

First Sensor 

WE LEAD THE FUTURE

COMPANY PRESENTATION

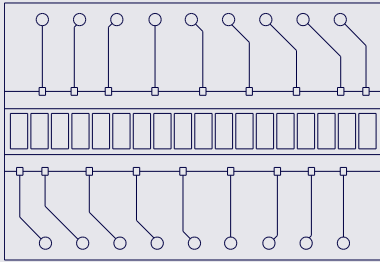


FIRST SENSOR AT A GLANCE

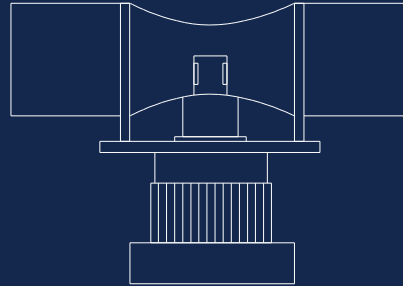
OUR COMPETENCE

Pattern recognition is our very first core competence.

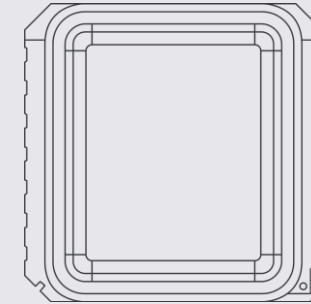
Radiation



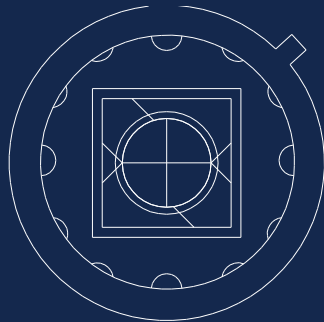
Flow



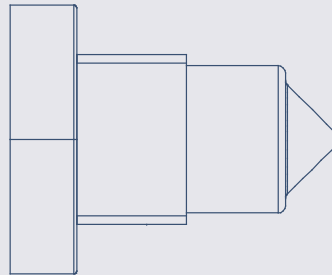
Acceleration



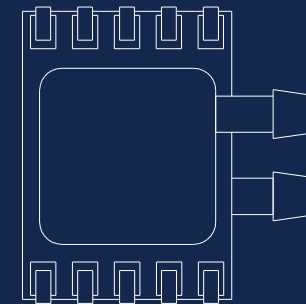
Light



Level



Pressure



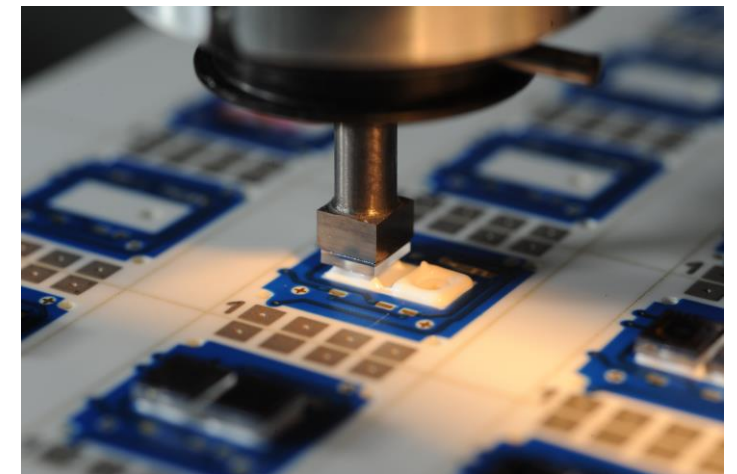
OUR COMPETENCE

Semiconductor production puts this competence into products.



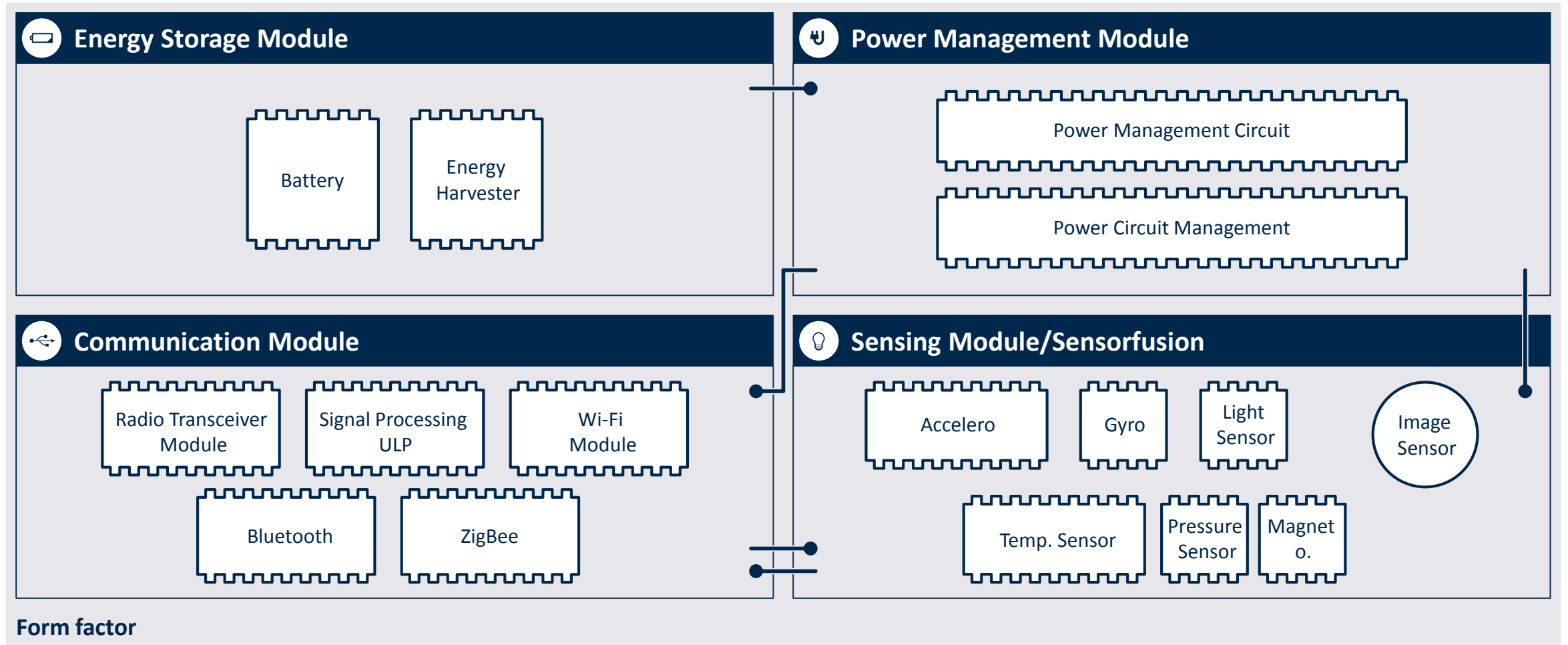
OUR COMPETENCE

Microelectronic technology comprises our second core competence.



OUR COMPETENCE

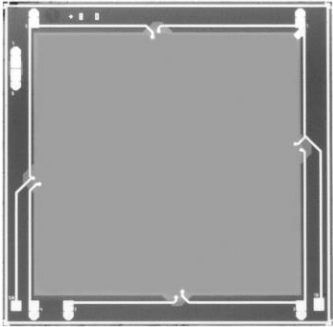
We link our two competences in order to design sensor systems.



OUR COMPETENCE

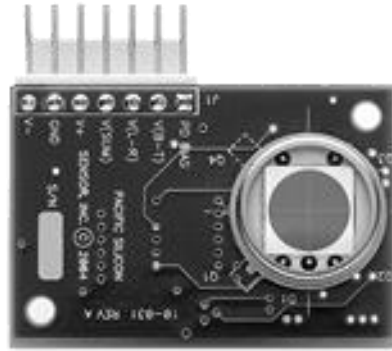
Thereby, we cover the entire value chain of sensor technology.

Sensor chip



- Silicon based
- converts physical parameters into electrical signals

Packaging



- Connecting microelectronic and non-electronic micro components to a housing

Sensor



- Consists of a sensor chip, a housing and electronics
- The measurement signal can be calibrated

Sensor system



- Measures and preprocesses data
- communicates with other systems

Detect

Detect & Understand

OUR MARKETS

We focus on the growth markets Industrial, Medical and Mobility.

First Sensor  Industrial

Innovative solutions
for the automation
of industry

- Industrial Process Control
- Radiation and Security
- Smart Buildings
- Length Measurement
- Aerospace


Sales share 50%

First Sensor  Medical

Reliable technology
whenever it is needed

- Diagnostics
- Medical Respiration and Pneumology
- Dialysis and Infusion

Sales share 20%

First Sensor  Mobility

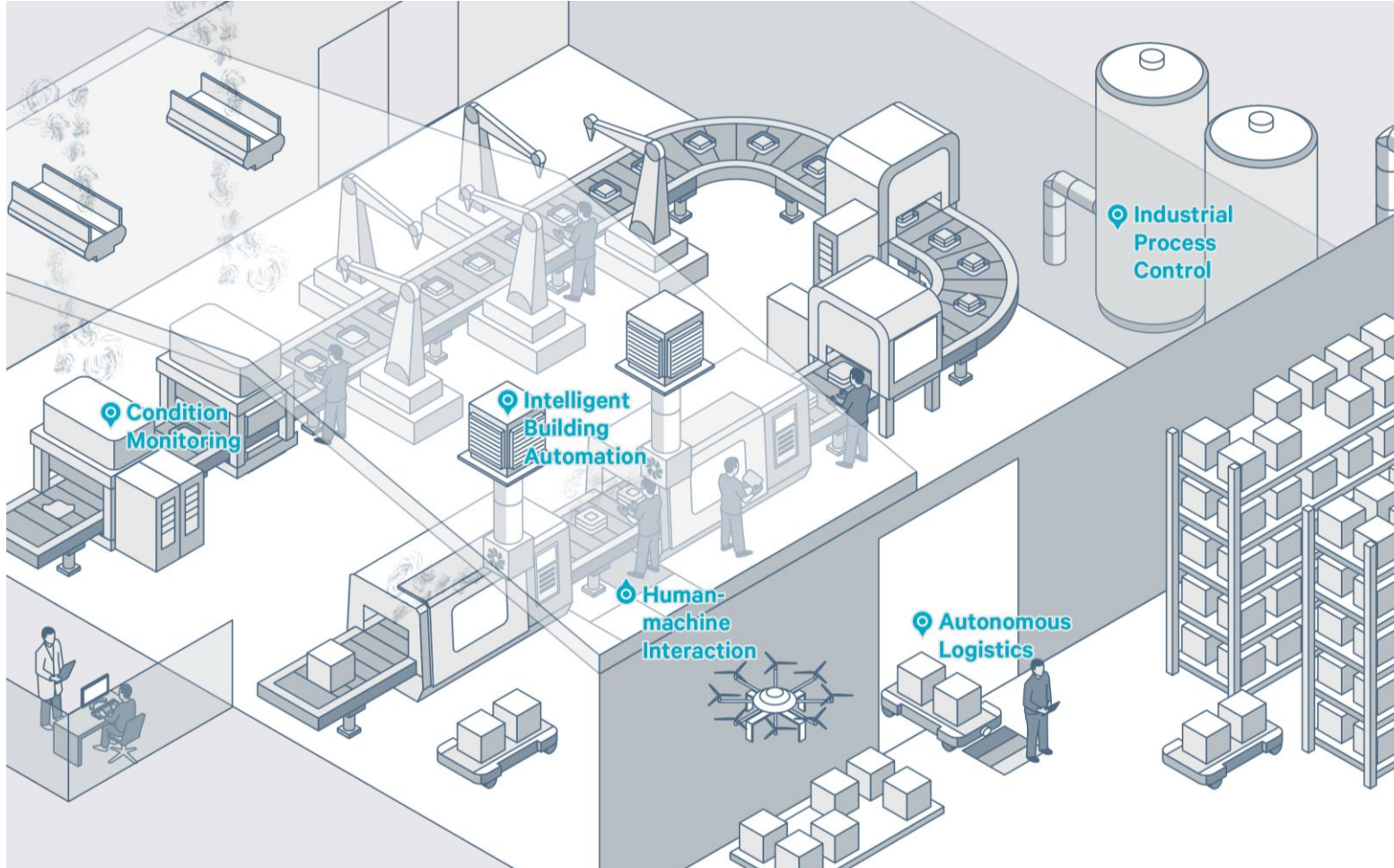
New ideas for
intelligent mobility

- Cameras and camera systems
- Pressure Sensors
- Optical Sensors
- Flow Sensors

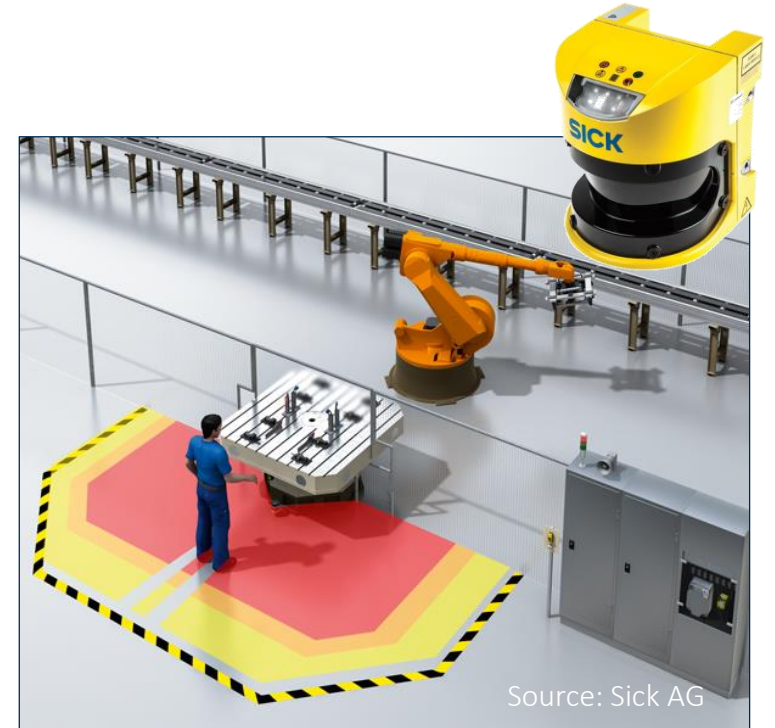
Sales share 30%

OUR MARKETS

The industrial market needs sensors to create an autonomous interaction between products and processes.

