow from operating activities, as well as a persistently high level of investment in SICK's globally ground-breaking market position.

An improved operating result, increased amortization and depreciation, and a significant improvement in the volume of working capital required, caused **cash flow from operating activities** to increase by EUR 192.5 million to EUR 212.7 million in the past fiscal year.

The substantially higher **free cash flow** was used to reduce the Group's financial liabilities.

## Financial solidity

The SICK Group's equity ratio and debt-equity ratio changed as follows:

### FINANCIAL SOLIDITY

in EUR million	2019	2018	Change in %
Equity	696.6	635.6	9.6
<b>Debt-equity ratio (%)<sup>1</sup></b>	<b>33.6</b>	<b>33.0</b>	<b>0.6 pp</b>
<b>Equity ratio (%)<sup>2</sup></b>	<b>48.6</b>	<b>50.2</b>	<b>-1.6 pp</b>

<sup>1</sup> Ratio of net debt to equity

<sup>2</sup> Ratio of equity to total assets.

The ratios in SICK's consolidated statement of financial position are still very solid. The slight increase in the debt-equity ratio and reduction in the equity ratio stem entirely from the recognition of lease liabilities for the first time in accordance with IFRS 16. The increase in cash and cash equivalents and in equity reflect the Group's good financial solidity.

## DEVELOPMENT OF NON-FINANCIAL PERFORMANCE INDICATORS

For SICK, capacity for innovation through effective R&D work, and well-trained, motivated employees, play a key role in achieving long-term growth for the SICK Group.

The table below shows the number of employees as of the reporting date:

	2019	2018	Change in %
Germany	5,847	5,799	0.8
Europe, Middle East, and Africa (EMEA)	1,972	1,878	5.0
North, Central, and South America (Americas)	970	911	6.5
Asia-Pacific	1,415	1,360	4.0
Total headcount:	10,204	9,948	2.6

The way in which the employee figures are recorded and reported was changed in response to internal specifications for the 2019 reporting date and also for 2018.

The “Report on expected developments” contains statements regarding the anticipated development of the main non-financial performance indicators, the number of employees and the expense ratio for R&D.

## REPORT ON THE PERFORMANCE OF THE SICK GROUP IN FISCAL YEAR 2019 IN COMPARISON TO THE FORECAST

In the fiscal year, the SICK Group's targets for sales and income, and its non-financial performance indicators, changed as follows:

	ACTUAL figure for 2019	ACTUAL figure for 2018	Change in %	Forecast from 2018 group management report
Group sales (in EUR million)	1,750.7	1,636.8	7.0%	High single-digit percentage growth
EBIT margin (in %)	7.6	7.2	0.4 pp	In the high single digit percentage range
Employees	10,204	9,948	2.6%	Mid-range single-digit percentage growth
R&D expenses as % of sales	11.5	11.8	-0.3 pp	Slightly disproportionate increase

The SICK Group largely achieved its projected targets for fiscal year 2019 on the whole. After adjusting for currency effects, the increase in R&D was also fully in line with the forecast.

## Overall assessment

On the whole, business was encouraging and met expectations in 2019. As in past fiscal years, the Group's net assets, financial position and results of operations remain solid, which forms a good foundation for the further expansion of business activities and thus further growth for the Group, particularly in light of the challenges of digitalization and Industry 4.0.

## E. RISK AND OPPORTUNITY REPORT

### Risk and opportunity policy

Weighing up and entering into opportunities and risks is part of the Group's business success.

The risk management function helps the Executive Board and management to effectively monitor and control risks and to fully exploit business opportunities and therefore potential offered by the business.

Risk management is firmly incorporated into many of SICK's corporate processes and is embedded in an opportunity and risk cycle that comprises the central and decentralized planning, management, and control processes and follows uniform group standards.

The aim is to enhance the value of the company in the long term.

### Risk and opportunity management system

SICK's risk and opportunity management system is based on the understanding that risks must form part of daily business if we want to be able to take advantage of opportunities. SICK therefore conducts active opportunity management in which business opportunities are determined as part of the Group's planning, and the exploitation of opportunities is set out by management in the form of detailed strategic, medium-term, and operating planning.

The risks stemming from SICK's business activities and opportunities are described, evaluated, managed, and minimized by means of differentiated processes and procedures as part of the Group's Enterprise Risk Management system. SICK identifies the serious risks in particular using special processes, and has integrated operating risk management processes in order to identify a number of operating risks. This allows us to influence strategic, operating, financial, and compliance-related targets to a significant degree.

The Executive Board is ultimately responsible for the efficient management and control of risks and opportunities. All members of management reporting directly to the Executive Board are also responsible for managing the opportunities and risks within their areas of responsibility.

Strategic opportunities and risks are also monitored in close partnership with the Supervisory Board.

In its Enterprise Risk Management system, SICK distinguishes between seven categories of risk that can affect the Group or one or more group entities: customer / market risks, force majeure, compliance risks, management risks, personnel risks, financial risks, and process risks.

The first two risk categories mainly materialize as exogenous factors, such as competition-related or economic developments. In this case they are treated as strategic risk factors. The other risk categories comprise risks that mainly impact operations. The opportunities relate to SICK's main strategic and operating categories, such as stronger global economic growth, digitalization and Industry 4.0, internationalization, substantial investment in research and development, very solid financial ratios and strong earnings power.

SICK's management use all processes and features contained in the risk and opportunity management system to control all risks and opportunities as well as the associated business decisions from the business processes of all group entities and SICK AG itself. Risks are assigned to one of four risk levels:

Risk category	Type of risk	Details
A	Substantial risk	Risks that pose a direct threat ability of the company or its entities to continue as a going concern
B	Severe risk	Risks that do not pose an existential threat but have the potential to cause significant damage
C	Potential risk	Risks that require special measures to eliminate and have the potential to incur substantial costs
D	Latent risk	Low risk potential that must nevertheless be monitored as part of business processes

A traffic light system is used to differentiate between the perceived situations for each risk within the various risk levels. Risks assigned a red traffic light require immediate action. Targeted measures are implemented to address risks assigned amber traffic lights, while those judged to be green are constantly monitored as part of the routine operation of the Business Risk Management system for all risks in the risk catalog set up by SICK.

Each identified risk is documented in the risk catalog, monitored and hedged using appropriate measures that are stored in a central risk database. One means of hedging is the central insurance management. From an organizational perspective, the planning and risk management systems are managed in Corporate Controlling.

## RISKS

The risks described below relate to SICK's business activities as a whole. These risks can have negative consequences for SICK's business, net assets, financial position and results of operations as well as its reputation. The areas of risk referred to below are by no means limited to substantial risks. Risks are divided into seven categories:

- Customer / market risks
- Force majeure
- Compliance risks
- Management risks
- Personnel risks
- Financial risks
- Process risks

### CUSTOMER / MARKET RISKS

#### COMPETITIVENESS

Competition risks may stem from intensified competition, as a result of which SICK is unable to achieve its targets for market share, margins or growth.

SICK counters these risks by constantly analyzing the market, competition and statutory framework in the relevant lines of business and regions. The information obtained in this way allows SICK to develop and offer products and system solutions to meet demand, build on its competitive position, and raise its profile even more.

Development activities are pursued and new fields in connection with digitalization and Industry 4.0 are exploited in order to improve the Group's competitive position.

### ECONOMIC RISKS

Weak economic growth and unexpected economic turbulence could have a negative impact on customer demand as a whole and therefore also on demand for SICK's products and system solutions. This could lead to declining unit sales, pressure on margins, and delayed or defaulted payments.

SICK regularly analyzes economic reports and forecasts in order to be able to respond promptly to changes.

According to the IMF's current economic forecasts, the risks to the development of the global economy remain high. From the company's perspective, this applies in particular to economic growth in Southeast Asia, the uncertain economic consequences of the coronavirus outbreak, and global trade barriers/treaties.

SICK generally counters the risk of a weaker than anticipated economic performance in significant target industries and regions by diversifying its customer base. The company's offering is also diversified thanks to its good position in the three fields of Factory, Logistics, and Process Automation, which have very different market mechanisms.

### FORCE MAJEURE

SICK mainly considers force majeure to be exogenous risks to its business in particular. This includes the political turbulence in relevant target markets as well as the risks associated with events such as natural disasters, fire, or flooding. This also covers disruptions to media such as the interruption of the supply of power or water to its various locations. In addition to production capacity, this also affects the security of the company's data and IT systems. In addition to comprehensive prevention measures, the main protective measure to preserve the company's value in this respect is sufficient insurance coverage for these loss events. It is, however, also important to ensure that the smooth operation of the company's processes is restored as quickly as possible in the case of a loss event.

**COMPLIANCE RISKS**

SICK records and manages risks relating to compliance breaches by means of a process that has been coordinated with the entire risk management function as part of its compliance management system. You can find out more about compliance management in the “Corporate governance and compliance management” section.

**MANAGEMENT RISKS**

Management risks are risks associated with management tasks within the company. These include topics such as strategy development and drawing up location concepts, but also risks associated with cultural transformation and the development of capabilities within the company. The Management Control Circle is used to integrate the decentralized areas of responsibility into institutionalized control and communication cycles with respect to decision-making processes within the company. This involves regularly reporting on and reaching decisions regarding opportunities and risks.

**PERSONNEL RISKS**

Personnel risks could arise as a result of a lack of qualified specialists, without whom an innovative technology company like SICK would be unable to succeed commercially. In response to the intensifying competition for qualified staff, which is compounded by demographic change, SICK must actively present itself as an attractive and secure employer on the global labor market in line with its mission statement, and offer good prospects to its employees.

**FINANCIAL RISKS****LIQUIDITY RISKS**

Ensuring that the company is solvent at all times is critical to its ability to continue as a going concern.

The SICK Group's operational 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.

**FINANCE AND INTEREST RATE 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. There are sufficient lines of credit in place to meet future investment requirements. The counterparty credit risk in financing is countered by limiting business relationships to dealings with banks with investment grade credit ratings.

The SICK Group responds to interest rate risks by entering into fixed-interest agreements over the term of its loans. When structuring loan maturities, SICK tries to ensure that these fall due for extension in different fiscal years.

**CURRENCY RISKS**

The global business activities of the SICK Group entail a large number of cash flows in different currencies. The company is particularly exposed to fluctuations in the exchange rate between the euro and other key currencies, as described in the management report and notes to the financial statements. Depending on the expected risk potential, exchange rates are hedged using traditional forward contracts or options over varying periods.

**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.

The application of these rules meant that the default rate could be kept very low.

**PROCESS RISKS****INNOVATION PROCESSES**

The risks associated with innovation processes may involve opportunities for future product developments being spotted too late, or development costs and times being estimated inaccurately or exceeded in connection with development processes.

SICK counters this risk by means of modern product portfolio management, which manages and controls the content and performance of products and tailors them to the needs of the market. 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. Areas in which a need for action is identified are transferred to projects that are managed using overarching and coordinated methods.

### VALUE CREATION PROCESSES

SICK's value creation processes comprise procurement as well as production. SICK products feature leading technology and therefore also use state-of-the-art bought-in parts (semiconductor elements to process signals and generate light in particular). Bought-in parts that are developed and produced specifically for SICK create dependencies on suppliers and therefore risks in the event of any kind of disruption to their production or even stoppages. Risks on the procurement side also stem from price fluctuations as a result of increased costs for materials or bottlenecks in the delivery of certain groups of products.

That is why a special inventory management program and goods category-specific procurement strategies are used for bought-in parts. The inventory management program monitors operating, safety, and strategic stocks.

In addition to procurement, SICK's own production makes a crucial contribution to added value. The main risks relate to interruptions to production, and can arise if production facilities or tools are damaged or stop entirely, or if capacity requirements are estimated inaccurately. Basic (risk) prevention in this regard involves regular maintenance, constant repair management in order to prevent unplanned outages, and adjusted restart plans as well as investments in fire prevention and targeted fire-fighting measures.

Regular risk inspections and damage prevention measures also help mitigate the risk.

In the event of damage, second source strategy concepts for delivered parts, the relocation of production to SICK's other production facilities, and safeguarding measures by service providers in order to get damaged machinery working again as soon as possible take effect.

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.

### DISTRIBUTION

Delays to distribution or violations of national and international export restrictions or air freight safety regulations can lead to trading restrictions, lost sales, or delayed deliveries, with higher costs. That is why SICK has introduced an export management system comprising an efficient export control organization and specific export control software.

### PROCESS RISKS RELATING TO MANAGEMENT AND SUPPORTING PROCESSES QUALITY

SICK offers its customers safety and process-related products, systems, and services. The high quality and reliability of the products is ensured by a quality and environmental and an integrated quality management system. Errors on the customer side could still however lead to personal injury, financial loss, or harm to the environment that could form the basis for liability claims or impact the company's reputation.

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 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.

## IT

IT risks have the potential to impact some of the most important strategic success factors for the SICK Group – 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, futureproof, and fit-for-purpose IT solutions are used throughout the Group.

A longer-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. For this reason, SICK has successfully introduced and is constantly refining an IT security system based on the internationally recognized standard ISO 27001. This includes a comprehensive security concept that reflects the high value attached to security and data protection at SICK and actively identifies potential risks.

Irrespective of all measures to constantly improve IT security, it cannot be ruled out that SICK's results of operations could be negatively impacted by the occurrence of one or more IT risks such as cyber attacks.

## ENVIRONMENTAL RISKS

As a company that operates and manufactures on a global scale, SICK's business activities pose a risk to the environment. The main environmental aspects and their risk for the environment are determined annually pursuant to ISO 14001 and managed accordingly. SICK's environmental management activities are aimed at adding value for the company by acting in a sustainable manner.

Despite a long-term and environmentally-aware management approach, it cannot be ruled out that the SICK Group's results of operations could be significantly impacted by the occurrence of an environmental risk.

## OPPORTUNITIES

SICK is a market leader in the growing sector of sensor technology for industrial applications. SICK's Executive Board and management look for opportunities to exploit potential for growth. Possibilities to achieve stronger growth than planned stem from a number of different strategic and operating opportunities. These are evaluated on a regular basis, and corresponding measures are implemented in order to take advantage of them.