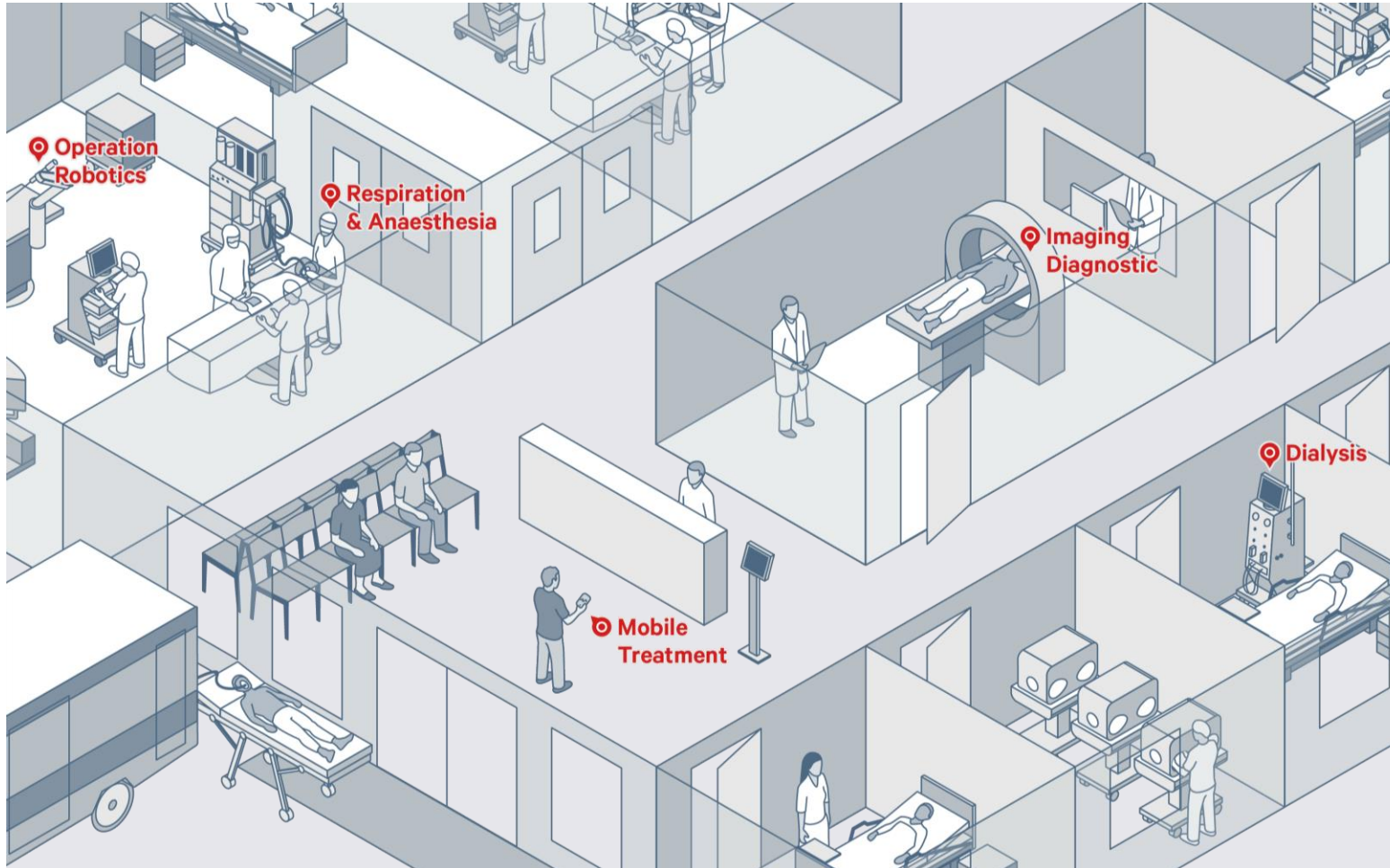


Intelligent sensor systems control applications such as condition monitoring, predictive maintenance or human-machine collaboration.

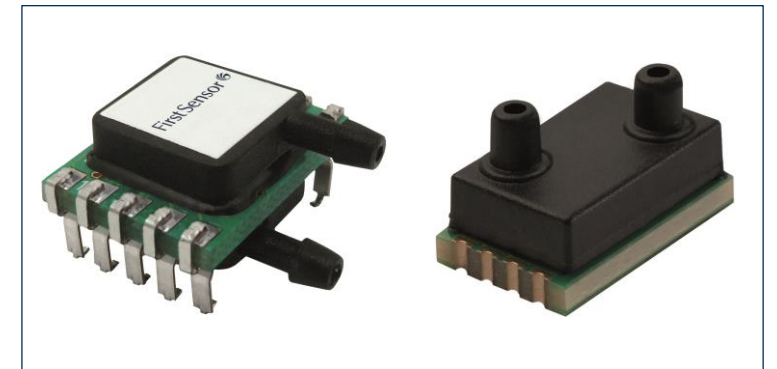


OUR MARKETS

The medical market is characterized by miniaturization & digital health.

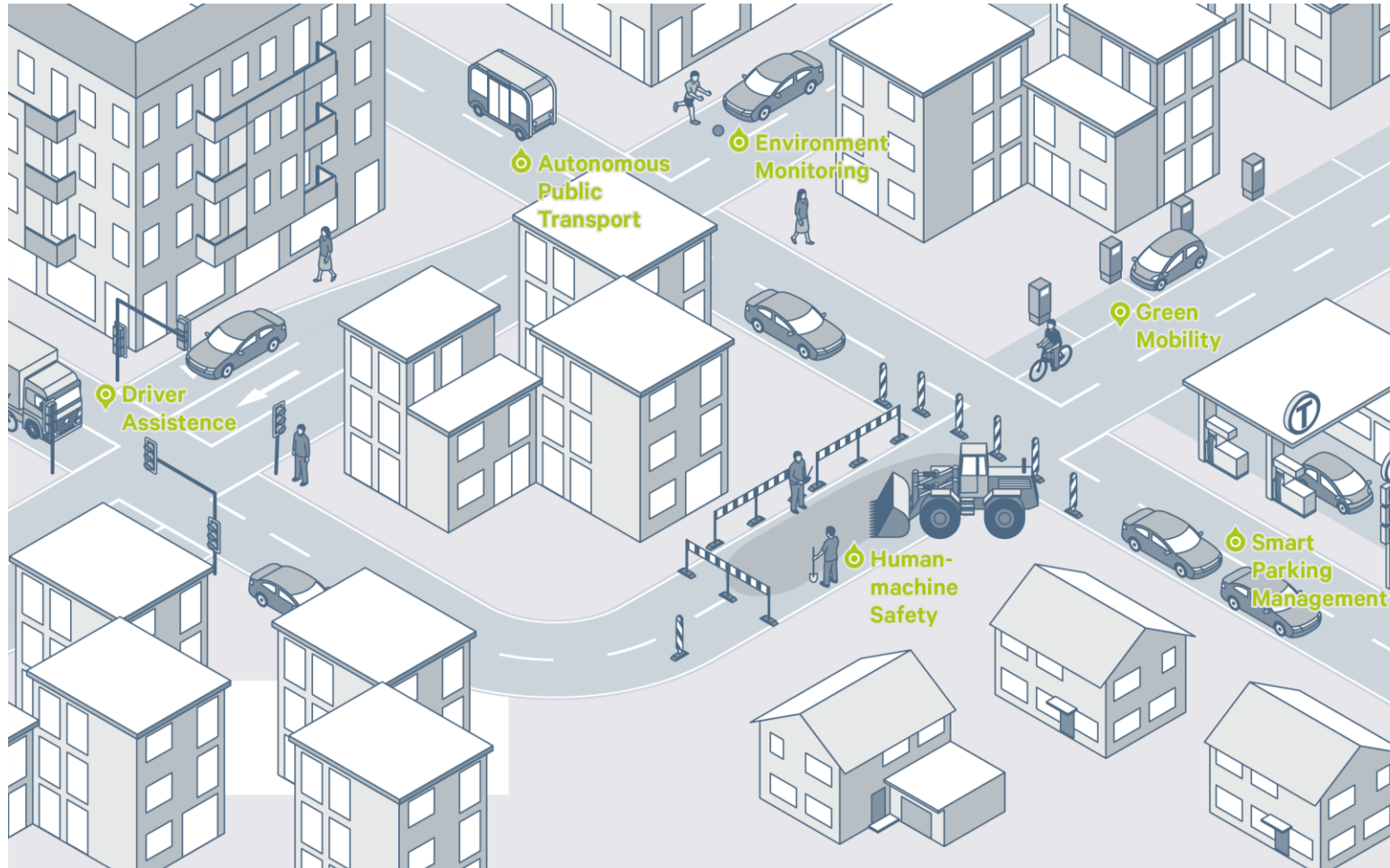


Devices in the nanometer range for new applications, e.g. ventilators for home use, are no longer merely visions of the future.

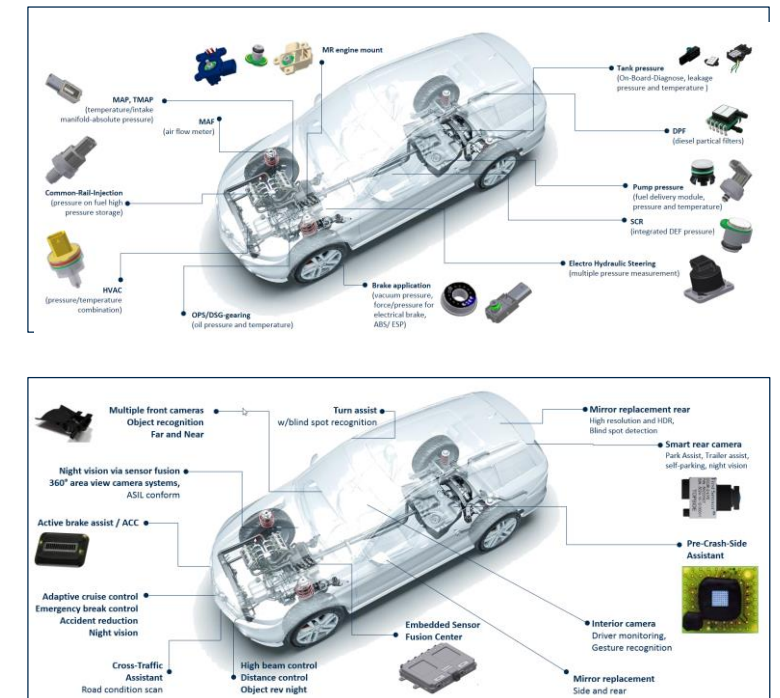


OUR MARKETS

The mobility market is driven by a new idea of transportation.



The trend towards partially and fully autonomous vehicles is possible only thanks to sensor-based driver assistance systems.



OUR PRESENCE

We grow in our core market as well as in high potential sales regions.



*Q3 2017

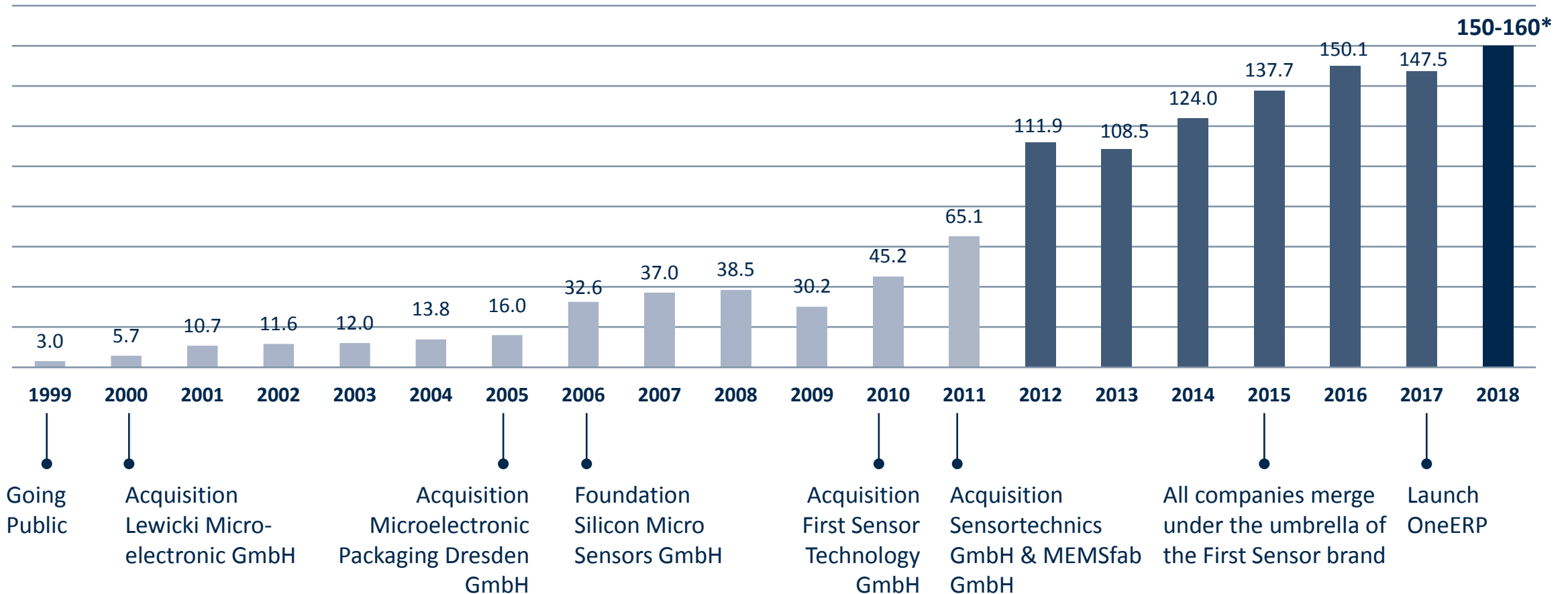
FINANCIAL KEY FIGURES

FINANCIAL KEY FIGURES

We are clearly on a path of growth

sales in € million

* Guidance 2018



FINANCIAL KEY FIGURES

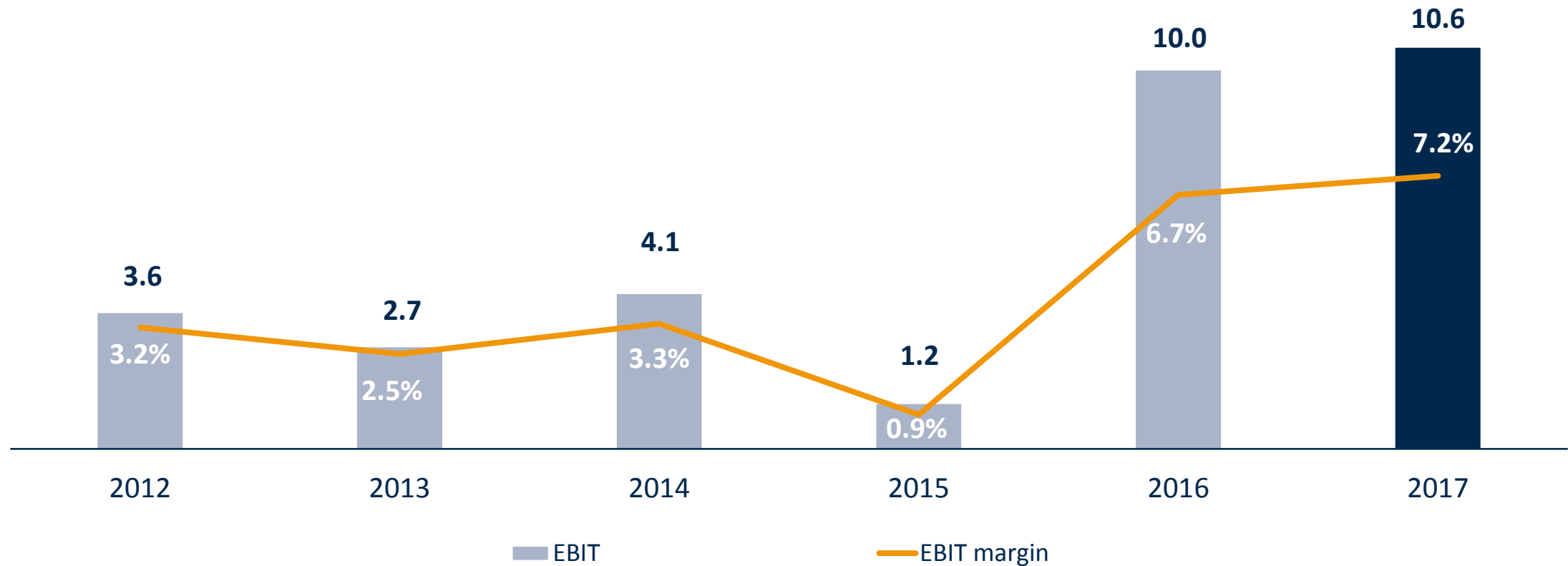
To strengthen our profitability is just as important as sales growth

EBIT 2012 – 2017

in € million

EBIT margin

in %



FINANCIAL KEY FIGURES

Q1 sales with € 34.5 million on level of previous year



Comments

Production recorded decreased output due to the introduction of a new ERP system for company management.

As a result the booked order volume was not produced in full.

This is also evident in our order backlog, which at €97.3 million is €4.8 million up on the fourth quarter of 2017.

Q1 INTERIM REPORT 2018

Reduced output is evident in order backlog of €97.3 million

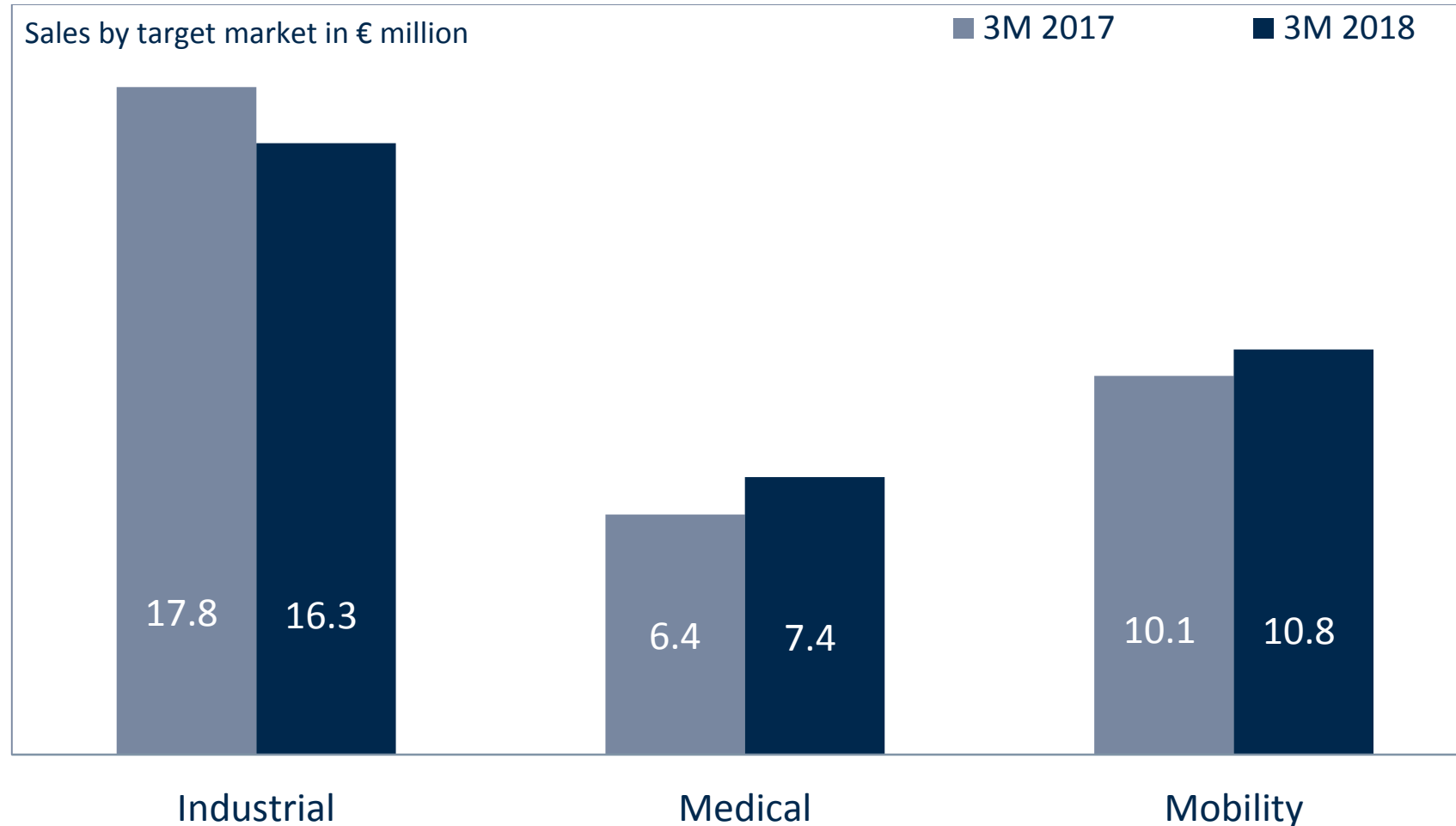


Comments

Order backlog with €97.3 million €4.8 million up on the fourth quarter of 2017; € 8.4 million up on the first quarter of 2017

FINANCIAL KEY FIGURES

Further growth in all target markets over the course of the year



Comments

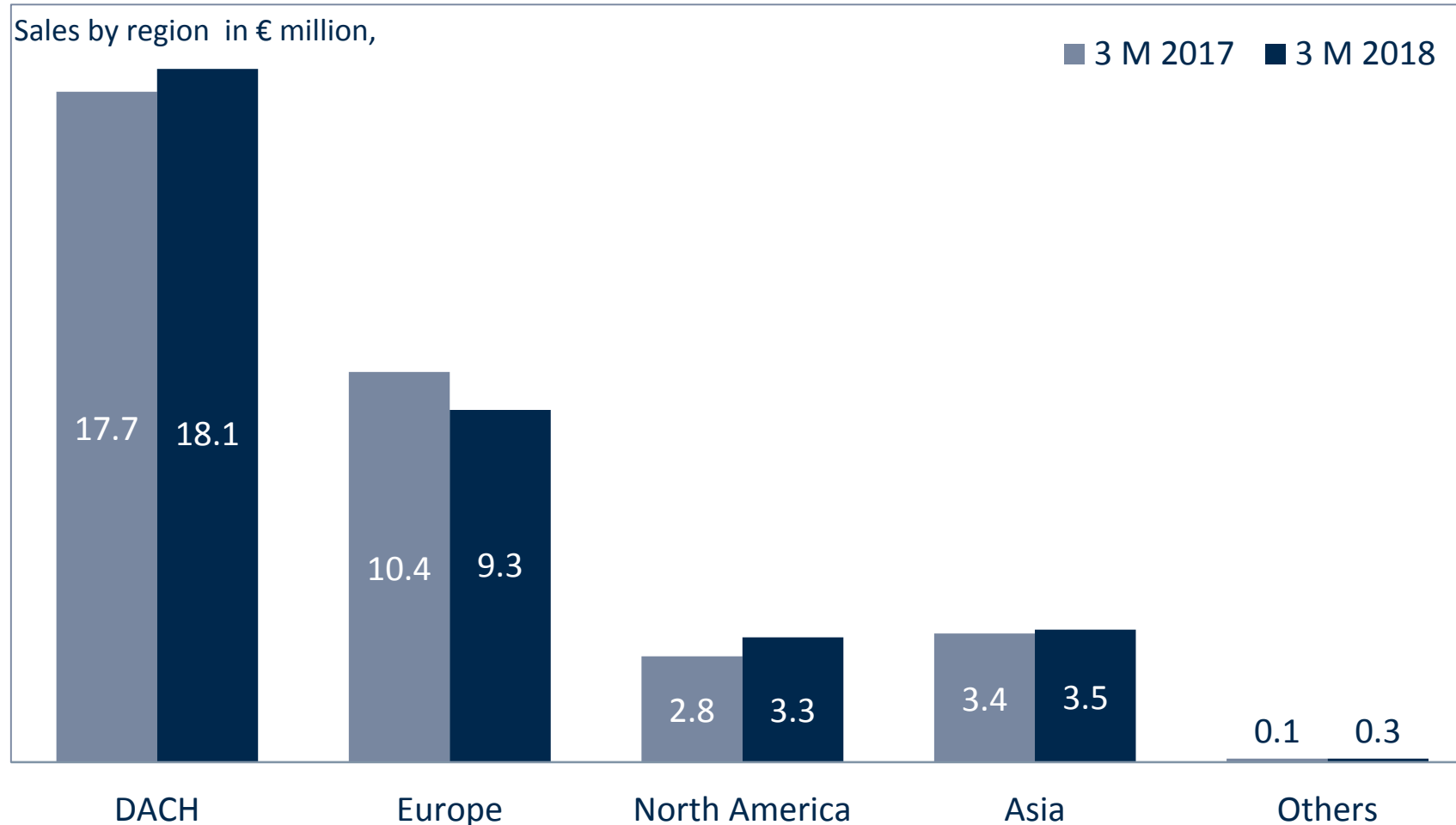
IND: lower sales volume closing date related; sales share 47.3%