As a global market leader and technological pioneer, the SICK Group is in a better position than most to benefit from the opportunities for growth presented by an innovative sector.

The company sees six different categories of significant opportunities:

- Opportunities of improved global economic growth
- Opportunities of digitalization and Industry 4.0
- Opportunities of internationalization
- Opportunities of substantial spending on research and development
- Opportunities of solid financial ratios and strong earnings power
- Opportunities as an attractive employer

## OPPORTUNITIES OF IMPROVED GLOBAL ECONOMIC GROWTH

Global economic growth is expected to amount to 3.3 percent in 2020, with growth still mainly driven by the emerging economies.

In terms of individual sectors, there are opportunities for growth associated, for example, with more restrictive emissions regulations in many countries, the implementation of Industry 4.0, or the progress of digitalization. This is because these trends make increasingly large volumes of data and information available for use. Successfully providing, analyzing and effectively utilizing this information grants clear competitive advantages. As one of the world's leading manufacturers of sensors and sensor solutions for industrial applications, SICK lays the foundation for successful, data-based business models and is able to take advantage of the opportunities presented by digitalization in its own interest and the interest of its customers.

In order to exploit these opportunities, SICK has initiated numerous measures and set up Start-up Initiatives involving multiple business fields (please refer to [“Fundamental information about the Group”](#)).

### OPPORTUNITIES OF DIGITALIZATION AND INDUSTRY 4.0.

As one of the driving forces behind Industry 4.0 in Germany, SICK regularly evaluates the opportunities presented by Industry 4.0. Suitable measures are constantly being defined and implemented in order to gain an advantage. SICK's product portfolio is very well placed to benefit from this growth market. The company is also constantly analyzing what other product developments could be of relevance.

In its business activities, SICK demonstrates the current opportunities of Industry 4.0 in a very practical way at its new production facility in Freiburg, where a highly flexible and adaptable production system has been set up. Innovative future sensor solutions are already used there and presented to customers as part of an assembly system that is used to make SICK's own sensors.

### OPPORTUNITIES OF INTERNATIONALIZATION

SICK is constantly expanding its customer, product, and system base as part of the ongoing internationalization of value added and internal value added in its sales and procurement regions. This global strategic direction presents SICK with numerous opportunities, both in the labor market and through greater proximity to its customers. SICK is for example constantly working to introduce new facilities or branch offices and standardized business processes in new international markets. One example of this is the improved regional supply capacity in Asia thanks to the logistics facility opened in China in 2019. This means that SICK now operates its own logistics centers in America, Europe, and Asia.

### OPPORTUNITIES OF SUBSTANTIAL SPENDING ON RESEARCH AND DEVELOPMENT

SICK is a highly innovative company. Both the number of employees in research and development and spending on research and development rose, as planned, in 2019:

in EUR million	2019	2018	Change
Sales (in EUR million)	1,750.7	1,636.8	7.0%
R&D expenses (in EUR million)	202.0	192.5	4.9%
R&D expenses as % of sales	11.5	11.8	-0.3 pp
R&D employees on reporting date	1,310	1,239	5.7%

Future opportunities stem from new products and system solutions with the potential to accelerate the company's growth more than average if they are accepted by customers.

### OPPORTUNITIES OF SOLID FINANCIAL RATIOS AND STRONG EARNINGS POWER

The SICK Group has solid financial ratios and strong earnings power:

in EUR million	2019	2018	Change
Equity ratio (%)	48.6	50.2	-1.6 pp
EBIT (in EUR million)	132.9	117.5	13.1%
Cash and cash equivalents (in EUR million)	66.3	21.2	212.7%
Operating cash flow (in EUR million)	212.7	20.2	> 100%

SICK's solid financial ratios and strong earnings power allow it to exploit additional opportunities for growth using its own financial muscle.

### OPPORTUNITIES AS AN ATTRACTIVE EMPLOYER

SICK has been named several times as one of Germany's best employers. An attractive system of compensation and exemplary social benefits as well as comprehensive further training opportunities ensure that employees remain loyal to the company for a long time. As a highly innovative company, motivated employees represent a long-term growth opportunity for SICK.

### GENERAL STATEMENT CONCERNING RISKS AND OPPORTUNITIES

Although the assessments of some risks changed over the course of the fiscal year due to external developments, economic uncertainty and measures implemented by the company or changes to planning, the overall situation with respect to risks and opportunities is largely in line with the prior year's estimates. The overall level of risk faced by SICK remains within a range that is typical for the business.

The growing importance of Industry 4.0 and the fact that intelligent sensors are essential as a data basis for smart factories 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. However, the approaching technological changes also entail continued, substantial investment and corresponding expenses as well as risks.

The Executive Board firmly believe that the risks and opportunities described for the SICK Group are manageable and do not jeopardize the company's ability to continue as a going concern, either individually or in their totality.

## F. REPORT ON EXPECTED DEVELOPMENTS

The comments regarding the company's anticipated performance in 2020 are based on the information, expectations, and assumptions that were known and available at the time the forecast was issued. As statements concerning the future, these are subject to a high degree of uncertainty.

For the effects of the COVID-19 pandemic, reference is made to [section \(43\)](#) in the notes to the consolidated financial statements. The economic ramifications of the coronavirus are currently unpredictable, and are therefore not included in the forecast.

### Economic prospects for 2020

In its current economic forecast (World Economic Outlook, January 2020), the International Monetary Fund (IMF) expects global GDP to grow by 3.3 percent in 2020 (2019: 2.9 percent). The slowdown in growth last year should give way to increased manufacturing output and growth in the volume of global trade in 2020. More solid global economic growth could offer further opportunities for Germany's manufacturing sector in 2020 with its strong focus on exports. However, the VDMA expects the output of the German mechanical engineering sector to fall by 2 percent in 2020.

SICK's industry-specific market analyses indicate clear potential for growth for innovative, international companies in the sensor technology industry in particular, based on the following trends:

- The digitalization and networking of industrial production processes and supply chains
- The increased use of sensors and corresponding sensor solutions in the production, warehousing and distribution of goods
- The ongoing progress of automation (Industry 4.0)
- Strictest standards of data security and sovereignty
- Rising demands with respect to the management of industrial processes and the distribution of products in the manufacturing industry
- Rising quality and documentation requirements
- Stricter environmental regulations

Based on the continued positive trend for general economic and sector-specific conditions for SICK, as described in detail in the report on the economic position in the management report, the Executive Board of the SICK Group expects its important financial and non-financial indicators to change as follows.

### Sales forecasts for the sales regions

Based on our current knowledge and the general economic and sector-specific conditions outlined, the Executive Board expect the SICK Group to continue to achieve dynamic and positive growth. The Executive Board expect sales to grow by a high single-digit percentage in fiscal year 2020.

#### GERMANY

SICK still enjoys a strong market position in the sales region of Germany. That makes high rates of growth harder to achieve, particularly against the backdrop of persistently modest economic growth. Growth is therefore expected to be in the low single-digit percentages.

#### EUROPE, MIDDLE EAST, AND AFRICA (EMEA)

SICK expects growth in the Europe, Middle East, and Africa (EMEA) sales region to be in the mid-range to high single-digit percentages. The Executive Board therefore expects the trend in this region to remain favorable.

#### NORTH, CENTRAL, AND SOUTH AMERICA (AMERICAS)

The Executive Board expect clearly positive growth again in the North, Central, and South America (Americas) sales region, with growth rates in the low double digits. Further growth is above all expected in the US, Canada and Brazil.

## ASIA-PACIFIC

In fiscal year 2020, growth in the low double digits is once again expected in the Asia-Pacific sales region. A slowdown in growth in China should be offset by the success of business in the other countries in the region.

## EBIT forecast

The implementation of the SICK Group's strategy of growth requires more significant expenditure and investment. In fiscal year 2020, the company is planning to once again spend a low double-digit percentage of its sales on R&D. On the whole, we expect the increase in expenses to slightly outpace the growth of sales in 2020.

This is likely to be accompanied by a slight reduction in operating profitability.

The company is aiming to achieve a mid-range to high single-digit percentage EBIT margin in fiscal year 2020. The target for the EBIT margin ensures SICK's traditional aim of striking a balance between securing income in the short term and technology in the long term. We therefore expect SICK to operate and remain profitable for the long term.

## Development of other financial performance indicators

Capital management will continue to be pursued in fiscal year 2020 based on the assumption that liquidity and the equity ratio remain at a high level. At the same time, we are focusing on achieving a low-risk financing structure. Dividend payments will continue to be made in a way that takes into account the need for investment and the target range for the planned capital structure. 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

The positive development of the most important non-financial performance indicators in fiscal year 2020 ensures the sustainable and profitable growth that SICK is aiming to achieve. The key indicators are the persistently strong R&D activities, attracting and retaining qualified employees, and meeting high standards of quality and sustainability targets.

## General summary of projected development

For the effects of the COVID-19 pandemic, reference is made to [section \(43\)](#) in the notes to the consolidated financial statements. The economic ramifications of the coronavirus are currently unpredictable, and are therefore not included in the forecast.

But with our innovative portfolio of products and services, the SICK Group stands a good chance of continuing to benefit from increasing demands, particularly in the context of digitalization and Industry 4.0.

### KEY FIGURES OF THE FORECAST FOR FISCAL YEAR 2020

Global economic growth	+3.3 percent
Group sales	High single-digit percentage growth
EBIT margin	Mid-range to high single-digit percentage
Employees as of December 31	Low single-digit percentage growth
R&D expenses as % of sales	Low double-digit percentage

Our global presence, our balanced portfolio and the fact that SICK is flexible enough to be able to react rapidly to changes remain an excellent basis from which to continue to grow and secure the SICK Group's high level of profitability in 2020.

## G. 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, which was audited and on which an auditor's report was issued as part of the audit of the financial statements. The Executive Board declares the following in accordance with 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."

## H. MANAGEMENT REPORT OF 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 they 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).

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

The reporting year was again encouraging for SICK AG.

The company's **results of operations** break down as follows:

in EUR million	2019	2018	Change in %
Sales	1,208.5	1,129.7	7.0
Changes in inventory	-10.0	13.0	-176.9
Own work capitalized	10.1	10.5	-3.8
Other operating income	34.0	37.7	-9.8
Cost of materials	614.7	599.6	2.5
Gross profit	627.9	591.3	6.2
Personnel expenses	362.2	342.5	5.8
Depreciation and amortization	38.4	35.9	7.0
Other operating expenses	219.8	235.3	-6.6
Financial result	52.0	71.9	-27.7
Earnings before tax	59.5	49.5	20.2
Income tax	13.3	10.4	27.9
Other taxes	0.3	0.7	-57.1
Net income for the year	45.9	38.4	19.5

The company's **statement of financial position** is as follows:

in EUR million	2019	2018	Change in %
Intangible assets	14.1	12.6	11.9
Property, plant and equipment	263.8	243.0	8.6
Financial assets	132.9	97.4	36.4
Inventories	192.7	207.4	-7.1
Receivables and other assets	324.8	367.1	-11.5
Cash and cash equivalents	47.2	14.4	227.8
Total assets	975.5	941.9	3.6
Equity	421.4	401.7	4.9
Provisions	117.3	114.9	2.1
Liabilities	436.8	425.4	2.7
Total equity and liabilities	975.5	941.9	3.6
Equity ratio	43.2%	42.6%	0.6 pp

SICK AG's financial position and results of operations still paint a very solid picture.

SICK AG is included in the Group's integrated overall planning. This planning and management is carried out exclusively on the basis of IFRS financial reporting. No separate forecast is made on the basis of HGB financial reporting regulations. However, the main statements in the forecast issued by the SICK Group also apply to SICK AG.

At the same time, the planning and execution of the distribution to shareholders is a material element of the management of the AG.

Waldkirch, March 17, 2020

The Executive Board



Dr. Robert Bauer (Chairman)



Reinhard Bösl



Dr. Mats Gökstorp



Dr. Martin Krämer



Markus Vatter



Dr. Tosja Zywietz

# GROUP FINANCIAL STATEMENTS

of SICK AG

## GROUP FINANCIAL STATEMENTS 72

### CONSOLIDATED INCOME STATEMENT

of SICK AG for the period from January 1 to December 31, 2019 72

### CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

of SICK AG for the period from January 1 to December 31, 2019 73

### CONSOLIDATED STATEMENT OF CASH FLOWS

of SICK AG for the period from January 1 to December 31, 2019 74

### CONSOLIDATED STATEMENT OF FINANCIAL POSITION

OF SICK AG AS OF DECEMBER 31, 2019 75

### CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

of SICK AG as of December 31, 2019 77

## IFRS NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS 78

A. General disclosures 78

B. Consolidation principles 82

C. Accounting policies 85

D. Consolidated statement of cash flows 98

E. Notes to the consolidated income statement 99

F. Notes to the consolidated statement of financial position 105

G. Other notes 117

### CONSOLIDATED STATEMENT OF CHANGES IN NON-CURRENT ASSETS

Attachment A1 137

### CONSOLIDATED STATEMENT OF CHANGES IN NON-CURRENT ASSETS

Attachment A2 138

### CARRYING AMOUNTS AND FAIR VALUES

Attachment A3 139

### CARRYING AMOUNTS AND FAIR VALUES

Attachment A4 140

### LIST OF MAIN SHAREHOLDINGS

Attachment A5 141

# GROUP FINANCIAL STATEMENTS

for SICK AG for the fiscal year 2019

## CONSOLIDATED INCOME STATEMENT

of SICK AG for the period from January 1 to December 31, 2019

in EUR k	Notes	2019	2018
<b>Sales</b>	(1)	<b>1,750,722</b>	<b>1,636,788</b>
Changes in inventory		3,269	19,409
Own work capitalized	(2)	26,504	24,515
Cost of materials	(3)	549,394	517,754
<b>Gross profit</b>		<b>1,231,101</b>	<b>1,162,958</b>
Personnel expenses	(4)	753,458	699,349
Depreciation and amortization	(5)	87,165	62,578
Other operating expenses	(6)	266,409	288,985
Other operating income	(7)	13,196	13,170
Currency results	(8)	-4,468	-7,790
<b>Operating results</b>		<b>132,797</b>	<b>117,426</b>
Net investment income / expense	(9)	68	98
<b>Earnings before interest and tax (EBIT)</b>		<b>132,865</b>	<b>117,524</b>
Interest expense	(10)	6,445	4,956
Interest income	(11)	1,999	267
<b>Earnings before tax</b>		<b>128,419</b>	<b>112,835</b>
Income tax	(12)	34,496	30,462
<b>Consolidated net income</b>		<b>93,923</b>	<b>82,373</b>
of which attributable to shareholders of SICK AG		93,923	81,736
of which attributable to non-controlling interests		0	637
<b>Earnings per share (basic and diluted)</b>	(13)	<b>EUR 3.58</b>	<b>EUR 3.12</b>

**CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME**  
of SICK AG for the period from January 1 to December 31, 2019

in EUR k	2019	2018
<b>Consolidated net income</b>	<b>93,923</b>	<b>82,373</b>
Other comprehensive income		
Items that will never be reclassified to profit or loss		
Remeasurement of pension obligations	-7,572	-214
Tax effect	2,139	149
<b>Remeasurement of pension obligations</b>	<b>-5,433</b>	<b>-65</b>
Items that were or that can be reclassified to profit or loss		
Currency translation differences	3,902	-788
Tax effect	0	0
<b>Currency translation differences</b>	<b>3,902</b>	<b>-788</b>
<b>Other comprehensive income</b>	<b>-1,531</b>	<b>-853</b>
<b>Comprehensive income</b>	<b>92,392</b>	<b>81,520</b>
of which attributable to shareholders of SICK AG	92,392	80,936
of which attributable to non-controlling interests	0	584

**CONSOLIDATED STATEMENT OF CASH FLOWS**

of SICK AG for the period from January 1 to December 31, 2019

in EUR k	2019	2018
<b>Consolidated net income</b>	<b>93,923</b>	<b>82,373</b>
<b>Adjustments for:</b>		
Income tax	34,496	30,462
Net interest income	4,446	4,689
Depreciation and amortization	87,165	62,578
Gains on/ losses from the disposal of fixed assets	-138	5
Income from financial investments	-68	-98
Other non-cash transactions	8,777	-4,755
Change in inventory	-1,812	-84,629
Change in trade receivables and other assets	-11,116	-51,850
Change in non-current provisions	9,869	2,915
Change in trade payables and other liabilities	19,981	19,172
<b>Cash flow from operating activities</b>	<b>245,523</b>	<b>60,862</b>
Interest paid	-3,583	-3,879
Interest received	1,999	267
Income tax paid	-31,273	-37,055
<b>Cash flow from operating activities</b>	<b>212,666</b>	<b>20,195</b>
Cash received from disposals of non-current assets	240	154
Cash paid for investments in property, plant and equipment	-76,607	-89,370
Cash paid for investments in intangible assets	-22,748	-17,794
Cash received from disposals (cash paid for investments) of financial assets	0	229
Cash paid for the acquisition of a business unit	-1,075	-1,224
<b>Cash flow from investing activities</b>	<b>-100,190</b>	<b>-108,005</b>
Acquisition of treasury shares	-122	56
Cash paid to owners	-26,213	-26,208
Cash paid for the acquisition of non-controlling interests	-1,654	-4,336
Repayment of lease liabilities	-19,816	-1,614
Cash received from loans	133,914	131,933
Cash repayments of loans	-154,203	-11,100
<b>Cash flow from financing activities</b>	<b>-68,094</b>	<b>88,731</b>
Effect of changes in foreign exchange rates and changes in consolidated entities on cash and cash equivalents	744	-228
<b>Net change in cash and cash equivalents</b>	<b>45,126</b>	<b>693</b>
<b>Cash and cash equivalents at the beginning of the period</b>	<b>21,152</b>	<b>20,459</b>
<b>Cash and cash equivalents at the end of the period</b>	<b>66,278</b>	<b>21,152</b>

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

## ASSETS

in EUR k

75

**EQUITY AND LIABILITIES**

in EUR k

	Notes	2019	2018
<b>A. Equity</b>			
I. Issued capital	(22)	26,405	26,405
II. Capital reserves	(23)	22,790	22,642
III. Treasury shares	(24)	-3,513	-3,391
IV. Revenue reserves	(25)	650,946	589,031
Equity attributable to the shareholders		696,628	634,687
V. Non-controlling interests		0	939
		<b>696,628</b>	<b>635,626</b>
<b>B. Non-current liabilities</b>			
I. Financial liabilities	(27)	248,943	76,334
II. Provisions and other liabilities	(28)	107,110	90,129
III. Deferred taxes	(12)	1,737	1,840
		<b>357,790</b>	<b>168,303</b>
<b>C. Current liabilities</b>			
I. Financial liabilities	(27)	51,534	154,846
II. Other provisions	(28)	24,312	21,631
III. Tax liabilities	(29)	21,459	18,866
IV. Trade payables	(30)	117,483	93,340
V. Contract liabilities	(31)	56,016	48,981
VI. Other liabilities	(32)	108,591	124,132
		<b>379,395</b>	<b>461,796</b>
		<b>1,433,813</b>	<b>1,265,725</b>

**CONSOLIDATED STATEMENT OF CHANGES IN EQUITY**

of SICK AG as of December 31, 2019

in EUR k	Issued capital	Capital reserves	Treasury shares	Revenue reserves	Equity attributable to the shareholders	Non-controlling interests	Equity
<b>Balance as of Jan. 1, 2018</b>	<b>26,405</b>	<b>22,437</b>	<b>-3,447</b>	<b>535,320</b>	<b>580,715</b>	<b>3,733</b>	<b>584,448</b>
Consolidated net income				81,736	81,736	637	82,373
Other comprehensive income				-800	-800	-53	-853
<b>Comprehensive income</b>				<b>80,936</b>	<b>80,936</b>	<b>584</b>	<b>81,520</b>
Change in treasury shares		205	56		261		261
Dividend payment				-26,208	-26,208		-26,208
Other changes				-1,017	-1,017	-3,378	-4,395
<b>Balance as of Dec. 31, 2018</b>	<b>26,405</b>	<b>22,642</b>	<b>-3,391</b>	<b>589,031</b>	<b>634,687</b>	<b>939</b>	<b>635,626</b>
IFRS 16 adjustment				-3,594	-3,594	0	-3,594
<b>Balance as of Jan. 1, 2019</b>	<b>26,405</b>	<b>22,642</b>	<b>-3,391</b>	<b>585,437</b>	<b>631,093</b>	<b>939</b>	<b>632,032</b>
Consolidated net income				93,923	93,923	0	93,923
Other comprehensive income				-1,531	-1,531	0	-1,531
<b>Comprehensive income</b>				<b>92,392</b>	<b>92,392</b>	<b>0</b>	<b>92,392</b>
Change in treasury shares		148	-122	0	26		26
Dividend payment				-26,213	-26,213		-26,213
Other changes				-670	-670	-939	-1,609
<b>Balance as of Dec. 31, 2019</b>	<b>26,405</b>	<b>22,790</b>	<b>-3,513</b>	<b>650,946</b>	<b>696,628</b>	<b>0</b>	<b>696,628</b>

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

# IFRS NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

of SICK AG, Waldkirch, for fiscal year 2019

## A. GENERAL DISCLOSURES

### General

The consolidated financial statements of SICK AG, Waldkirch, Germany, for the year 2019 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. 315e (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 the 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.

SICK AG is a subsidiary of Sick Holding GmbH, Freiburg, Germany.

## Economic background

SICK is one of the leading global manufacturers of intelligent sensors and sensor solutions for industrial applications. The Group has been in the sensor technology business for more than 70 years, has over 10,000 employees worldwide today, and comprises 49 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 IFRSs subject to mandatory adoption as of December 31, 2019 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. \(42\)](#) "Financial reporting 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, 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 reported at fair value, and current receivables and liabilities in foreign currency reported at fair value.

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

## Effects of new financial reporting standards

The financial reporting principles applied were virtually unchanged on the prior year, except for the following standards:

Standards/interpretations	Title	Applicable from	Impact on SICK
IFRS 16	Leases	January 1, 2019	Explanations after this table
IFRIC 23	Uncertainty over Income Tax Treatments	January 1, 2019	Explanations after this table
Amendments to IAS 19	Plan Amendment, Curtailment or Settlement	January 1, 2019	Immaterial
Amendments to IFRS 9	Prepayment Features with Negative Compensation	January 1, 2019	Immaterial
Amendments to IAS 28	Long-term Investments in Associates and Joint Ventures	January 1, 2019	Immaterial
Improvements to IFRSs (2015 – 2017)	Amendments to various standards (IFRS 3, IFRS 11, IAS 12, and IAS 23)	January 1, 2019	Immaterial

The Group applies the new standard IFRS 16 “Leases,” which replaces the previous IAS 17 “Leases” as well as any related interpretations, from fiscal year 2019 onwards.

IFRS 16 abolishes the previous classification of lease contracts by the lessee in operating and finance leases. Instead, IFRS 16 introduces a uniform accounting model for lessees, according to which the lessee is required to record a liability at the inception of the lease in the amount of the present value of the lease payments to be made (the lease liability) as well as an asset for the right granted to use the leased asset during the lease term (the right of use).

As part of the transition, right-of-use assets relating to the leased items totaling EUR 85,333k and lease liabilities amounting to EUR 88,868k were recognized as of January 1, 2019. EUR 17,845k of these lease liabilities were due within one year. The transition to IFRS 16 was made using the modified retrospective approach, i.e., the prior-year figures were not adjusted.

At the time of initial application, simplifications permitted under the standard were utilized. Therefore, no reassessment was performed to determine whether a contract constitutes or contains a lease. Moreover, initial direct costs were omitted and options to extend or terminate the lease were determined retrospectively at the time of initial application. Leases with a remaining term of less than 12 months following first-time application were not recognized. Instead, lease payments were recorded under other operating expenses.

The following adjustments were made to the opening statement of financial position as of January 1, 2019:

in EUR k	Dec. 31, 2018	Adjustment	Jan. 1, 2019
<b>Assets</b>			
Property, plant and equipment	353,082	85,333	438,415
Deferred taxes	31,778	1,076	32,854
Other assets	58,119	-1,194	56,925
<b>Total</b>		<b>85,215</b>	
<b>Equity and liabilities</b>			
Equity	635,626	-3,594	632,032
Financial liabilities (non-current)	76,334	71,023	147,357
Financial liabilities (current)	154,846	17,845	172,691
Other liabilities	124,132	-59	124,073
<b>Total</b>		<b>85,215</b>	

The first-time application of IFRS 16 also affected the presentation of the income statement. Previous operating rent and lease expenses are replaced with depreciation and amortization and interest expenses if they do not relate to expenses from low-value or short-term leases as well as variable lease expenses and ancillary costs.

Disclosures on the right-of-use assets and lease liabilities as well as disclosures in the income statement can be found in [section G. \(35\) "Leases."](#)

In May 2017, the IASB issued IFRIC 23 "Uncertainty over Income Tax Treatments." This interpretation clarifies the requirements for recognizing and measuring uncertain income tax items. As part of estimating the uncertainty, the entity is required to assess the likelihood of the tax jurisdiction accepting the income tax treatment. At the time of application on January 1, 2019, the amendments had no significant impact on the Group's financial position and performance.

## B. CONSOLIDATION PRINCIPLES

### Consolidation methods

The consolidated financial statements include the financial statements of SICK AG and its subsidiaries as of December 31, 2019. 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 [exhibit A5](#) of these notes to the consolidated financial statements.

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

All intra-group 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 interests even if it results in a negative 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

As in the prior year, besides SICK AG, the consolidated financial statements include six German and 43 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, 2019.

### CHANGES IN THE BASIS OF CONSOLIDATION

At the beginning of 2019, SICK acquired a further 50 percent of the shares in SICK SpA, Santiago de Chile, Chile. Prior to this, SICK held 50 percent of the shares, meaning that SICK is now the sole owner of SICK SpA. Accounting was previously performed using the equity method. Since obtaining control in January 2019, SICK SpA has been fully consolidated.

By increasing its shares, SICK has strengthened its position on the South American market. The fair values of the identified assets and liabilities of SICK SpA are as follows:

in EUR k	Acquisition date fair value
Intangible assets	330
Property, plant and equipment	16
Other non-current assets	29
Deferred tax assets	285
Inventories	516
Receivables and other current assets	1,188
Cash and cash equivalents	186
Liabilities	-1,321
<b>Net assets</b>	<b>1,229</b>
Goodwill	405
<b>Total consideration of the gradual acquisition</b>	<b>1,634</b>

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 total receivables acquired are recoverable. The acquisition did not incur any significant transaction costs.

The carrying amount of the previously held shares (accounted for using the equity method) came to EUR 663k as of the acquisition date. In the course of the acquisition of the new shares, the fair values of the previously held shares were remeasured. The revalued shareholding of 50 percent comes to EUR 1,634k. The gain resulting from the remeasurement of EUR 971k was recorded under other operating income.

The acquisition has contributed EUR 4,726k to sales and EUR -370k to the Group's EBIT since the date of first-time consolidation.

In February 2019, SICK acquired the remaining 15 percent of the shares in SICK Co., Ltd., Seoul, Korea, thus raising its shareholding to 100 percent.

The difference between the cost and the carrying amount of the interest acquired has been recognized in revenue reserves within equity.

Zhejiang SICK Sensor Co., Ltd., Jiaxing, Zhejiang Province, China, was consolidated for the first time in the reporting year. A resulting difference was recognized in equity.

## Currency translation

The functional currency is the euro. 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 as well as 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, 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 is based on the following key exchange rates:

Exchange rate 1 EUR =	ISO code	Closing rate Dec. 31, 2019	Annual average rate 2019	Closing rate Dec. 31, 2018	Annual average rate 2018
China	CNY	7.8039	7.7357	7.8279	7.8073
United Kingdom	GBP	0.8522	0.8779	0.9021	0.8848
Poland	PLN	4.2643	4.2974	4.2944	4.2599
USA	USD	1.1154	1.1194	1.1397	1.1816

## 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 as well as 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:

In order to recognize revenue, management generally makes estimates that relate to identifying and defining performance obligations as well as allocating the transaction price to the individual performance obligations.