MED: sales increase primarily due to optical diagnostics customers; sales share 21.3%

MOB: increase primarily due to greater demand in the area of pressure sensor technology; sales share 31.4%

FINANCIAL KEY FIGURES

DACH region still the most important market



Comments

No mayor changes in sales split by regions

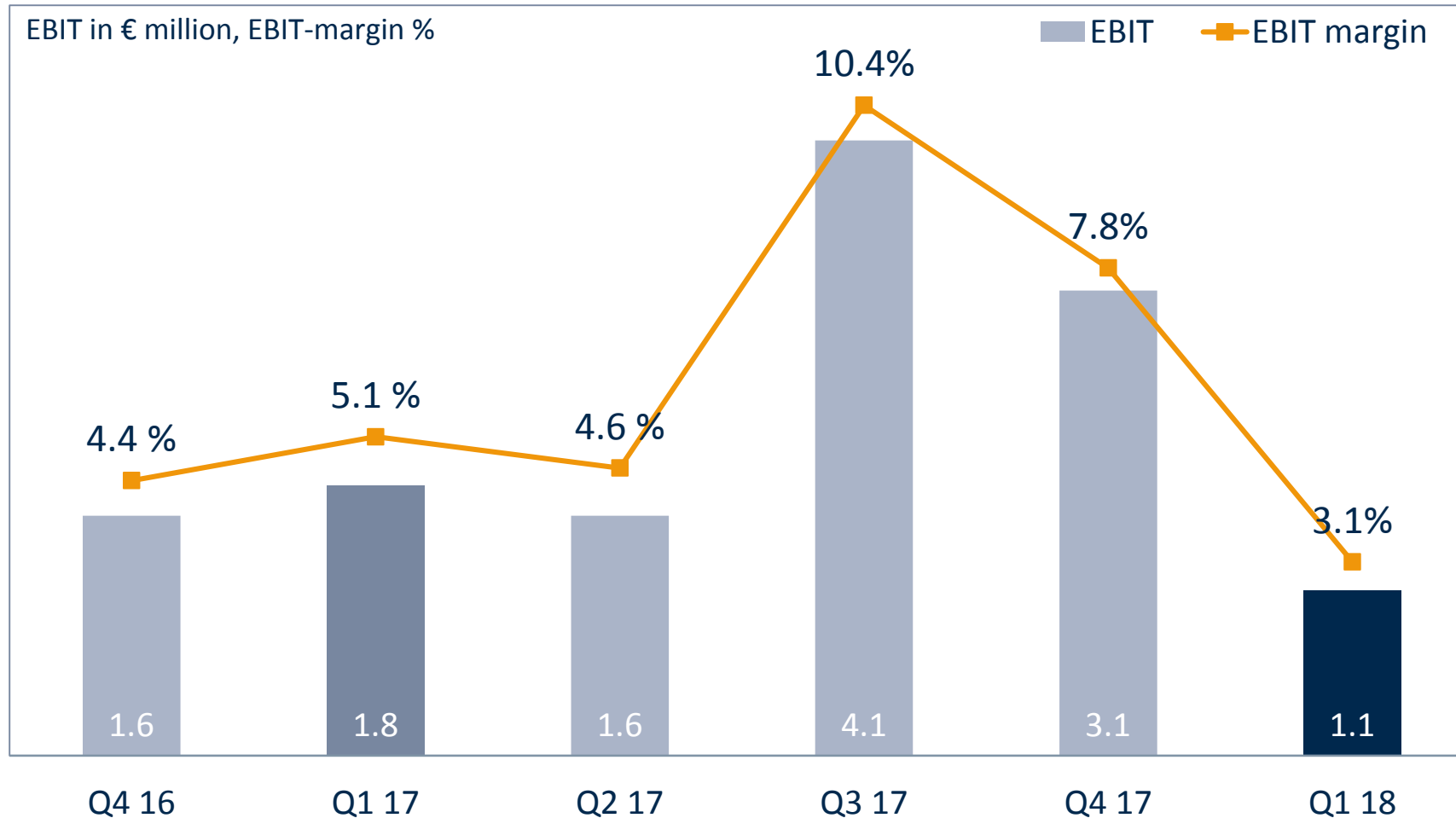
German-speaking area with 53.0% still the most important market

Rest of Europe: sales share 27.0%; decrease due to shifts in supplier countries on the part of customers

Sales share North America and Asia increased further to 9.6% and 10.1%

FINANCIAL KEY FIGURES

EBIT-Margin 3.1 % due to reduced economies of scale and growth costs



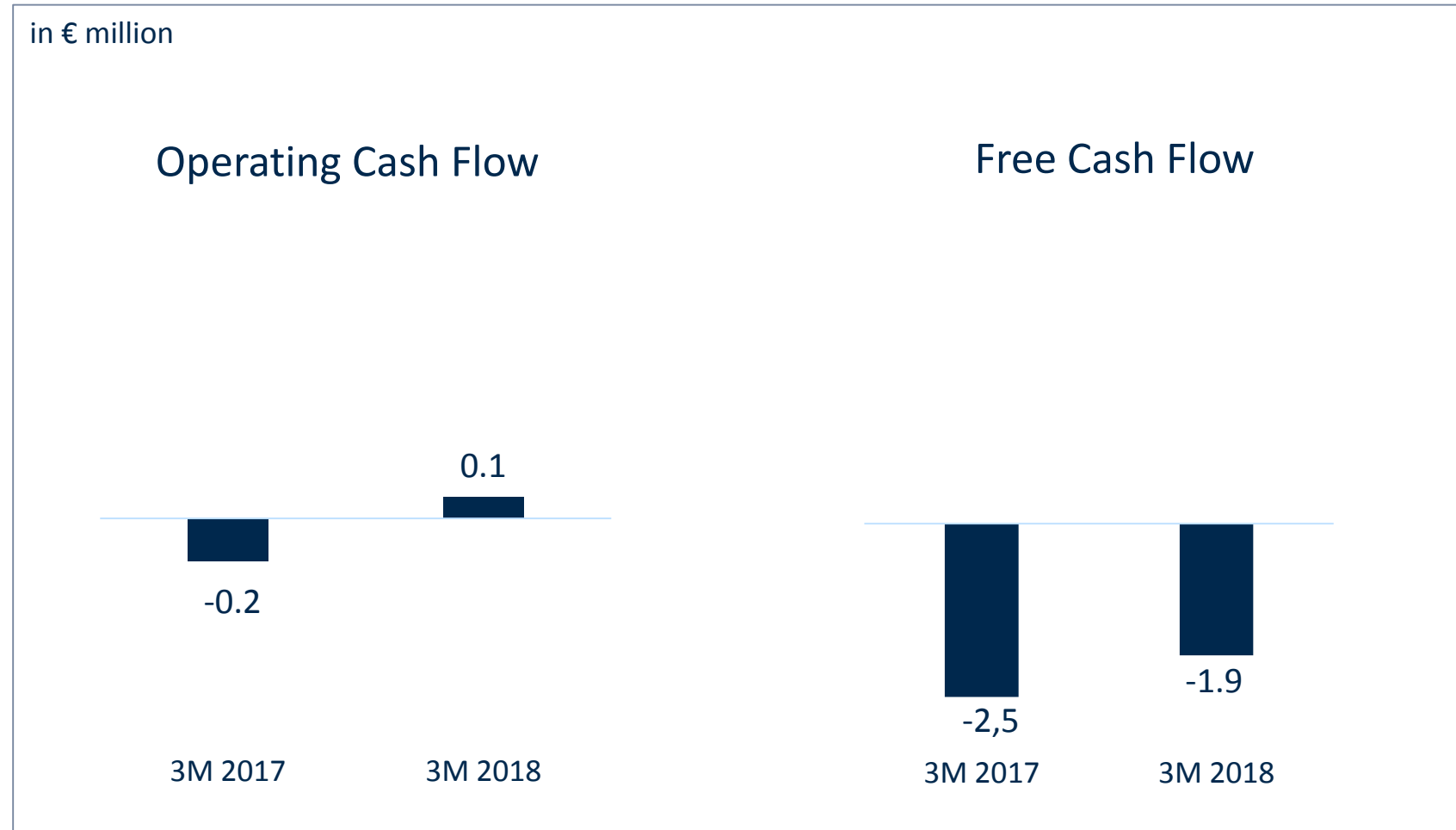
Comments

Compared to Q1 2017

- increased cost of material: € +1.2 million
- increased personnel expenses: € +0.4 million
- Reduced other operating income: € -0.7 million

FINANCIAL KEY FIGURES

Cash flow items improve slightly year-on-year



Comments

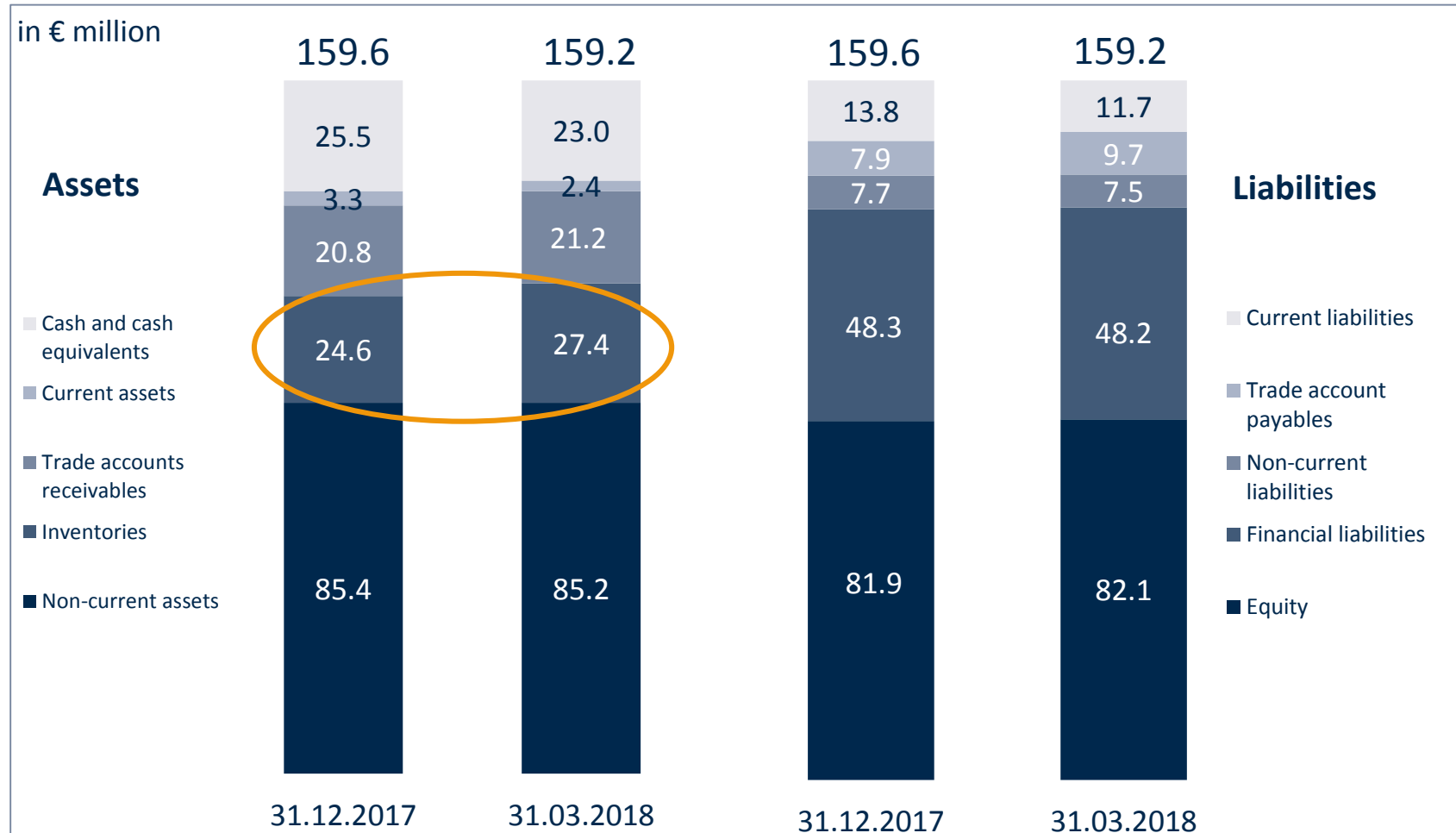
With roughly constant sales and a significant increase in inventories, operating cash flow improved slightly

Moderate additions to investments curbed the outflow of cash

Negative cash flow from financing activities with €-0.6 million also lower

FINANCIAL KEY FIGURES

Consolidated balance sheet almost unchanged



Comments

increase in inventories of around €2.8 financed with cash and cash equivalents to allow improvement in delivery capability

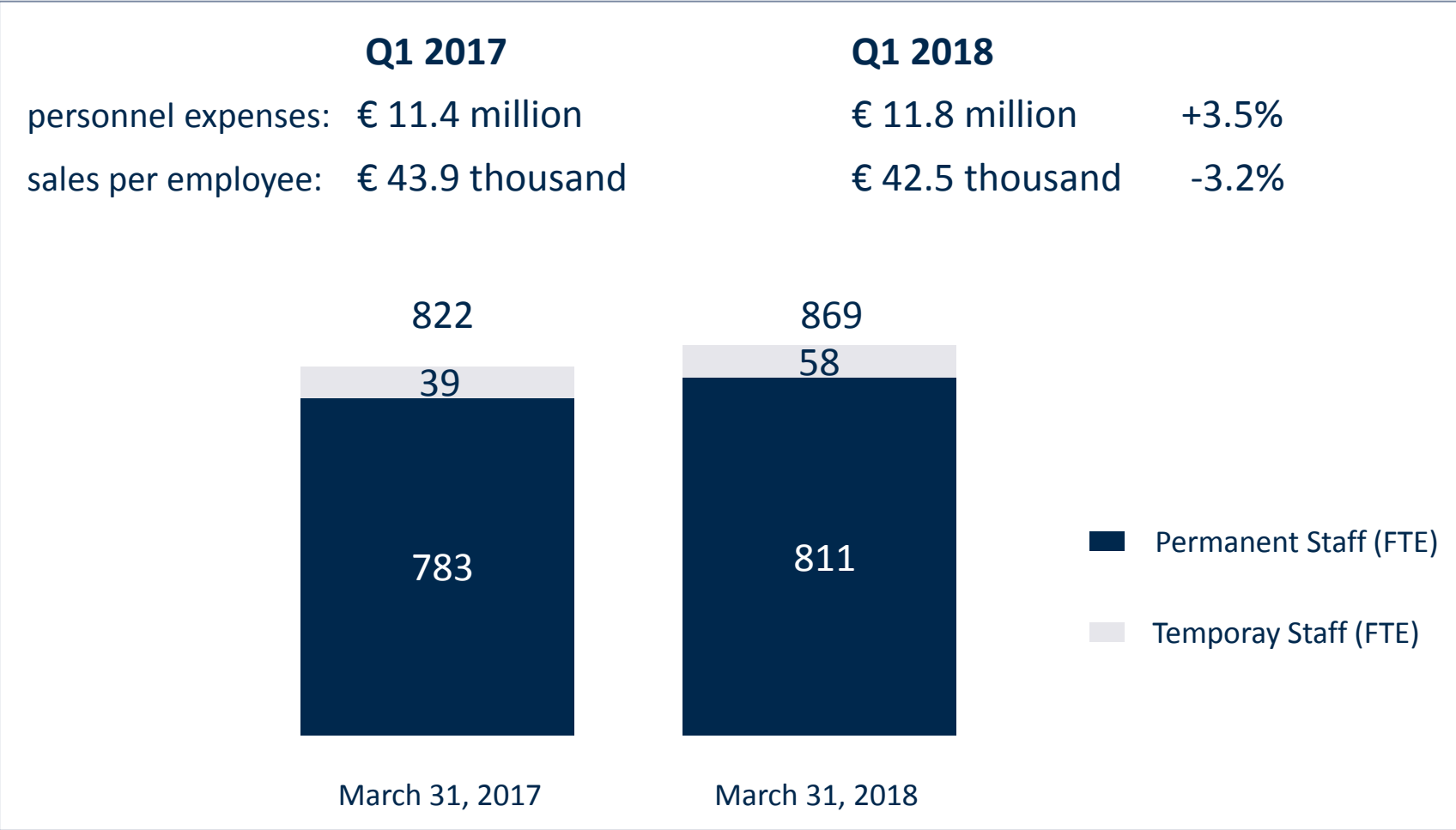
Net debt with €25.2 million slightly lower than in the previous year (PY: €27.3 million)

Equity increased to €82.1 million (PY: €78.7 million)

Equity ratio 51.5% (PY: 50.9%)

FINANCIAL KEY FIGURES

Growth-driven investments in expanding personnel levels



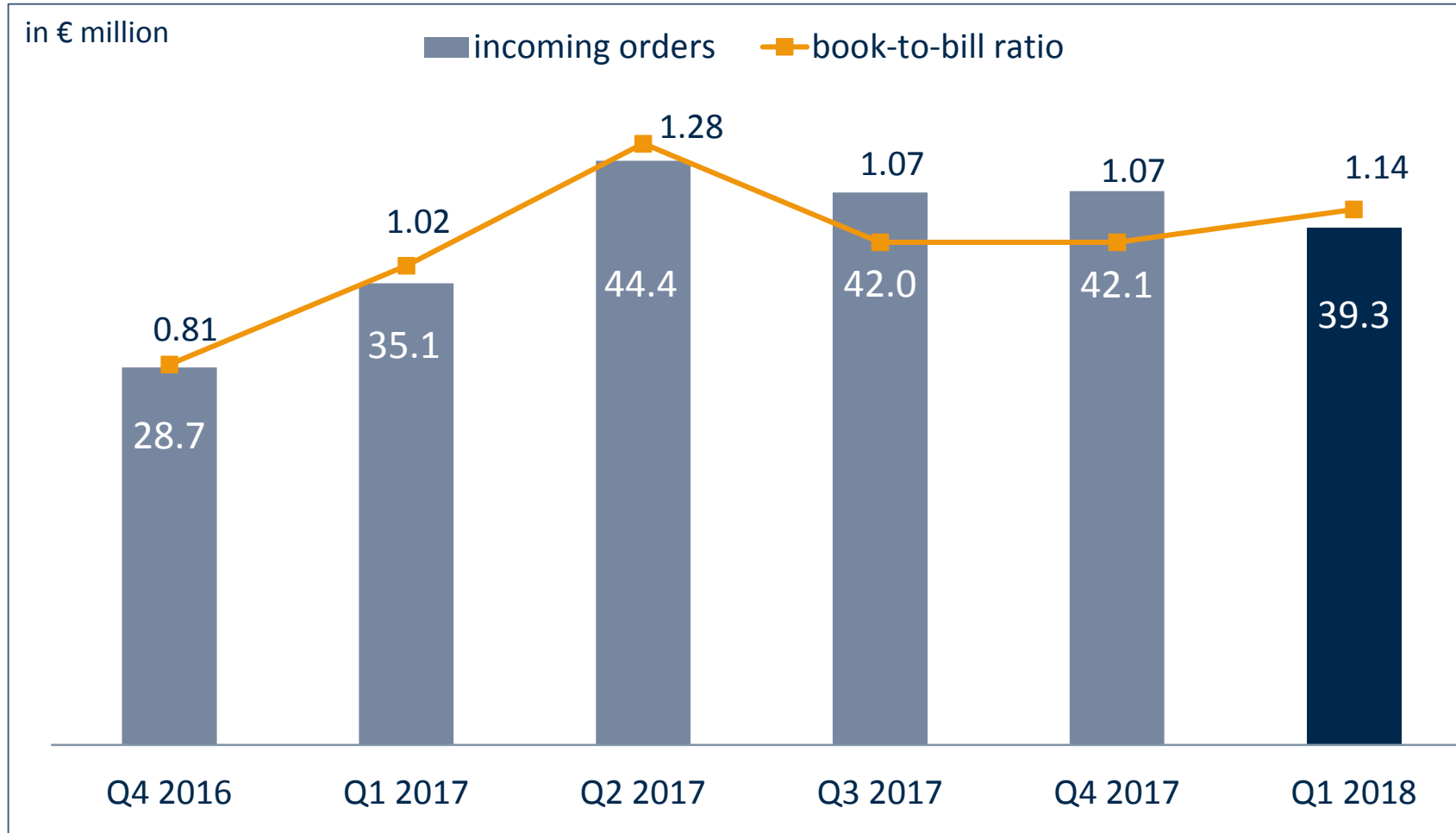
Comments

The increase in employees is attributable to additional requirements for services to be performed in the current fiscal year and to drive further growth

Focus of new hires: Sales and production

FINANCIAL KEY FIGURES

Order intake still on high level, book-to-bill indicates further growth



Comments

Incoming orders totaled €39.3 million. As an important growth indicator, our book-to-bill ratio thus came to 1.14 as at the reporting date.

Due to reporting date factors driven by the lower output in connection and the alignment of the ERP system, the order backlog also increased. It now totals €97.3 million.

FINANCIAL KEY FIGURES

Management confirms guidance 2018

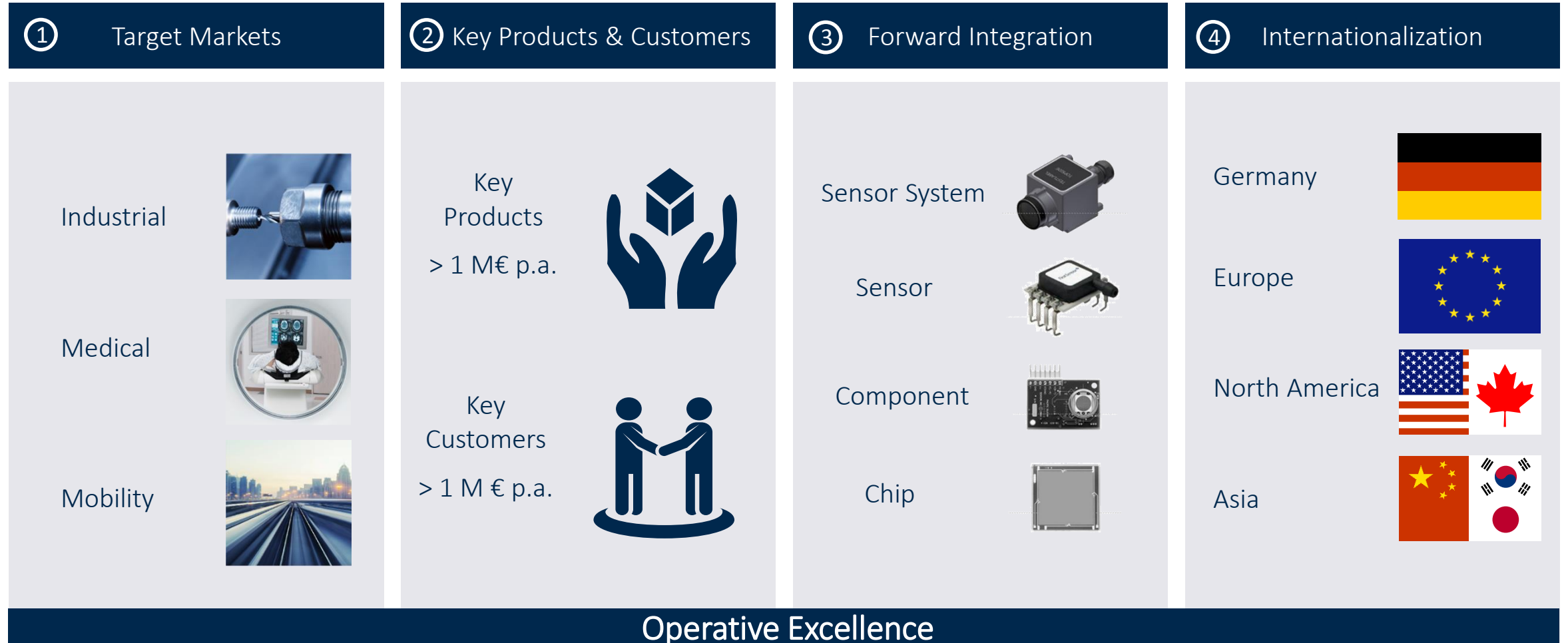
SALES REVENUES **150 - 160** MILLION EURO

EBIT MARGIN **7 - 9** PERCENT

STRATEGIC PERSPECTIVE FOR PROFITABLE GROWTH

OUR STRATEGY FOR PROFITABLE GROWTH

We generate and utilize economies of scale in 4 dimensions.