Revenue from systems tends to entail a significant integration service by SICK, as a result of which there are no distinct performance obligations. As a rule, control is transferred upon acceptance by the customer because the conditions for recognizing revenue over time are not met.

When serial products or systems are bundled with service contracts, the respective performance obligations are generally separated if these represent distinct services.

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 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 flows from 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 [exhibit A1](#) of these notes to the consolidated financial statements.

SICK uses provision matrices to calculate the expected credit losses on financial assets. The provision matrices take the Group's historical default rates as a starting point. The Group then calibrates the matrices to adjust its historical default rates to prospective information. For instance, if the assumption is that the forecast economic conditions (such as gross domestic product) will worsen over the course of the coming year, which may lead to a higher level of default rates in the manufacturing industry, then the historical default rates are adjusted. The historical default rates are updated and amendments to the forward-looking estimates are analyzed as of each reporting date.

Assessing the link between the historical default rates, forecasted economic conditions and expected credit losses constitutes a significant estimate. The amount of the expected credit losses depends on changes to circumstances and the forecasted economic conditions. The Group's historical credit losses and the forecast of the economic conditions are potentially not representative of customers' actual defaults in the future. Information about the expected credit losses on trade receivables can be found in [section G. \(36d\)](#) "Credit risks."

Uncertainties exist with respect to the interpretation of complex tax law 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 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 and other liabilities."

## Revenue recognition

SICK sells sensor solutions in the form of serial products, systems, and individual services.

Revenue from contracts with customers is generally recognized when control over the distinct goods and services is transferred to the customer.

In general, revenue from serial products and systems is realized at a point in time when the customer obtains control. This is the case upon delivery to the customer or following acceptance by the customer. Serial products are invoiced on delivery; the payment terms usually stipulate payment within 30 to 90 days following billing. Invoices for systems are issued pursuant to the contractual conditions; the payment terms may stipulate short-term payments on account as well as a final payment within 30 to 90 days following billing.

Revenue from services tends to be realized over time on a straight-line basis when control is transferred to the customer over a period of time. Invoices are issued pursuant to the contractual conditions; the payment terms usually stipulate payment within 30 days following billing.

The revenue to be recorded is measured based on the transaction price. This corresponds to the amount of consideration to which the entity expects to be entitled once the performance obligations have been fulfilled as defined in the contract.

Calculation of the transaction price takes other factors such as variable consideration and financing components into account. Variable consideration such as price and volume discounts are included when it is highly probable that there will be no significant withdrawal of revenue. The amount of variable consideration is determined either using the expected value or the most likely amount method, depending on which of these is the more accurate prediction of the variable consideration. If the period between the transfer of goods or services and the contractually agreed time of payment is greater than 12 months and the customer or SICK has a substantial benefit from the financing, the consideration is adjusted by the time value of money.

SICK also determines whether the contracts contain additional performance obligations to which a portion of the transaction price is assigned. If a contract comprises several distinct goods or services, the transaction price is allocated to the performance obligations based on the relative stand-alone selling prices. If the stand-alone selling prices are not directly observable, SICK estimates these appropriately. In the Group, this primarily relates to service contracts. Please refer to [section F. \(31\)](#) "Contract liabilities."

SICK makes use of the practical expedient offered by IFRS 15.121 and does not disclose the transaction price allocated to the remaining performance obligations (for which no revenue has yet been recognized), as the performance obligations are part of contracts that have an original expected duration of one year or less or the revenue is recognized in accordance with IFRS 15.B16, i.e., the revenue to be recognized directly corresponds to the value of the service to be rendered and invoiced.

SICK exercises the practical expedient to recognize the costs to obtain contracts with customers immediately in profit or loss if the asset resulting from recognizing these costs would be written down within a year. The Group did not incur any significant costs to obtain contracts with customers or any significant costs to fulfill a contract that qualify for capitalization.

## 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 systematic 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 provided that the requirements are met. 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.

Purchased 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 as well as 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 internally generated 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. An increase 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. Pursuant to IFRS 9, financial instruments are classified in the following measurement categories:

- financial assets measured at amortized cost
- financial assets measured at fair value through other comprehensive income
- financial assets measured at fair value through profit or loss
- financial liabilities measured at amortized cost
- financial liabilities measured at fair value through profit or loss

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, or at the transaction price in the case of trade receivables. 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.

## Financial assets

In compliance with IFRS 9, financial assets are classified on the basis of the business model for managing the financial assets as well as on the basis of the contractual cash flow characteristics of the financial assets. The objective of the Group's business model is to hold the financial assets to collect contractual cash flows.

At the same time, it is examined whether the contractual terms of the financial assets give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The Group's financial assets are measured at amortized cost provided that the business model is adhered to and the contractual cash flows satisfy the requirements.

The business model for financial assets measured at fair value through other comprehensive income is not only to hold the financial assets, but also to sell them. The contractual terms give rise to specified dates that are solely for payments of principal and interest on the principal amount outstanding.

In general, equity instruments are classified as measured at fair value through profit or loss upon initial recognition. However, an irrevocable option to designate equity instruments as measured at fair value through other comprehensive income may be exercised upon initial recognition. This option is only available if the equity instruments are neither held for trading nor constitute unconditional consideration as part of a business combination. The Group principally holds its equity interests for strategic reasons in

order to expand the Group's operating activities. The focus here is not on generating a significant portion of short-term capital gains. Fluctuations in the measurement of equity investments are therefore not expected to have any impact on the income statement. Equity instruments are classified at fair value through other comprehensive income accordingly. These equity instruments are posted to the statement of financial position under other financial assets.

Financial assets that do not meet the requirements to be measured at amortized cost or at fair value through other comprehensive income are designated as measured at fair value through profit or loss. At present, the Group does not make use of the option to measure financial assets at fair value through profit or loss upon initial recognition.

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

Subsidiaries that are not included in the consolidated financial statements on the grounds of immateriality are disclosed in [section F. \(16\)](#) "Other financial assets."

## Financial liabilities

With the exception of the derivative financial instruments, financial liabilities are measured at amortized cost using the effective interest method. Upon initial recognition, financial liabilities are measured at fair value less transaction costs that are directly allocable to the financial liability.

The Group's financial liabilities chiefly include trade and other payables, bank overdrafts, loans and lease liabilities as well as derivative financial instruments with a negative fair value.

For further information, reference is made to [section G. \(37\)](#) "Financial instruments."

## Impairment of financial assets

IFRS 9 introduces an impairment model based on the expected credit losses model. The new model applies to all financial assets (debt instruments) that are carried at amortized cost or at fair value through other comprehensive income. The expected losses model allocates impairment to three stages.

The Group recognizes a loss allowance for expected credit losses on all debt instruments that are not measured at fair value through profit or loss. Expected credit losses are based on the difference between the contractual cash flows to be paid in accordance with the contract and the total cash flows expected to be received by the Group, discounted using an approximation of the original effective interest rate. The expected cash flows include the cash flows from the sale of collateral held or other credit enhancements that are a major component of the contractual terms.

Expected credit losses are recognized in two steps. For financial instruments the credit risk of which has not increased significantly since initial recognition, a risk provision is recognized in the amount of the expected credit losses based on a default within the next 12 months. For financial instruments the credit risk of which has increased significantly since initial recognition, the entity must recognize a risk provision in the amount of the expected credit losses over residual term, regardless of when the default occurs.

The Group applies IFRS 9's simplified impairment model to trade receivables and recognizes the lifetime expected credit loss. The Group uses specific provision matrices for each region and entity to calculate the expected credit losses. The impairment factors specific to maturity are based on historical and prospective information, including forecasts on economic conditions (such as gross domestic product).

The risk provision for cash and cash equivalents is set up on the basis of current market data and internal risk assessments.

Financial assets are derecognized as soon as they are deemed by appropriate judgment to be uncollectible, for example after the end of insolvency proceedings, after court rulings, or depending on other circumstances in the local law. A central monitoring and local collection management system counters the risk of bad debts. This includes regular credit ratings, the conclusion of credit insurance policies, and – particularly in the export business – issuing letters of credit.

For materiality and clarity reasons, the impairment losses recorded in the income statement pursuant to IAS 1.82 (ba) in the period are not disclosed separately in [section G. \(36d\)](#) "Credit risks." Bad debt allowances are posted under other operating expenses.

## Contract balances

A contract asset is an entity's right to consideration in exchange for goods or services that the entity has transferred to a customer.

A receivable is an entity's right to consideration that is unconditional.

A contract liability is an entity's obligation to transfer goods or services to a customer for which the entity has received consideration or an amount of consideration is due from the customer. This includes payments on account on contracts with customers as well as unrealized revenue from service contracts.

## Cash and cash equivalents

Cash and cash equivalents include cash, demand deposits, and other short-term, highly liquid financial assets with an original term to maturity of less than three months. They are recognized at face value less a risk provision. The risk provision is recognized on the basis of current market data and internal risk assessments. Further information about the impairment can be found in [section C.](#) "Impairment of financial assets."

## Derivative financial instruments and hedge accounting

The Group uses derivative financial instruments such as forward exchange contracts to hedge against exchange rate risks. 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 make use of the option to recognize hedges for the derivatives entered into in fiscal year 2019 or 2018. If hedges are recognized in the future, the Group will apply the rules in IFRS 9.

## 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 method. Borrowing costs are not capitalized. Cost of materials contain appropriate allowance 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 under IFRS 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 reasonably assumed. Deferred tax assets and liabilities are measured at the tax rates 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

Any treasury shares that the Group acquires 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 treasury shares.

## Share-based payments

Members of the Executive Board of SICK AG receive a remuneration component in the form of equity instruments that are 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. \(39\)](#) "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 and other liabilities."

## 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 that 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.

## Leases

A lease is a contract that conveys the right to use an asset (the leased asset) for a specified period of time in exchange for payment.

Until December 31, 2018, a lease was defined as an agreement whereby the lessor conveys to the lessee the right to use an asset for a specified period of time in exchange for payment or a series of payments. Pursuant to IAS 17, economic ownership of leased assets was attributed to the lessee if the lessee bore the significant risks and rewards associated with ownership of the leased asset. If economic ownership was attributable to the Group as lessee, leased assets were recognized at the lower of fair value or present value of the minimum lease payments at the start of use. A lease liability in the same amount was recorded under non-current liabilities. These were subsequently measured at amortized cost using the effective interest method. The depreciation methods and useful lives applied corresponded to those of comparable assets acquired for a consideration.

Since January 1, 2019, the Group as lessee has generally recognized right-of-use assets relating to the leased items and liabilities for the payment obligations received at present value in the statement of financial position for all leases. The lease liabilities contain the following lease payments:

- fixed payments less lease incentives to be provided by the lessor,
- variable payments dependent on an index or an interest rate,
- expected residual payments from residual value guarantees,
- the exercise price of a purchase option if it was estimated to be reasonably certain that the option will be exercised, and
- contractual penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

Lease payments are discounted using the interest rate implicit in the lease if this can be determined. Otherwise, they are discounted using the incremental borrowing rate. Right-of-use assets are measured at acquisition cost, which breaks down as follows:

- lease liability,
- lease payments made at or before the commencement date, less lease incentives received,
- initial direct costs, and
- restoration obligations.

They are subsequently measured at amortized cost. Right-of-use assets are amortized on a straight-line basis over the duration of the contractual relationship.

Exemptions are exercised for low-value leased assets and short-term leases (less than 12 months), and payments are expensed in profit or loss on a straight-line basis. Moreover, the new regulations are not applied to leases of intangible assets. For contracts that contain both lease components and non-lease components, non-lease components are accounted for separately from lease components in line with the respective standards.

The recognized right-of-use assets primarily relate to leased real estate and vehicles in various locations, both in Germany and abroad. A series of leases, in particular for real estate, include options to extend or terminate each lease. Such contractual conditions offer the Group maximum operational flexibility. All facts and circumstances that offer an economic incentive to exercise an option to extend a lease or not to exercise an option to terminate a lease are considered when deciding on contractual terms. Lease term changes as a result of exercising or not exercising such options are only taken into account for the contractual term if these are reasonably certain.

## 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 or 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 measurement date. 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 annual financial statements

For fiscal year 2019, 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

in EUR k	2019	2018
Factory Automation	894,174	911,716
Logistics Automation	505,334	446,500
Process Automation	351,214	278,572
<b>Total</b>	<b>1,750,722</b>	<b>1,636,788</b>

in EUR k	2019	2018
Germany	315,928	317,719
Europe, Middle East, and Africa (EMEA)	644,839	597,557
North, Central, and South America (Americas)	379,979	353,140
Asia-Pacific	409,976	368,372
<b>Total</b>	<b>1,750,722</b>	<b>1,636,788</b>

### (2) Own work capitalized

in EUR k	2019	2018
Capitalized development work	11,935	9,281
Own work for internally generated intangible assets and property, plant and equipment	14,569	15,234
<b>Total</b>	<b>26,504</b>	<b>24,515</b>

**(3) Cost of materials**

in EUR k	2019	2018
Cost of raw materials, consumables and supplies and of purchased merchandise	507,138	494,029
Cost of purchased services	42,256	23,725
<b>Total</b>	<b>549,394</b>	<b>517,754</b>

**(4) Personnel expenses and number of employees**

in EUR k	2019	2018
Wages and salaries	647,680	591,288
Social security, pension and other benefit costs	105,778	108,061
<b>Total</b>	<b>753,458</b>	<b>699,349</b>

The wages and salaries item includes termination benefits of EUR 4,330k (prior year: EUR 1,809k).

**EMPLOYEES**

	2019			2018		
	Germany	Abroad	Total	Germany	Abroad	Total
Average headcount:	5,185	4,217	9,402	4,983	3,849	8,832
of which in R&D	(1,033)	(167)	(1,200)	(957)	(159)	(1,116)
Trainees	299	66	365	314	61	375

From 2019 onwards, the number of employees (permanent employment and temporary employment) will be converted to full-time equivalents (FTEs). Part-time employees will be taken into account proportionate to their contractual working time. The SICK Group considers the new presentation to be more informative.