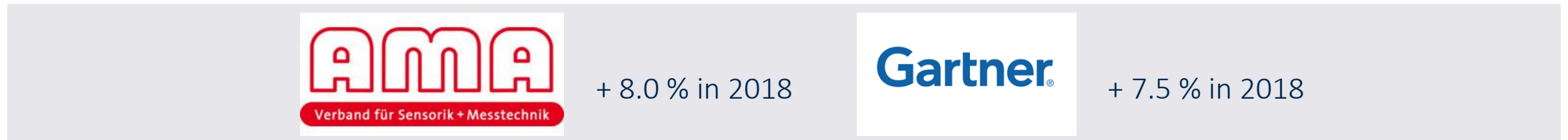
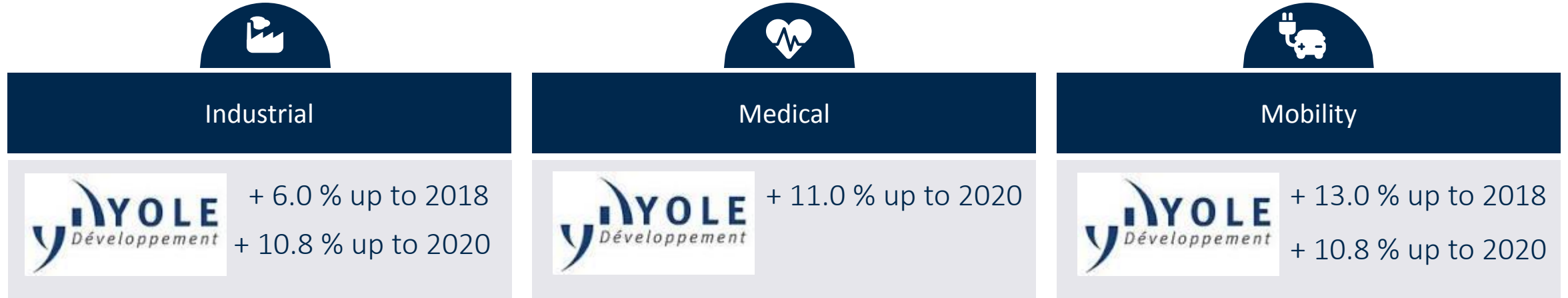
OUR STRATEGY FOR PROFITABLE GROWTH

We generate and utilize economies of scale in 4 dimensions.



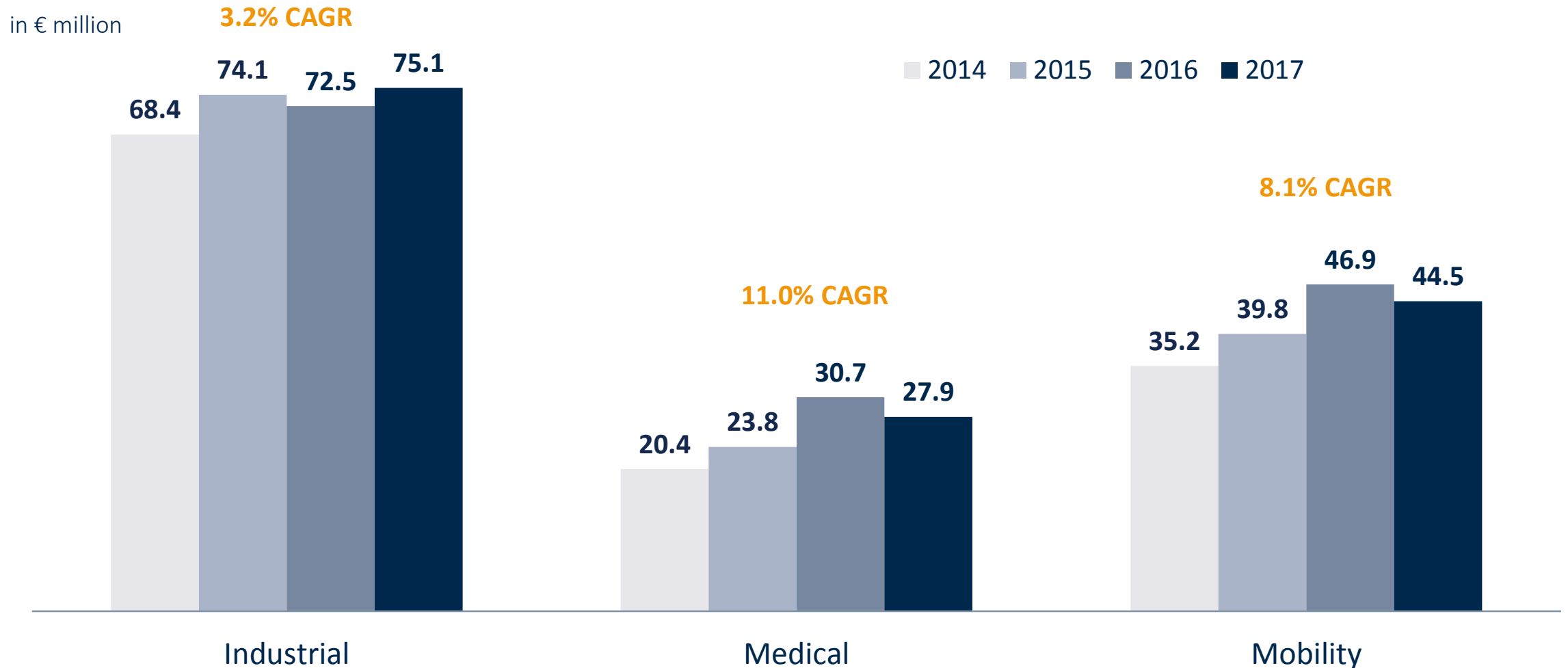
DIMENSION 1: CLEAR FOCUS ON OUR TARGET MARKETS

Our target markets are growth markets



DIMENSION 1: CLEAR FOCUS ON OUR TARGET MARKETS

We participate in this market growth



OUR STRATEGY FOR PROFITABLE GROWTH

We generate and utilize economies of scale in 4 dimensions.



DIMENSION 2: CLEAR FOCUS ON KEY CUSTOMERS & PRODUCTS

Why is this efficient?

Key Customers

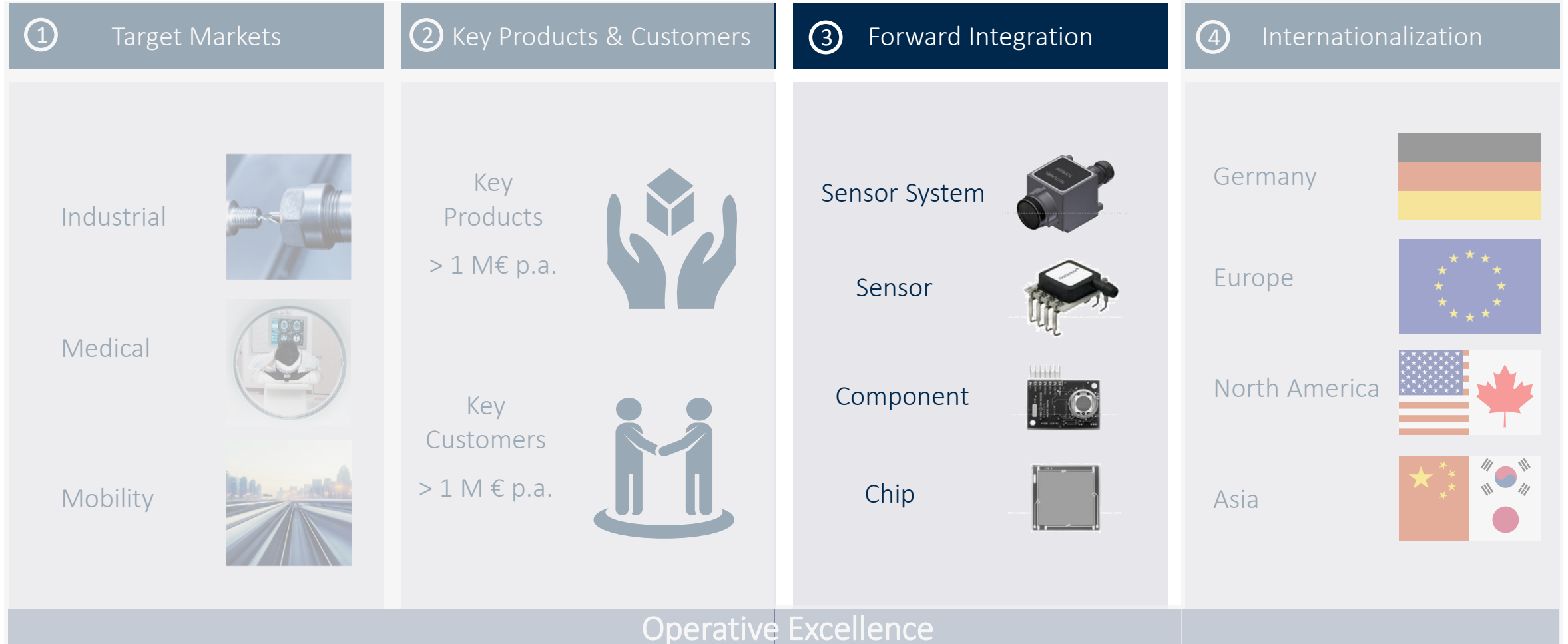
Key Products

- ▶ Single respective product developments result in relatively large quantities and therefore sales volumes.
- ▶ Sales per head in both sales and engineering increases – our existing team will be able to handle larger revenue streams.
- ▶ „Mix & Noise“ in operations are decreased due to reduced parts variety and transactions per revenue.
- ▶ Our supply chain and own production will gain in productivity and can be managed with fewer resources per revenue.
- ▶ With higher quantities per part our purchasing power will increase.
- ▶ With more varietal purity we increase the stability of our value creation process.
- ▶ Lead time, on time delivery and quality will improve as a result.

Our growth becomes more scalable and our profitability increases.

OUR STRATEGY FOR PROFITABLE GROWTH

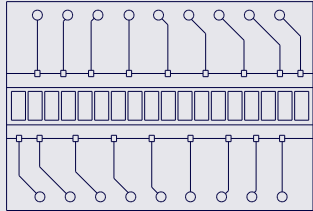
We generate and utilize economies of scale in 4 dimensions.



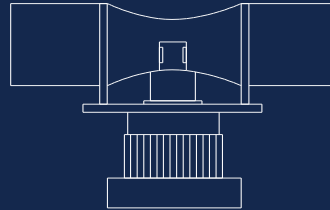
DIMENSION 3: CLEAR FOCUS ON FORWARD INTEGRATION

We base our forward integration initiatives on clear product roadmaps.

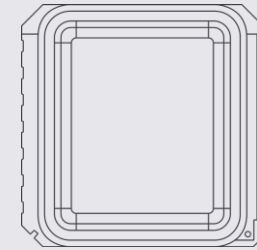
Radiation



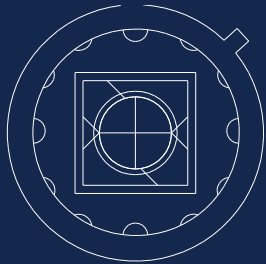
Flow



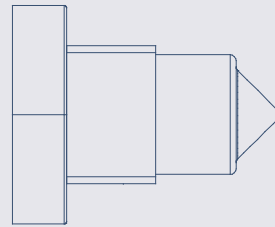
Acceleration



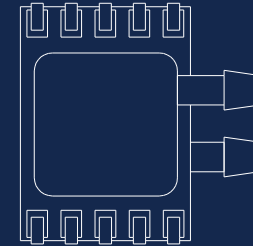
Light



Level



Pressure



Integrated Manufacturing Services

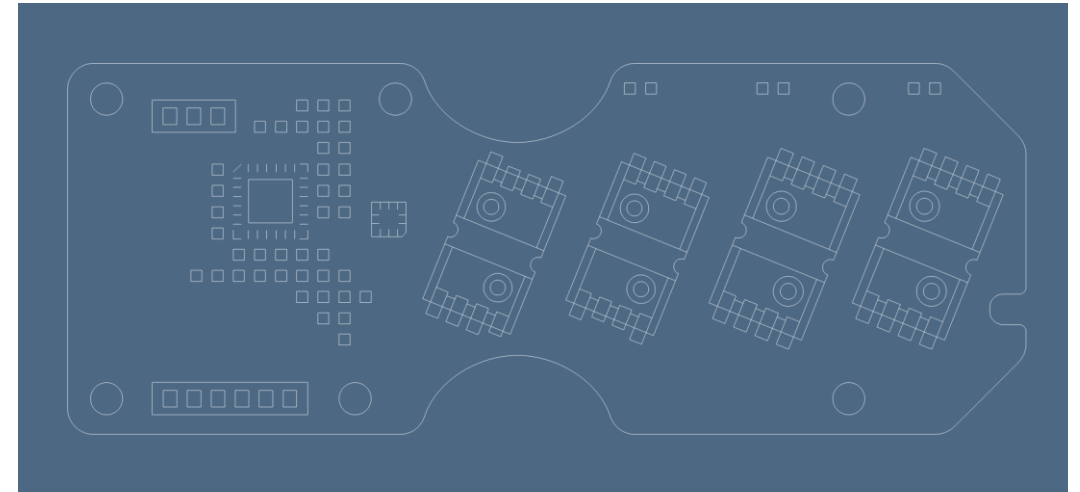
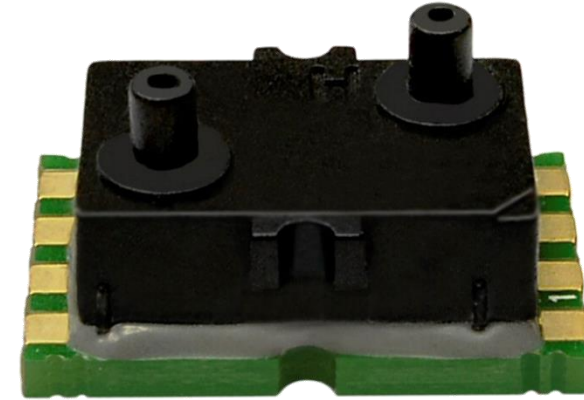


Multi Sensor Systems



DIMENSION 3: CLEAR FOCUS ON FORWARD INTEGRATION

One example is a multi sensor system for HVAC applications



OUR STRATEGY FOR PROFITABLE GROWTH

We generate and utilize economies of scale in 4 dimensions.

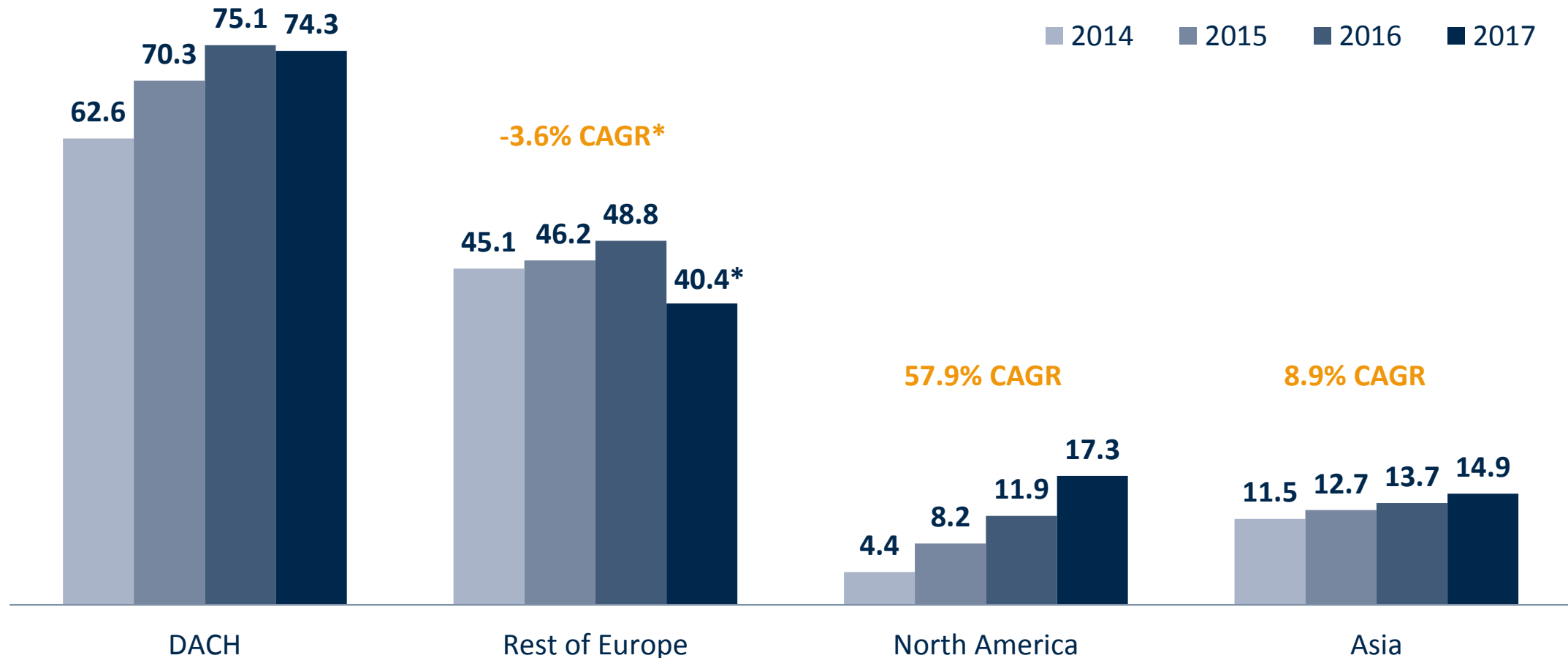


DIMENSION 4: CLEAR FOCUS ON INTERNATIONALIZATION

We generated further growth in our key sales regions

in € million

* expired mobility order



OUR STRATEGY FOR PROFITABLE GROWTH

We generate and utilize economies of scale in 4 dimensions.



THE FUNDAMENT: FOCUS ON OPERATIVE EXCELLENCE

Our current core initiatives

Top Initiatives		
▶ T's & C's Harmonization	✓	
▶ Harmonized Core Processes	✓	
▶ OneERP	✓	progressing
▶ Lead Time, On-Time Delivery, Quality	✓	continuous
▶ Portfolio Optimization		ongoing
▶ Portfolio Consolidation		ongoing

GROWTH DRIVER LIDAR

GROWTH DRIVER LIDAR

LiDAR is a relevant factor within our strategy for profitable growth.



GROWTH DRIVER LIDAR

Main reason for accidents are preventable human mistakes.



1	Mistakes of car drivers	63.9 %
2	Mistakes of bicyclists	13.5 %
3	Bad road conditions	7.7 %
4	Mistakes of motorbike riders	7.2 %
5	Mistakes of truck drivers	5.7 %
6	Mistakes of pedestrians	3.5 %
7	Technical issues	0.9 %

Source: German Federal Statistical Office 2016

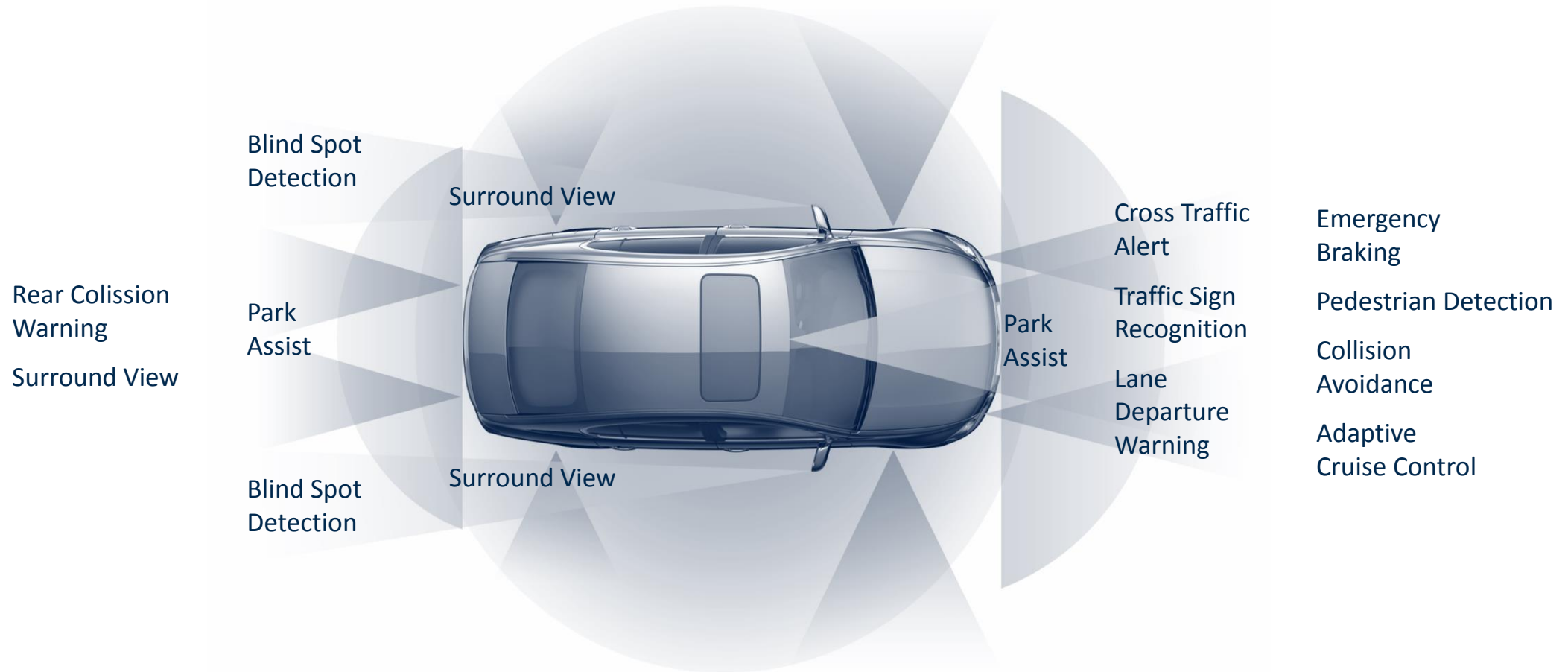
GROWTH DRIVER LIDAR

Therefore cars become more and more autonomous.

Autonomous Levels	Level 1 Assisted Driving	Level 2 Partly Automated	Level 3 Highly Automated	Level 4 Fully Automated	Level 5 Driverless
Functionality	Active Cruise Control (ACC) Lane departure warning system (LDWS)	Lane Keep Assist (LKA) Park Assist (PA)	Automatic Emergency Brake (AEB) Driver Monitoring (DM) Traffic Jam Assist (TJA)	Autopilot on Highway (AP)	Autopilot everywhere
Sensors	Ultrasonic Radar (long range) Front Camera	Surround Camera	Radar (short range) Driver Camera LIDAR	SENSOR Fusion	SENSOR Fusion

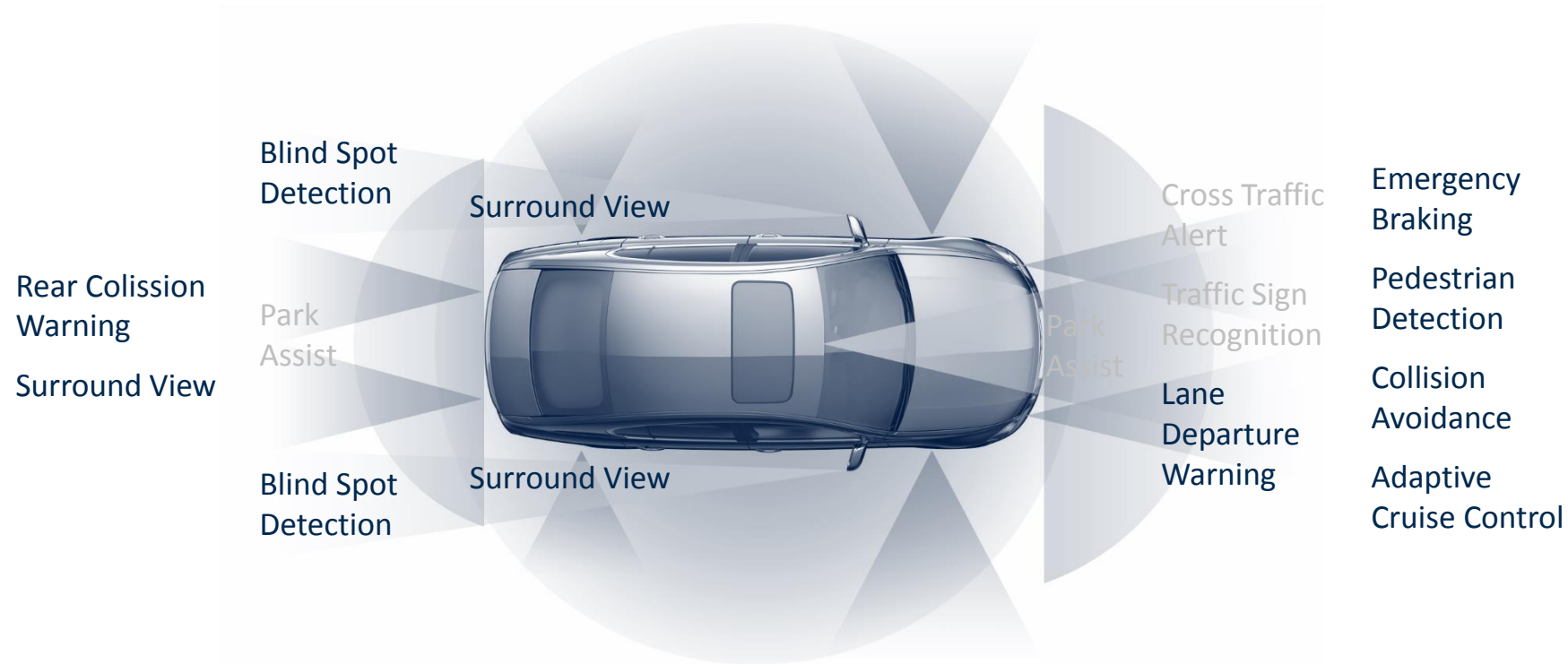
GROWTH DRIVER LIDAR

Sensors in vehicles assist the drivers and provide more road safety.