The prior-year figures have been adjusted accordingly.

**(5) Depreciation and amortization**

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

**(6) Other operating expenses**

in EUR k	2019	2018
Administrative and selling expenses	122,530	127,633
Cost of purchased services and repairs	102,648	110,039
Rent and lease expenses	13,968	29,611
Other expenses	27,263	21,702
<b>Total</b>	<b>266,409</b>	<b>288,985</b>

Please refer to [section G. \(35\)](#) "Leases" for information on rent and lease expenses in fiscal year 2019.

**(7) Other operating income**

In addition to cost reimbursements, other operating income includes income from subsidies and other sales.

**(8) Currency results**

in EUR k	2019	2018
Exchange gains	37,266	31,975
Exchange losses	41,734	39,765
<b>Total</b>	<b>-4,468</b>	<b>-7,790</b>

**(9) Net investment income / expense**

in EUR k	2019	2018
Expense from investments accounted for using the equity method	68	93
Income from other equity investments	0	5
<b>Total</b>	<b>68</b>	<b>98</b>

## (10) Interest expense

This item includes interest and similar expenses. For details on the interest effects in relation to pension provisions and lease liabilities, reference is made to [section F. \(28\)](#) "Provisions and other liabilities" and [section G. \(35\)](#) "Leases."

In the reporting period, borrowing costs of EUR 205k (prior year: EUR 40k) were capitalized in non-current assets. The interest rate used in 2019 was 1.4 percent (prior year: interest rate of 1.5 percent).

## (11) Interest income

This item contains other interest and similar income of EUR 1,999k (prior year: EUR 267k).

## (12) Income tax

in EUR k	2019	2018
Current income taxes		
current tax expense for the reporting period	40,226	33,645
tax expense relating to other periods	1,237	1,885
Deferred tax expense/ income (-)		
from temporary measurement differences	-7,109	-4,810
from unused tax losses	142	-258
<b>Total</b>	<b>34,496</b>	<b>30,462</b>

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 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 16,233k (prior year: EUR 13,835k).

Of the deferred taxes recognized in the statement of financial position, an amount of EUR 9,364k (prior year: EUR 7,225k) 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 is lower than the expected tax expense. The table below reconciles the estimated tax expense to the income taxes reported:

in EUR k	2019	2018
Earnings before tax	128,419	112,835
Theoretical tax rate (%)	29.0	29.0
<b>Estimated tax expense</b>	<b>37,242</b>	<b>32,722</b>
<b>Reasons for the change in theoretical tax expense:</b>		
Deviating foreign tax rates	-3,679	-6,923
Taxes from other periods	1,237	1,885
Tax-free income	97	0
Non-deductible expenses	1,811	2,225
Tax incentives	-797	-536
Use of unused tax losses that have not yet been recognized	-276	-152
Other	-1,139	1,241
<b>Income taxes reported</b>	<b>34,496</b>	<b>30,462</b>
Effective tax rate (%)	26.9	27.0

As in the prior year, the calculation of the estimated tax expense for fiscal year 2019 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	2019	2018	2019	2018
Intangible assets	710	440	9,095	7,680
Property, plant and equipment/ financial assets	1,110	126	19,947	4,263
Inventories	20,067	17,940	1,744	2,382
Other current assets	1,800	2,202	4,961	5,364
Liabilities	47,618	27,581	366	517
Unused tax losses	1,714	1,855	0	0
<b>Gross value</b>	<b>73,019</b>	<b>50,144</b>	<b>36,113</b>	<b>20,206</b>
Offsetting	-34,376	-18,366	-34,376	-18,366
<b>Carrying amount</b>	<b>38,643</b>	<b>31,778</b>	<b>1,737</b>	<b>1,840</b>

Deferred tax assets are recognized if sufficient taxable profit will be available in the future. These take account, among other things, of the budgeted result from operating activities, the impact on earnings from the reversal of taxable temporary differences as well as potential tax strategies. The Group assesses the recoverability of the deferred tax assets based on the budgeted taxable income in the future as of each reporting date. Based on past experience and the forecasted taxable income, the Group assumes that the deferred tax assets can be realized.

Unused tax losses developed as follows:

in EUR k	2019	2018
<b>Unused tax losses</b>		
on which no deferred tax assets were recognized	3,201	4,087
of which available for offsetting for more than ten years	(3,201)	(4,087)
on which deferred tax assets were recognized	6,951	6,539
<b>Total</b>	<b>10,152</b>	<b>10,626</b>

### (13) Earnings per share

in EUR k	2019	2018
Consolidated net income	93,923	82,373
of which attributable to non-controlling interests	0	-637
<b>of which attributable to shareholders of SICK AG</b>	<b>93,923</b>	<b>81,736</b>
Number of shares (weighted average) in thousands	26,214	26,212
Earnings per share (basic and diluted) in EUR / share	3.58	3.12

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 [exhibit A1](#) of these notes to the consolidated financial statements.

### (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 10,377k (prior year: EUR 10,352k), EUR 7,207k (prior year: EUR 6,675k), and EUR 7,937k (prior year: EUR 7,479k) 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 in 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 9.4 percent (prior year: 10.5 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 601,366k (prior year: EUR 873,772k), EUR 407,054k (prior year: EUR 371,530k), and EUR 260,092k (prior year: EUR 230,466k) 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 32,768k (prior year: EUR 28,132k).

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

in EUR k	2019	2018
Research costs and non-capitalizable development costs	194,790	185,457
Amortization of development costs	7,222	7,064
<b>Total</b>	<b>202,012</b>	<b>192,521</b>

Expenses for other internally generated 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 a joint venture and an associate that are individually immaterial. These entities are presented in the list of group entities in [exhibit A5](#) of the notes to the consolidated financial statements.

in EUR k	2019	2018
Carrying amounts of the shares	3,634	4,164
Share in:		
Income from continuing operations	102	196
<b>Comprehensive income</b>	<b>102</b>	<b>196</b>

## (16) Other financial assets

in EUR k	2019	2018
Other equity investments	1,840	1,643
Sundry other financial assets	0	2
<b>Total</b>	<b>1,840</b>	<b>1,645</b>

**(17) Inventories**

in EUR k	2019	2018
Materials and supplies	167,234	170,961
Work in process	116,222	108,853
Finished goods and goods for resale	94,815	98,985
Payments on account	330	1,621
<b>Total</b>	<b>378,601</b>	<b>380,420</b>

Based on the gross value, the value of the inventories was impaired by EUR 39,849k (prior year: EUR 37,661k).

**(18) Trade receivables**

in EUR k	2019	2018
Trade receivables due from		
third parties	336,588	333,561
entities accounted for using the equity method	70	793
<b>Total</b>	<b>336,658</b>	<b>334,354</b>

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

**(19) Tax receivables**

This item records income tax receivables.

**(20) Other assets**

in EUR k	2019	2018
Other tax assets	13,430	15,237
Prepaid expenses	8,575	8,310
Derivative financial instruments (held for trading)	863	702
Sundry other	35,574	33,870
<b>Total</b>	<b>58,442</b>	<b>58,119</b>

**(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, 2019, SICK AG had 191,268 (prior year: 191,773) treasury shares with a nominal value of EUR 191k (prior year: EUR 192k); as in the prior year, this is equivalent to 0.7 percent of the capital stock.

in EUR k	2019	2018
<b>Opening balance</b>	<b>26,213,627</b>	<b>26,208,489</b>
Acquisition of treasury shares	-3,995	-1,062
Disposal of treasury shares	4,500	6,200
<b>Closing balance</b>	<b>26,214,132</b>	<b>26,213,627</b>

## (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 -1,574k (prior year: EUR -5,475k) are also reported here as well as losses from the remeasurement of pension obligations of EUR -33,358k (prior year: losses of EUR -25,786k) less deferred taxes of EUR 9,364k (prior year: EUR 7,225k).

## (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-law annual financial statements of SICK AG.

Pursuant to the resolution of the Annual General Shareholders' meeting of SICK AG of May 22, 2019, a dividend of EUR 1.00 per share was distributed from the retained earnings of SICK AG as of December 31, 2018 for fiscal year 2018, i.e., taking into account treasury shares totaling EUR 26,213k that are not entitled to dividends.

The company plans to distribute a dividend of EUR 1.00 per share for the past fiscal year 2019 or a total of EUR 26,214 k including treasury shares that are not entitled to dividends.

The individual components of equity and their development in 2019 and 2018 are shown in the consolidated statement of changes in equity.

**(27) Non-current and current financial liabilities**

in EUR k	2019 of which due in			2018 of which due in		
	Total	≤ one year	> one year	Total	≤ one year	> one year
Liabilities to banks	210,564	31,468	179,096	230,866	154,656	76,210
Lease liability	89,913	20,066	69,847	314	190	124
<b>Total</b>	<b>300,477</b>	<b>51,534</b>	<b>248,943</b>	<b>231,180</b>	<b>154,846</b>	<b>76,334</b>

Liabilities to banks due in more than five years come to a total of EUR 82,681k (prior year: EUR 6,847k).

Non-current liabilities owed to banks are predominantly fixed-interest loans. The interest rates range from 0.60 to 2.50 percent (prior year: from 0.73 to 2.50 percent).

For additional information about the interest rate risks, reference is made to [section G. \(36\)](#) "Financial risk management."

Financial liabilities do not include any secured liabilities.

in EUR k	Jan. 1, 2019	Cash	Non-cash	Dec. 31, 2019
Liabilities to banks	230,866	-20,289	-13	210,564
Lease liability	89,182	-19,816	20,547	89,913
<b>Total</b>	<b>320,048</b>	<b>-40,105</b>	<b>20,534</b>	<b>300,477</b>

**(28) Provisions and other liabilities**

Non-current provisions and other liabilities break down as follows:

in EUR k	2019	2018
Provisions for pensions and similar obligations	82,776	73,421
Other non-current provisions	23,487	16,356
Other non-current liabilities	847	352
<b>Total</b>	<b>107,110</b>	<b>90,129</b>

Other non-current liabilities include non-current contract liabilities. For further information, reference is made to [section F. \(31\)](#) "Contract liabilities."

### 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 on 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 5,030k in total in fiscal year 2019 (prior year: EUR 8,109k). The contributions to the statutory pension insurance in Germany came to EUR 32,370k (prior year: EUR 29,340k) in the fiscal year.

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	2019	2018
Current service cost	5,125	4,894
Interest expense	874	879
<b>Total</b>	<b>5,999</b>	<b>5,773</b>

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

The defined benefit obligations developed as follows:

in EUR k	2019	2018
<b>As of January 1</b>	<b>102,321</b>	<b>98,301</b>
<b>Expenses recognized in profit or loss</b>		
Current service cost	5,125	4,894
Interest expense	1,596	1,540
Benefits paid	-4,596	-3,910
<b>Amounts recognized in other comprehensive income</b>		
Change in financial assumptions	9,270	-719
Change in demographic parameters	-542	470
Experience adjustments, gains/losses	102	281
Employee contributions	298	434
Exchange rate differences/other changes	459	1,030
<b>As of December 31</b>	<b>114,033</b>	<b>102,321</b>

The average term of the defined benefit obligations in Germany is between 5.7 and 9.1 years (prior year: 5.6 and 8.6 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	2019	2018
<b>As of January 1</b>	<b>28,900</b>	<b>27,135</b>
<b>Expenses/ income recognized in profit or loss</b>		
Interest income	447	417
<b>Amounts recognized in other comprehensive income</b>		
Return on plan assets	943	5
Experience adjustments, gains/losses	247	-53
Employer contributions	2,572	2,515
Benefits paid	-2,163	-1,449
Exchange rate differences/other changes	311	330
<b>As of December 31</b>	<b>31,257</b>	<b>28,900</b>

The Group expects to contribute EUR 2,028k to its defined benefit pension plans in 2020 (prior year: EUR 1,840k).

Pension payments of EUR 3,602k (prior year: EUR 3,440k) are expected to be made in the subsequent year as part of defined benefit obligations.

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

in EUR k	2019	2018
Defined benefit obligation	114,033	102,321
Fair value of plan assets	-31,257	-28,900
<b>Provisions for pensions and similar obligations</b>	<b>82,776</b>	<b>73,421</b>

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	2019	2018
<b>As of January 1</b>	<b>14,857</b>	<b>13,086</b>
Expenses/ income recognized in profit or loss		
Interest income	275	243
Amounts recognized in other comprehensive income		
Experience adjustments, gains/ losses	70	-144
Employer contributions	1,850	1,694
Benefits paid	-26	-22
Other changes	-2	0
<b>As of December 31</b>	<b>17,024</b>	<b>14,857</b>

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

in EUR k	2019	2018
Discount rate (+1%)	-6,837	-5,743
Discount rate (-1%)	8,577	7,133
Future salary development (-0.5%)	-295	-247
Future salary development (+0.5%)	304	255
Future pension development (-0.25%)	-1,368	-1,163
Future pension development (+0.25%)	1,431	1,214
Life expectancy (+1 year)	4,286	3,432

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 changed simultaneously, 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, 2019:

- Germany: Heubeck 2018G mortality tables (modified)
- Switzerland: BVG 2015

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

in %	Germany 2019	Germany 2018	Switzerland 2019	Switzerland 2018
Discount rate as of December 31	0.75	1.75	0.30	1.00
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, 2019	Exchange rate differences/ changes in the basis of consolidation	Utilization	Reversal	Additions	Dis- count rate adjustment	Dec. 31, 2019
Personnel and welfare expense	15,020	-5	982	0	6,226	117	20,376
Warranties and onerous contracts	12,458	55	7,295	3,491	13,125	0	14,852
Sundry other provisions	10,509	133	6,201	781	8,911	0	12,571
<b>Total</b>	<b>37,987</b>	<b>183</b>	<b>14,478</b>	<b>4,272</b>	<b>28,262</b>	<b>117</b>	<b>47,799</b>

The provisions for personnel and welfare expense essentially comprise special German phased retirement obligations ("Alters-teilzeit"), 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:

in EUR k	2019 of which due in			2018 of which due in		
	Total	≤ one year	> one year	Total	≤ one year	> one year
Personnel and welfare expense	20,376	4,053	16,323	15,020	1,358	13,662
Warranties and onerous contracts	14,852	14,852	0	12,458	12,458	0
Sundry other provisions	12,571	5,407	7,164	10,509	7,815	2,694
<b>Total</b>	<b>47,799</b>	<b>24,312</b>	<b>23,487</b>	<b>37,987</b>	<b>21,631</b>	<b>16,356</b>

**(29) Tax liabilities**

This item records income tax liabilities.

**(30) Trade payables**

in EUR k	2019	2018
<b>Trade payables due to</b>		
third parties	117,050	92,634
entities accounted for using the equity method	240	163
other	193	543
<b>Total</b>	<b>117,483</b>	<b>93,340</b>

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

**(31) Contract liabilities**

Current and non-current contract liabilities break down as follows:

in EUR k	2019			2018		
	Total	≤ one year	> one year	Total	≤ one year	> one year
Payments on account received	55,176	55,176	0	48,420	48,420	0
Deferred revenue	1,687	840	847	913	561	352
<b>Total</b>	<b>56,863</b>	<b>56,016</b>	<b>847</b>	<b>49,333</b>	<b>48,981</b>	<b>352</b>

Deferred revenue mainly contains unrealized revenue from service contracts, such as maintenance agreements or extended warranty contracts.

Contract liabilities developed as follows in the fiscal year:

in EUR k	2019	2018
<b>As of January 1</b>	<b>49,333</b>	<b>42,171</b>
Recognized as revenue in the fiscal year	48,981	41,656
Deferred during the reporting period	56,511	48,818
<b>As of December 31</b>	<b>56,863</b>	<b>49,333</b>

Non-current contract liabilities are included in non-current provisions and other liabilities in the statement of financial position. For further information, reference is made to [section F. \(28\)](#) "Provisions and other liabilities."

**(32) Other liabilities**

in EUR k	2019	2018
Liabilities to employees	71,027	85,132
Other tax liabilities	21,968	27,695
Social security liabilities	6,514	4,478
Derivative financial instruments held for trading	1,479	1,416
Deferred income	426	66
Sundry other liabilities	7,177	5,345
<b>Total</b>	<b>108,591</b>	<b>124,132</b>

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

**G. OTHER NOTES****(33) Contingent liabilities**

As an internationally active company with various fields 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.

**(34) Contingent liabilities and other financial obligations****CONTINGENT LIABILITIES**

There are no contingent liabilities subject to disclosure requirements.

## OTHER FINANCIAL OBLIGATIONS

The Group has purchase obligations (mainly for property, plant and equipment) and the like amounting to EUR 14,107k (prior year: EUR 30,219k) 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 24,427k per year (prior year: EUR 22,304k).

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

## (35) Leases

Taking other financial obligations as of December 31, 2018, as a starting point resulted in the following reconciliation to the opening balance of the lease liability as of January 1, 2019:

in EUR k	2019
Other financial obligations on Dec. 31, 2018	100,557
Obligations from operating leases (prior to discounting)	330
No recognition due to short-term leases and low-value assets	-5,301
Further exemptions and discounting	-4,275
Contracts concluded without an acquired right of use and other	-2,129
<b>Lease liability as of Jan. 1, 2019</b>	<b>89,182</b>

The weighted average incremental borrowing rate for the lease liability recognized for the first time as of January 1, 2019, came to 1.97 percent.

The following tables provide information about the amounts:

in EUR k	2019
<b>Recognized in the income statement:</b>	
Amortization of right-of-use assets	20,612
Expenses relating to short-term leases	3,088
Expenses relating to leases of low-value assets	9,238
Interest expenses on lease liabilities	1,922
<b>Reported in the statement of cash flows:</b>	
<b>Cash outflows for leases</b>	<b>19,816</b>

Amortization, additions and other changes relating to right-of-use assets break down by category as follows:

in EUR k	Property	Vehicles and technical equipment	Furniture and fixtures	Total
Carrying amount as of Jan. 1, 2019	72,529	12,324	480	85,333
Additions	11,833	8,382	224	20,439
Amortization	-13,447	-6,928	-237	-20,612
Other changes	89	11	-12	88
<b>Carrying amount as of Dec. 31, 2019</b>	<b>71,004</b>	<b>13,789</b>	<b>455</b>	<b>85,248</b>

Furthermore, there are future payments from leases that have not started but have already been contractually agreed, as well as for short-term leases with a term of 12 months or less and for low-value leased assets. However, these are immaterial from the Group's point of view.

For details on future payment obligations, reference is made to [section G. \(36e\)](#) "Liquidity risks."

## (36) 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 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 revenue amount is calculated on the basis of the estimate for the coming fiscal year. This is derived mostly from past figures based on 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.

2019	Change in foreign exchange rates in %		Effect on earnings in EUR k	
			Income (+)	Expense (-)
CNY	+10	-10	7,346	-4,527
GBP	+10	-10	1,944	-1,944
PLN	+10	-10	-37	37
USD	+10	-10	1,271	-1,069
<b>Total</b>			<b>10,524</b>	<b>-7,503</b>

2018	Change in foreign exchange rates in %		Effect on earnings in EUR k	
			Income (+)	Expense (-)
AUD	+10	-10	518	-518
CNY	+10	-10	5,618	-3,679
GBP	+10	-10	1,406	-1,406
KRW	+10	-10	375	-375
PLN	+10	-10	-101	101
USD	+10	-10	6,420	-6,034
<b>Total</b>			<b>14,236</b>	<b>-11,911</b>

## (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 209,275k (prior year: EUR 104,961k) have been entered into for these. Floating-interest liabilities to banks amount to EUR 1,289k (prior year: EUR 125,905k).

Of the liabilities to banks, an amount of EUR 31,468k (prior year: EUR 154,656k) is due for repricing within a year, while EUR 179,096k (prior year: EUR 76,210k) 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 IFRS 9 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.

in EUR k	2019		2018	
	+100 basis points	-100 basis points	+100 basis points	-100 basis points
Effects from financial liabilities and assets	-199	199	-517	517
<b>Total</b>	<b>-199</b>	<b>199</b>	<b>-517</b>	<b>517</b>

### (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 combination with quality and procurement assurance aspects using a procurement strategy adjusted to reflect current conditions 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 Group uses specific provision matrices for each region and entity to calculate the expected credit losses. The impairment factors specific to maturity are based on historical and prospective information, such as individual and macroeconomic data.

The following tables provide information on the extent of the credit risks entailed in trade receivables:

in EUR k	2019	2018
Gross value	346,191	342,840
Impairment	(9,533)	(8,486)
<b>Net value</b>	<b>336,658</b>	<b>334,354</b>

in EUR k	2019			2018		
	Gross value	Impairment	Weighting in %	Gross value	Impairment	Weighting in %
As of the reporting date						
not past due	262,153	1,407	0.5	254,716	1,799	0.7
past due by						
less than 30 days	40,938	608	1.5	42,768	596	1.4
between 30 and 90 days	25,851	1,212	4.7	22,703	740	3.3
between 91 and 360 days	12,123	2,183	18.0	17,850	1,940	10.9
more than 360 days	5,126	4,123	80.4	4,803	3,411	71.0
<b>Total</b>	<b>346,191</b>	<b>9,533</b>		<b>342,840</b>	<b>8,486</b>	

Bad debt allowances on trade receivables developed as follows in the reporting year:

in EUR k	2019	2018
<b>As of January 1</b>		<b>9,279</b>
Exchange rate differences		72
Derecognition		-460
Adjustment to loss allowance	2,818	-405
<b>As of December 31</b>	<b>9,533</b>	<b>8,486</b>

## (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.

in EUR k	2019	2018
Credit lines and loans	477,512	324,728
utilized	(210,564)	(230,866)

Operational 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-term 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, 2019 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	2020	2021	2022	2023	2024	≥ 2025
Liabilities to banks	218,820	32,595	30,655	9,468	9,162	52,076	84,864
Lease liability	97,205	20,991	18,091	11,594	9,909	8,104	28,516
Derivative financial instruments	1,479	1,479	0	0	0	0	0
Trade payables	117,483	117,483	0	0	0	0	0
Other financial liabilities	7,177	7,177	0	0	0	0	0
<b>Total</b>	<b>442,164</b>	<b>179,725</b>	<b>48,746</b>	<b>21,062</b>	<b>19,071</b>	<b>60,180</b>	<b>113,380</b>

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 10,013k (prior year: EUR 16,178k) and a cash inflow of EUR 8,534k (prior year: EUR 14,762k).

There are also derivative financial instruments with a positive market value that break down into a cash outflow of EUR 129,690k (prior year: EUR 168,511k) and a cash inflow of EUR 130,553k (prior year: EUR 169,213k).

As of December 31, 2018, the financial liabilities of the Group had the following terms. The disclosures were based on contractual payments without discounting.

in EUR k	Total	2019	2020	2021	2022	2023	≥ 2024
Liabilities to banks	234,888	156,631	29,843	28,032	6,857	6,564	6,961
Lease liability	330	197	64	35	18	16	0
Derivative financial instruments	1,416	1,416	0	0	0	0	0
Trade payables	93,340	93,340	0	0	0	0	0
Other financial liabilities	5,345	5,345	0	0	0	0	0
<b>Total</b>	<b>335,319</b>	<b>256,929</b>	<b>29,907</b>	<b>28,067</b>	<b>6,875</b>	<b>6,580</b>	<b>6,961</b>

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, 2019, the equity ratio amounted to 48.6 percent (prior year: 50.2 percent).

**(37) 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	2019	2018	2019	2018	2019	2018	2019	2018
<b>Assets</b>								
Other financial assets	0	0	863	702	0	0	863	702
thereof derivatives not used for hedging	0	0	863	702	0	0	863	702
<b>Equity and liabilities</b>								
Other financial liabilities	0	0	1,479	1,416	0	0	1,479	1,416
thereof derivatives not used for hedging	0	0	1,479	1,416	0	0	1,479	1,416

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 methods and the variables used are in line with the provisions of IFRS 13.

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.

During the reporting periods ending December 31, 2019 and December 31, 2018, 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:

in EUR k	Level 1		Level 2		Level 3		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
<b>Assets</b>								
Other financial assets	0	0	1,840	1,645	0	0	1,840	1,645
<b>Equity and liabilities</b>								
Liabilities to banks	0	0	212,089	231,955	0	0	212,089	231,955
Lease liabilities	0	0	89,913	314	0	0	89,913	314

The fair value of securities and other financial assets is determined based on the market price as of 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, the present value of the future cash flows was calculated on the basis of matched market interest rates. Lease liabilities are discounted using the interest rate implicit in the lease if this can be determined. Otherwise, they are discounted using the incremental borrowing rate.

For the presentation of the carrying amounts and fair values by class and category, reference is made to [exhibit A3](#) and [exhibit A4](#) of these notes to the consolidated financial statements.

Measurement of the financial instruments held as of December 31, 2019 at fair value gave rise to the following total gains and losses.

in EUR k	Assets		Liabilities	
	2019	2018	2019	2018
<b>Recognized in the income statement:</b>				
Derivatives not used for hedging	-244	-354	-1,479	-1,416

**(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 pursuant to IFRS 9:

in EUR k	2019	2018
Financial assets at fair value through profit or loss	-80	-293
Financial liabilities at fair value through profit or loss	127	-639
Financial assets at acquisition cost	1,618	1,623
Financial liabilities at acquisition cost	-3,952	-4,607
<b>Total</b>	<b>-2,287</b>	<b>-3,916</b>

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 assets and financial liabilities at amortized cost chiefly include the effects of interest, currencies, and impairments.

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	2019	2018
Total interest income	1,999	267
Total interest expenses	-3,719	-3,913
<b>Total</b>	<b>-1,720</b>	<b>-3,646</b>

**(D) DERIVATIVE FINANCIAL INSTRUMENTS**

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

in EUR k	Contract value or nominal value		Positive fair value		Negative fair value	
	2019	2018	2019	2018	2019	2018
Currency instruments without hedging relationship						
Forward exchange contracts	93,956	142,993	273	350	1,479	1,416
Currency options (OTC) <sup>1</sup>	44,269	40,280	590	352	0	0
<b>Total currency instruments</b>	<b>138,225</b>	<b>183,273</b>	<b>863</b>	<b>702</b>	<b>1,479</b>	<b>1,416</b>

<sup>1</sup> OTC: over the counter.

The foreign currency instruments are principally used to hedge exchange rate risks in CNY, GBP, PLN and USD. The total hedges of EUR 138,225k (prior year: EUR 183,273k) have maturities of less than 12 months.

**(38) Government grants**

The Group reported government grants for R&D projects of EUR 1,711k (prior year: EUR 2,226k); these are not dependent on the success of the projects. These were recognized as income in full in 2019 in accordance with the percentage of completion of the projects.

**(39) Related party disclosures**

Related parties are members of the Executive Board, members of the Supervisory Board of the Group, members of the Sick family, Sick Glaser GmbH, Freiburg, Germany, the Gisela and Erwin Sick Foundation, Freiburg, Germany, joint ventures, associates, and Sick Holding GmbH, Freiburg, Germany. Sick Holding GmbH is the ultimate parent company of SICK AG and Ms. Renate Sick-Glaser is the ultimate controlling party with 50.7 percent of the equity interest in Sick Holding GmbH. The consolidated financial statements of Sick Holding GmbH are published in the Bundesanzeiger (German Federal Gazette).

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

The table below provides the total amount of transactions with related parties for the fiscal year:

in EUR k	2019	2018
Goods and services sold	207	1,955
Goods and services purchased	2,302	1,929
Receivables as of the end of the reporting period	70	793
Liabilities as of the end of the reporting period	240	163

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

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

In the Group as of December 31, 2019, 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 4,075k (prior year: EUR 4,117k) granted to these individuals includes short-term employee benefits of EUR 3,420k (prior year: EUR 3,646k) expensed in the reporting period, post-employment benefits of EUR 479k (prior year: EUR 479k) as well as other long-term benefits of EUR 175k (prior year: EUR 117k), of which EUR 88k (prior year: EUR 59k) 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 2017, 2018, and 2019. Fundamental prerequisite 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 2017 to 2019, 2018 to 2020, or 2019 to 2021, 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 period, the LTI is paid out in shares in SICK AG (max. 50 percent) and in cash (min. 50 percent). In fiscal year 2019, 4,500 shares were paid out at a price of EUR 50.55 at the end of the 2016 to 2019 time frame under the LTI. The obligations from the cash settlement amount to EUR 224k as of December 31, 2019. 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.

Measurement of the LTI as of December 31, 2019 was based on the consolidated financial statements as of December 31, 2017 to 2019 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 50.74 calculated by the tax authorities in May of the fiscal year 2019, the 50 percent share of the LTI that can be paid in shares corresponds to EUR 224k or 4,435 shares.

Compensation to former members of management and their surviving dependents totaled EUR 1,218k in the fiscal year (prior year: EUR 1,193k). Provisions totaling EUR 13,017k (prior year: EUR 12,366k) were recognized for pension obligations for this group of persons.

Compensation of the Supervisory Board of SICK AG came to EUR 744k (prior year: EUR 738k) for supervisory board activities and to EUR 393k (prior year: EUR 393k) for activities for SICK AG. Additional compensation for advisory services was not paid.

As of December 31, 2019, as in the prior year, the Sick family has no receivables or liabilities due from or to the Group.

#### (40) Stock option plans

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

#### (41) 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 fiscal year 2019:

in EUR k	2019	2018
Audits of the financial statements	319	351
Other services	179	130
<b>Total</b>	<b>498</b>	<b>481</b>

## (42) Financial reporting standards not early adopted

The IASB and IFRIC have issued additional standards and interpretations. These regulations have not been adopted for this reporting year because they have either not yet been recognized by the EU or their adoption is not yet mandatory.

Generally speaking, the Group intends to adopt all standards when their adoption becomes mandatory for the first time.

Standards/interpretations	Title	Applicable from	Expected impact on SICK
Amendments to IFRS 9, IAS 39 and IFRS 7	Interest Rate Benchmark Reform	January 1, 2020	Immaterial
Amendments to references to the Conceptual Framework for Financial Reporting	Conceptual Framework for Financial Reporting	January 1, 2020	Immaterial
Amendments to IAS 1 and IAS 8	Definition of Material	January 1, 2020	Significant in principle
Amendments to IFRS 3	Business Combinations: Definition of a Business	January 1, 2020	Immaterial
IFRS 17	Insurance Contracts	January 1, 2021	Immaterial
Amendments to IAS 1	Presentation of Financial Statements: Classification of Liabilities as Current or Non-Current	January 1, 2022	Immaterial

In October 2018, the IASB issued the amended standard “Definition of Material (Amendments to IAS 1 and IAS 8)”, in order to refine the IFRS definition of materiality and to standardize the various definitions in the Conceptual Framework and the standards themselves. According to this, information is material if omitting, misstating, or obscuring it could reasonably be expected to influence the decisions taken by the primary users of general purpose financial statements. The amendment is mandatory for fiscal years beginning on or after January 1, 2020. The Group is planning to perform an analysis of the potential impact on its future financial position and performance.

## (43) Subsequent events

SICK AG expanded its Executive Board as of January 1, 2020. The Supervisory Board has set the course for growth in the rapidly developing technology and market environment, appointing Dr. Tosja Zywiets for the Operations portfolio in the Executive Board. The newly created portfolio consolidates production-relevant functions, including procurement and quality, at the Executive Board level.

Uncertainties in connection with the unpredictable consequences of the COVID-19 pandemic since the beginning of 2020 and therefore the risks to global economic growth have increased considerably. According to the company's assessment, this may have substantial negative effects on the Group's sales and EBIT.

## (44) 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, Vörsstetten  
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  
Managing Director of Sick Glaser GmbH, Freiburg

Prof. Dr. Mark K. Binz, Stuttgart  
Lawyer

Sebastian Glaser, Munich  
Managing Partner of Sick Holding GmbH, Freiburg

Renate Sick-Glaser, Freiburg  
Managing Partner of Sick Glaser GmbH, Freiburg

Dr. Dipl.-Ing. Eberhard Veit, Göppingen  
Managing Partner of 4.0-Veit GbR, Göppingen

**EMPLOYEE REPRESENTATIVES:**

Karl-Heinz Barth, Donaueschingen  
Chairman of the Works Council of SICK STEGMANN GmbH, Donaueschingen  
Deputy Chairman of the Group Works Council

Dr. Bernd Cordes, Emmendingen  
Head of the Global Business Center 07 of SICK AG, Waldkirch

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

Hermann Spieß, Breisach  
Trade union secretary of IG Metall

Susanne Tröndle, Waldkirch (Deputy Chairwoman)  
Chairwoman of the Works Council and the Central Works Council of SICK AG, Waldkirch  
Chairwoman of the Group Works Council

Thomas Weckopp, Korschenbroich  
Chairman of the Works Council of SICK Vertriebs-GmbH, Düsseldorf

#### (45) Approval of the consolidated financial statements

The consolidated financial statements were approved by the Executive Board on March 17, 2020.  
The financial statements were then submitted to the Supervisory Board for review.

Waldkirch, March 17, 2020

SICK AG

The Executive Board



Dr. Robert Bauer (Chairman)



Reinhard Bösl



Dr. Mats Gökstorp



Dr. Martin Krämer



Markus Vatter



Dr. Tosja Zywietz

## CONSOLIDATED STATEMENT OF CHANGES IN NON-CURRENT ASSETS

Attachment A1

Non-current assets		Acquisition or production costs							Accumulated depreciation/ amortization							Net carrying amounts			
		Balance as of Jan. 1, 2019	IFRS 16 adjust-ment	Adjusted balance as of Jan. 1, 2019	Exchange rate differ-ences	Additions	Disposals	Reclassi-fications	Balance as of Dec. 31, 2019	Balance as of Jan. 1, 2019	IFRS 16 adjust-ment	Adjusted balance as of Jan. 1, 2019	Exchange rate differ-ences	Additions	Disposals	Reclassi-fications	Balance as of Dec. 31, 2019	Balance as of Dec. 31, 2019	Balance as of Dec. 31, 2018
in EUR k																			
I. Intangible assets																			
1.	Purchased industrial property rights and similar rights and assets as well as licenses to such rights and assets	90,727	0	90,727	-21	8,388	7,104	843	92,833	77,403	0	77,403	120	8,808	7,026	0	79,305	13,528	13,324
2.	Goodwill	25,530	0	25,530	610	405	0	0	26,545	1,024	0	1,024	0	0	0	0	1,024	25,521	24,506
3.	Capitalized develop-ment costs and other internally generated intangible assets	105,329	0	105,329	8	12,757	1,827	0	116,267	77,197	0	77,197	-1	8,130	1,827	0	83,499	32,768	28,132
4.	Payments on account	1,981	0	1,981	0	1,933	0	-843	3,071	0	0	0	0	0	0	0	0	3,071	1,981
		223,567	0	223,567	597	23,483	8,931	0	238,716	155,624	0	155,624	119	16,938	8,853	0	163,828	74,888	67,943
II. Property, plant and equipment																			
1.	Land and buildings including buildings on third-party land	236,299	0	236,299	106	8,945	801	4,502	249,051	72,255	0	72,255	144	7,316	788	-12	78,915	170,136	164,044
2.	Technical equipment and machinery	225,376	0	225,376	-312	22,005	2,520	16,596	261,145	134,084	0	134,084	-130	28,773	2,516	38	160,249	100,896	91,292
3.	Other equipment, furniture and fixtures	175,991	0	175,991	992	10,331	11,204	3,507	179,617	115,704	0	115,704	696	13,526	11,197	-26	118,703	60,914	60,287
4.	Payments on account and assets under construction	37,459	0	37,459	9	35,760	0	-24,605	48,623	0	0	0	0	0	0	0	0	48,623	37,459
5.	Right-of-use asset from leases	0	130,377	130,377	1,037	20,439	1,792	0	150,061	0	45,044	45,044	510	20,612	1,353	0	64,813	85,248	0
		675,125	130,377	805,502	1,832	97,480	16,317	0	888,497	322,043	45,044	367,087	1,220	70,227	15,854	0	422,680	465,817	353,082
Total		898,692	130,377	1,029,069	2,429	120,963	25,248	0	1,127,213	477,667	45,044	522,711	1,339	87,165	24,707	0	586,508	540,705	421,025

Additions include the acquisition of SICK SpA, Santiago de Chile, Chile (industrial property rights and similar rights: EUR 330k; goodwill: EUR 405k; property, plant and equipment: EUR 16k).

## CONSOLIDATED STATEMENT OF CHANGES IN NON-CURRENT ASSETS

Attachment A2

Non-current assets		Acquisition or production costs					Accumulated depreciation/ amortization					Net carrying amounts			
		Balance as of Jan. 1, 2018	Exchange rate dif- ferences	Additions	Disposals	Reclasi- fications	Balance as of Dec. 31, 2018	Balance as of Jan. 1, 2018	Exchange rate dif- ferences	Additions	Disposals	Reclasi- fications	Balance as of Dec. 31, 2018	Balance as of Dec. 31, 2018	Balance as of Dec. 31, 2017
in EUR k															
I. Intangible assets															
1.	Purchased industrial property rights and similar rights and assets as well as licenses to such rights and assets	86,145	-53	5,517	1,271	389	90,727	69,710	-125	9,089	1,271	0	77,403	13,324	16,435
2.	Goodwill	25,950	-420	0	0	0	25,530	1,024	0	0	0	0	1,024	24,506	24,926
3.	Capitalized development costs and other internally generated intangible assets	96,033	0	10,628	1,332	0	105,329	70,244	0	8,285	1,332	0	77,197	28,132	25,789
4.	Payments on account	721	0	1,649	0	-389	1,981	0	0	0	0	0	0	1,981	721
		208,849	-473	17,794	2,603	0	223,567	140,978	-125	17,374	2,603	0	155,624	67,943	67,871
II. Property, plant and equipment															
1.	Land and buildings including buildings on third-party land	209,624	119	14,827	183	11,912	236,299	65,909	86	6,289	180	151	72,255	164,044	143,715
2.	Technical equipment and machinery	192,232	-468	21,450	5,408	17,570	225,376	118,325	-214	21,523	5,402	-148	134,084	91,292	73,907
3.	Other equipment, furniture and fixtures	153,658	459	23,107	5,735	4,502	175,991	103,413	487	17,392	5,585	-3	115,704	60,287	50,245
4.	Payments on account and assets under construction	41,506	-49	29,986	0	-33,984	37,459	0	0	0	0	0	0	37,459	41,506
		597,020	61	89,370	11,326	0	675,125	287,647	359	45,204	11,167	0	322,043	353,082	309,373
Total		805,869	-412	107,164	13,929	0	898,692	428,625	234	62,578	13,770	0	477,667	421,025	377,244

**CARRYING AMOUNTS AND FAIR VALUES**

by measurement category in EUR k

Attachment A3

	Measurement category pursuant to IFRS 9	Carrying amount pursuant to IFRS 9				Carrying amount pursuant to IFRS 16	Other carrying amounts	Fair value 2019
		Carrying amount 2019	(Amortized) cost	Fair value through other comprehensive income	Fair value through profit or loss			
<b>Assets</b>								
<b>Other financial assets</b>								
Other equity investments	FVOCI	1,840		1,840				1,840
Trade receivables	AC	336,658	336,658					336,658
<b>Other assets</b>								
Derivatives held for trading	FVTPL	863			863			863
Other	FVOCI / AC / n.a.	35,574	8,867	511			26,196	35,574
Cash and cash equivalents	AC	66,278	66,278					66,278
<b>Equity and liabilities</b>								
<b>Financial liabilities</b>								
Liabilities to banks	AC	210,564	210,564					212,089
Lease liabilities	n.a.	89,913				89,913		89,913
Trade payables	AC	117,483	117,483					117,483
<b>Other liabilities</b>								
Derivatives held for trading	FVTPL	1,479			1,479			1,479
Other	AC	7,177	7,177					7,177
<b>Of which aggregated by measurement category pursuant to IFRS 9:</b>								
Financial assets at amortized cost (AC)		411,803	411,803					
Financial assets at fair value through profit or loss (FVTPL)		863			863			
Financial assets at fair value through other comprehensive income (FVOCI)		2,351		2,351				
Financial liabilities at amortized cost (AC)		335,224	335,224					
Financial liabilities at fair value through profit or loss (FVTPL)		1,479			1,479			

**CARRYING AMOUNTS AND FAIR VALUES**

by measurement category in EUR k

Attachment A4

	Measurement category pursuant to IFRS 9	Carrying amount pursuant to IFRS 9				Carrying amount pursuant to IAS 17	Other carrying amounts	Fair value 2018
		Carrying amount 2018	(Amortized) cost	Fair value through other comprehensive income	Fair value through profit or loss			
<b>Assets</b>								
<b>Other financial assets</b>								
Other equity investments	FVOCI/ n.a.	1,643		5			1,638	1,643
Other financial assets	FVOCI	2		2				2
Trade receivables	AC	334,354	334,354					334,354
<b>Other assets</b>								
Derivatives held for trading	FVTPL	702			702			702
Other	FVOCI/ AC/ n.a.	33,870	11,102	272			22,496	33,870
Cash and cash equivalents	AC	21,152	21,152					21,152
<b>Equity and liabilities</b>								
<b>Financial liabilities</b>								
Liabilities to banks	AC	230,866	230,866					231,955
Finance lease liabilities	n.a.	314				314		314
Trade payables	AC	93,340	93,340					93,340
<b>Other liabilities</b>								
Derivatives held for trading	FVTPL	1,416			1,416			1,416
Other	AC	5,345	5,345					5,345
<b>Of which aggregated by measurement category pursuant to IFRS 9:</b>								
Financial assets at amortized cost (AC)		366,608	366,608					
Financial assets at fair value through profit or loss (FVTPL)		702			702			
Financial assets at fair value through other comprehensive income (FVOCI)		279		279				
Financial liabilities at amortized cost (AC)		329,551	329,551					
Financial liabilities at fair value through profit or loss (FVTPL)		1,416			1,416			

**LIST OF MAIN SHAREHOLDINGS**

as of December 31, 2019

Attachment A5

Name and registered offices of the entity		Investment in %	Indirect investment via no.	Consolidation
<b>Parent company</b>				
SICK AG, Waldkirch / Germany				
<b>I.</b>	<b>Shares in affiliates</b>			
1.	SICK S.à.r.l., Émerainville / France	100,00		
2.	SICK (UK) Ltd., St. Albans / United Kingdom	100,00		
3.	SICK, Inc., Minneapolis / USA	100,00		
4.	SICK B.V., De Bilt / Netherlands	100,00		
5.	SICK AG, Stans / Switzerland	100,00		
6.	SICK Pty Ltd., Heidelberg West, VIC / Australia	100,00		
7.	SICK A/S, Birkerød / Denmark	100,00		
8.	SICK NV/SA, Zellik-Asse / Belgium	100,00		
9.	SICK K.K., Tokyo / Japan	100,00		
10.	SICK Optic-Electronic S.A., Sant Just Desvern / Spain	100,00		
11.	SICK Engineering GmbH, Ottendorf-Okrilla / Germany <sup>1</sup>	100,00		
12.	SICK Oy, Vantaa / Finland	100,00		
13.	SICK Pte. Ltd., Singapore / Singapore	100,00		
14.	SICK AS, Rud / Norway	100,00		
15.	SICK AB, Stockholm / Sweden	100,00		
16.	SICK Sp. z o.o., Warsaw / Poland	100,00		
17.	SICK Solução em Sensores Ltda., São Paulo / Brazil	100,00		
18.	Sick Optic-Electronic Co., Ltd., Hong Kong / China	100,00		
19.	SICK S.p.A., Vimodrone (MI) / Italy <sup>2</sup>	100,00		
20.	SICK Kft., Kunsziget / Hungary	100,00		
21.	SICK GmbH, Vienna Neudorf / Austria	100,00		
22.	SICK spol. s r.o., Prague / Czech Republic	100,00		
23.	SICK Management GmbH, Waldkirch / Germany <sup>1</sup>	100,00		
24.	SICK Co., Ltd., Seoul / Korea	100,00		
25.	SICK Automatisierung International GmbH, Waldkirch / Germany	100,00		

Name and registered offices of the entity		Investment in %	Indirect investment via no.	Consolidation
26.	SICK China Co., Ltd., Guangzhou / China	100,00	18.	
27.	SICK STEGMANN GmbH, Donaueschingen / Germany <sup>1,3</sup>	100,00	23.	
28.	SICK MAIHAK (Beijing) Co., Ltd., Beijing / China	100,00		
29.	SICK IVP AB, Linköping / Sweden	100,00		
30.	Sensörler ve İleri Cihazlar Kontrol A.Ş., Istanbul / Turkey	100,00		
31.	SICK LLC, Moscow / Russia <sup>4</sup>	100,00	25.	
32.	SICK Vertriebs-GmbH, Düsseldorf / Germany <sup>1</sup>	100,00		
33.	SICK d.o.o., Ljubljana / Slovenia	100,00	21.	N
34.	SICK INDIA Pvt. Ltd., Mumbai / India	100,00	25.	
35.	SICK Sensors Ltd., Tzur Yigal / Israel	100,00		
36.	SICK S.R.L., Dumbravita / Romania <sup>5</sup>	100,00	25.	N
37.	SICK TAIWAN Co., Ltd., Taipei / Taiwan	100,00		
38.	SICK Automation Solutions S.A. de C.V., Guanajuato / Mexico	100,00	25.	
39.	SICK Ltd., Moncton, New Brunswick / Canada	100,00	3.	
40.	SICK Automation Southern Africa (Pty) Ltd., Northcliff / South Africa	100,00	25.	
41.	SICK Sdn. Bhd., Johor Bahru / Malaysia	100,00	43.	
42.	SICK System Engineering AG, Buochs / Switzerland	100,00		
43.	SICK Product Center Asia Pte. Ltd., Singapore / Singapore	100,00		
44.	SICK FZE, Dubai / United Arab Emirates	100,00	25.	
45.	SICK Sensor (Malaysia) Sdn. Bhd., Petaling Jaya / Malaysia	100,00	25.	N
46.	SICK (THAILAND) Co., Ltd., Bangkok / Thailand	100,00	25.	N
47.	SICK NZ Ltd, Auckland / New Zealand	100,00	25.	
48.	SICK Ertekesito Szolgaltato Kft., Budapest / Hungary	100,00	25.	N
49.	SICK Metering Systems N.V., Stabroek / Belgium	100,00	11.	
50.	Vision Solution Engineering s.r.o., Prague / Czech Republic	100,00	25.	

Name and registered offices of the entity		Investment in %	Indirect investment via no.	Consolidation
51.	SICK Product & Competence Center Americas LLC, Minneapolis, Minnesota / USA	100,00	3.	
52.	SICK ATech GmbH, Witten / Germany	100,00		
53.	SICK Hellas Ltd., Chalandri / Greece <sup>6</sup>	100,00	25.	N
54.	Zhejiang SICK Sensor Co. Ltd., Jiaxing, Zhejiang Province / China	100,00		
55.	SICK SpA, Santiago de Chile / Chile	100,00	25.	
56.	Jiangsu SICK Sensor Co., Ltd., Changzhou, Jiangsu Province / China	100,00		N
57.	SICK Slovakia s.r.o., Bratislava / Slovakia	100,00		N
<b>II. Equity investments and other interests</b>				
58.	SICK OPTEX Co., Ltd., Kyoto / Japan	50,00		A
59.	WABE gGmbH, Waldkirch / Germany	16,67		N
60.	Mobilisis d.o.o., Varaždin / Croatia	24,99		A

<sup>1</sup> The entities have exercised the exemption provision pursuant to Sec. 264 (3) HGB.

<sup>2</sup> 10 percent of the shares are held by SICK Engineering GmbH, Ottendorf-Okrilla / Germany (No. 11).

<sup>3</sup> 6 percent of the shares are held by SICK AG, Waldkirch / Germany.

<sup>4</sup> 15 percent of the shares are held by SICK AG, Waldkirch / Germany.

<sup>5</sup> 0.5 percent of the shares are held by SICK AG, Waldkirch / Germany.

<sup>6</sup> 1 percent of the shares are held by SICK Management GmbH, Waldkirch / Germany (No. 23).

<sup>N</sup> The entities marked N are not included in the consolidated financial statements on grounds of immateriality.

<sup>A</sup> The entities marked A are included in the consolidated financial statements at equity.

# INDEPENDENT AUDITOR'S REPORT<sup>1</sup>

to SICK AG

## Opinions

We have audited the consolidated financial statements of SICK AG, Waldkirch, and its subsidiaries (the Group), which comprise the consolidated income statement, and the consolidated statement of comprehensive income for the fiscal year from January 1 to December 31, 2019, the consolidated statement of financial position as of December 31, 2019, the consolidated statement of cash flows and the consolidated statement of changes in equity for the fiscal year from January 1 to December 31, 2019, and notes to the consolidated financial statements, including a summary of significant accounting policies. In accordance with the German legal requirements, we have not audited the content of the following sections of the group management report, as these relate either to information not relevant to management reports or information not typical of management reports that is not subject to a statutory audit:

- A.III. Advantages of the SICK business model
- A.V. Corporate governance and compliance management
- B.II. Overview of the most important product innovations
- C. SUSTAINABILITY AND COMPLIANCE (including information on the female quota)

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

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB ("Handelsgesetzbuch": German Commercial Code) and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as of December 31, 2019, and of its financial performance for the fiscal year from January 1 to December 31, 2019, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the group management report does not cover the content of the sections of the management report referred to above.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

<sup>1</sup> Translation of the German independent auditor's report concerning the audit of the consolidated financial statements and group management report prepared in German

## Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

## Other information

The executive directors are responsible for the other information. Other information comprises the following sections of the group management report:

- A.III. Advantages of the SICK business model
- A.V. Corporate governance and compliance management
- B.II. Overview of the most important product innovations
- C. SUSTAINABILITY AND COMPLIANCE (including information on the female quota)

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

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

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

## Responsibilities of the executive directors and the Supervisory Board for the consolidated financial statements and the group management report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group.

In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

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

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

## Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

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

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with (German) law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

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

Freiburg i. Br., March 18, 2020

Ernst & Young GmbH  
Wirtschaftsprüfungsgesellschaft

Nietzer	Busser
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

# 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
- NIBC Bank Deutschland AG, Frankfurt am Main,  
member of the Advisory Board
- Investcorp Group, London (UK), Advisory Director
- 7-Industries B.V., Amsterdam (Netherlands),  
Chairman of the Supervisory Board
- TRICOR AG, Bad Wörishofen,  
Member of the Supervisory Board
- Welltec International ApS, Allerød (Denmark),  
Non-Executive Director

**Karl-Heinz Barth**, Donaueschingen<sup>1</sup>  
Chairman of the Works Council of SICK STEGMANN GmbH, Donaueschingen,  
Deputy Chairman of the Group Works Council  
Member of the Supervisory Board  
since 2018

**Franz Bausch**, Hinterzarten  
Managing Director of Sick Glaser GmbH, Freiburg  
Member of the Supervisory Board since 1999

## Additional Supervisory Board membership:

- Deutsche Steuerberater-Versicherung – Pensionskasse des steuerberatenden Berufs  
VVG, 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

**Dr. Bernd Cordes**, Emmendingen<sup>1</sup>  
Head of the Global Business Center 07, SICK AG, Waldkirch  
Member of the Supervisory Board since 2017

## Additional Supervisory Board membership:

- HYDRO Systems KG, Biberach / Baden,  
member of the Advisory Board

**Sebastian Glaser**, Munich  
Managing Director of Sick Holding GmbH, Freiburg  
Member of the Supervisory Board since 2017

<sup>1</sup> Employee representative

**Dr. Matthias Müller**, Braunschweig<sup>1</sup>

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:**

- Berufsbildungswerk Gemeinnützige Bildungseinrichtung des DGB GmbH (bfb), Düsseldorf, member of the Supervisory Board
- BGAG GmbH, Frankfurt am Main, member of the Advisory Board
- RWE Power AG, Essen, member of the Supervisory Board

**Renate Sick-Glaser**, Freiburg

Managing Director of Sick Glaser GmbH, Freiburg  
 Member of the Supervisory Board since 2007

**Hermann Spieß**, Breisach<sup>1</sup>

Trade Union Secretary of IG Metall  
 Member of the Supervisory Board since 2002

**Additional Supervisory Board membership:**

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

**Susanne Tröndle**, Waldkirch<sup>1</sup>

Chairwoman of the Works Council and the Central Works Council of SICK AG, Waldkirch  
 Chairwoman of the Group Works Council since 2018  
 Member of the Supervisory Board since 2018

**Dr. Dipl.-Ing. Eberhard Veit**, Göppingen

Managing Director of 4.0-Veit GbR, Göppingen  
 Member of the Supervisory Board since 2017

**Additional Supervisory Board memberships:**

- ANDREAS STIHL AG & Co. KG, Waiblingen, member of the Advisory Board
- Bizerba SE & Co. KG, Balingen, member of the Supervisory Board
- Carl Zeiss AG, Oberkochen, member of the Supervisory Board
- ebm-papst GmbH & Co. KG, Mulfingen, member of the Advisory Board
- 7-Industries B.V., Amsterdam (Netherlands), member of the Supervisory Board
- Phoenix Contact GmbH & Co. KG, Blomberg/ Lippe, Chairman of the Advisory Board
- Schwarz GmbH & Co. KG, Göppingen, Chairman of the Advisory Board
- TÜV Süd AG, Munich, member of the Supervisory Board
- Wagner International, Markdorf and Altstätten (Switzerland), member of the Administrative Board

**Thomas Weckopp**, Korschenbroich<sup>1</sup>

Chairman of the Works Council of SICK Vertriebs-GmbH, Düsseldorf  
 Member of the Supervisory Board since 2017

# 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.



## **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.



## **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.



#### **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.



#### **DR. TOSJA ZYWIEZ**

Operations,  
member of the Executive Board since January 1, 2020

Tosja Zywietz was born in Hannover in 1971 and, after completing his studies at the Georg-August University of Göttingen and in the USA, obtained a PhD in the field of theoretical physics at the Fritz Haber Institute of the Max Planck Society. Before being nominated to the Executive Board of SICK, Tosja Zywietz worked with the Boston Consulting Group and then founded a startup company in the area of medical technology. After selling the company, he took a position on the management board of the Rosenberger Group in 2009 where he was appointed Spokesman of the Management Board in early 2016.

# FINANCIAL CALENDAR 2020



<b>April 29</b>	Publication of the 2019 balance sheet ratios
<b>May 19</b>	Annual General Shareholders' Meeting (planned)
<b>May 25</b>	Dividend payment

# IMPRINT



## **PUBLISHED BY**

SICK AG  
Erwin-Sick-Str. 1  
79183 Waldkirch  
Germany

Phone: +49 7681 202-0  
Fax: +49 7681 202-3863  
E-mail: [info@sick.de](mailto:info@sick.de)

[www.sick.com](http://www.sick.com)

## **PROJECT MANAGEMENT**

Antje Stein, Corporate Communication  
Phone: +49 7681 202-3873  
E-mail: [antje.stein@sick.de](mailto:antje.stein@sick.de)  
Herbert Melzl, Taxes & Group Accounting

## **CONSULTING, CONCEPT & DESIGN**

Silvester Group, Hamburg, Germany  
[www.silvestergroup.com](http://www.silvestergroup.com)

## **PICTURES**

Dschafar El Kassem

## **TEXT**

Julia Baumann, Antje Stein



**SICK**  
Sensor Intelligence.