GROWTH DRIVER LIDAR

LiDAR is an important technology for many of these safety applications.



GROWTH DRIVER LIDAR

Besides LiDAR, cameras are irreplaceable for a safe surround view.

On Board Sensor Capability			 LIDAR (Detection & ranging)	 Camera (Monitoring & classification)	 RADAR (Detection & ranging)	 V2X & Cellular* (Information)	 Map & Location (Information)
Detection Performance	Traffic objects	Car/Trucks	★ ★	★	★ ★ ★	★	
		Motorcycle	★ ★	★	★ ★	★	
		Bicycle	★ ★	★	★	★	
		Pedestrian	★ ★ ★	★	★	★	
		Animal	★ ★	★			
		Debris	★ ★	★			
	Infrastructure traffic constraints	Road marking	★	★ ★			★ ★
		Traffic signs		★ ★			★ ★ ★
		Traffic lights		★ ★		★ ★ ★	★
	Path/Road structure	Curve	★	★			
		Guard rails	★ ★		★ ★		
		Wall/Obstacle	★ ★	★	★ ★		
			Dynamic				
360° View		★ ★ ★	★ ★ ★				
Robustness		Rain/Snow	★ ★	★	★ ★ ★	★ ★ ★	★ ★ ★
		Fog			★ ★ ★	★ ★ ★	★ ★ ★
		Night	★ ★ ★		★ ★ ★	★ ★ ★	★ ★ ★

* Depends on coverage

GROWTH DRIVER LIDAR

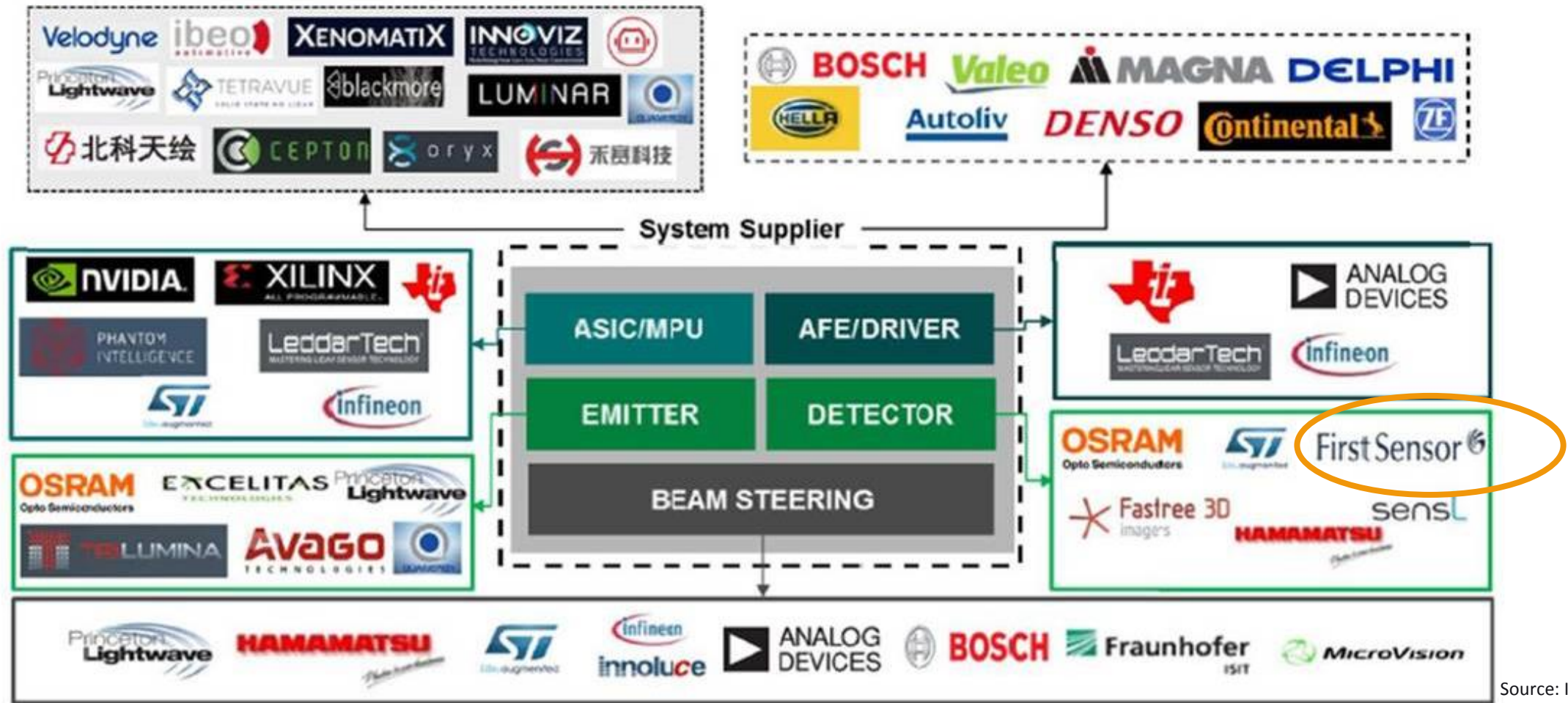
In LiDAR systems different components work hand in hand.



Source: Velodyne

GROWTH DRIVER LIDAR

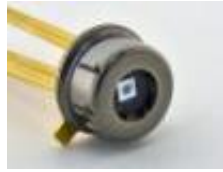
First Sensor is an important supplier for the detectors in LiDAR systems.



Source: IHS Markit

GROWTH DRIVER LIDAR

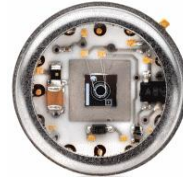
With our APD we have captured a leading share for more than 10 years.



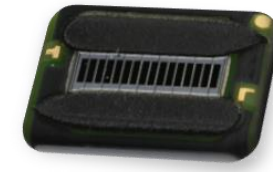
Single APD with amplifier



DARPA Urban Challenge; First Sensor APDs in all winning teams



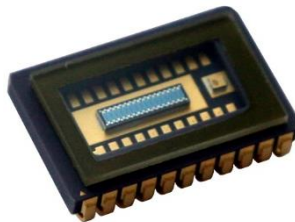
Industrial hybrids (APD+TIA in one package)



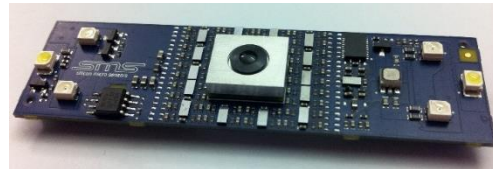
Few Pixel APD-Array in SMD package for ACC / AEC-Q 101 qualified by FIS



12 Pixel APD-Array in ceramic package for ACC



Gesture recognition with 64 pixel APD-Array



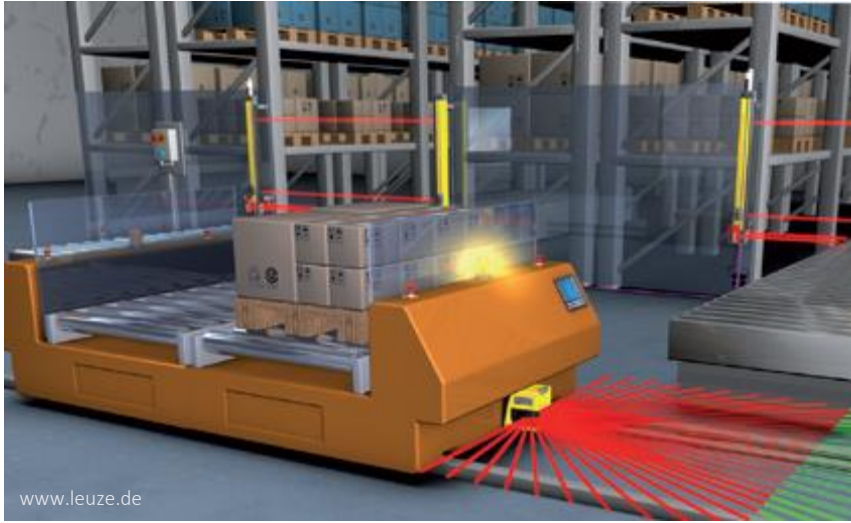
Receiver module with APD-Array, HV, TIA, MUX, Timing discriminator



Receiver module with APD and electronics integrated in one package

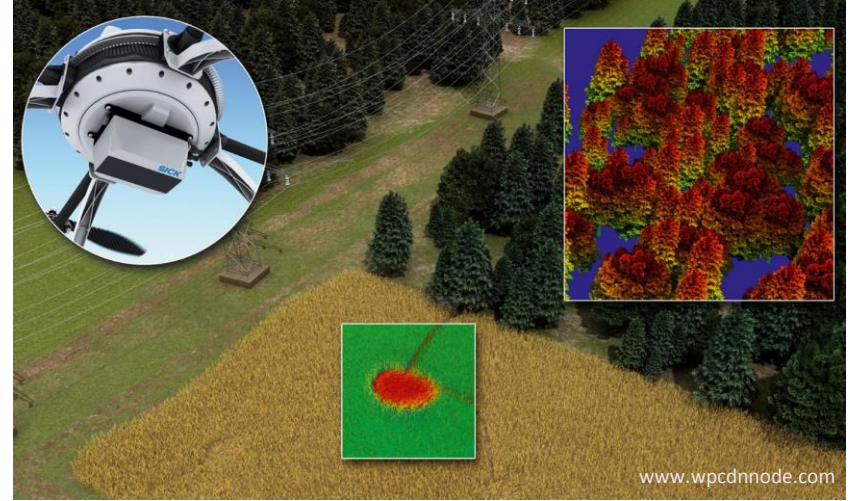
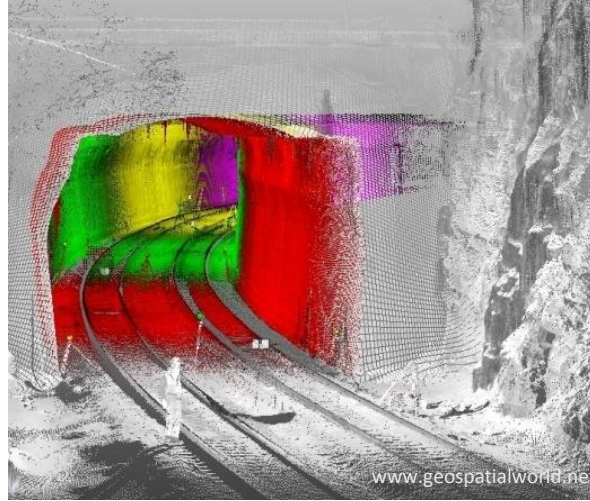
GROWTH DRIVER LIDAR

But LiDAR also has applications in the industrial market, e.g. logistics...

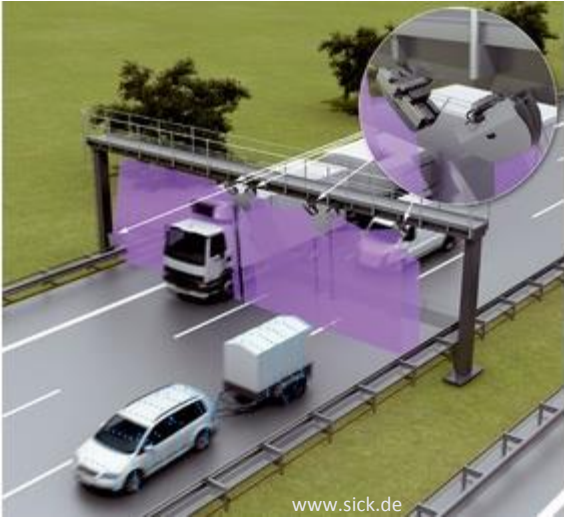


GROWTH DRIVER LIDAR

...mapping and construction...



GROWTH DRIVER LIDAR ...and traffic control & security.



THE SHARE

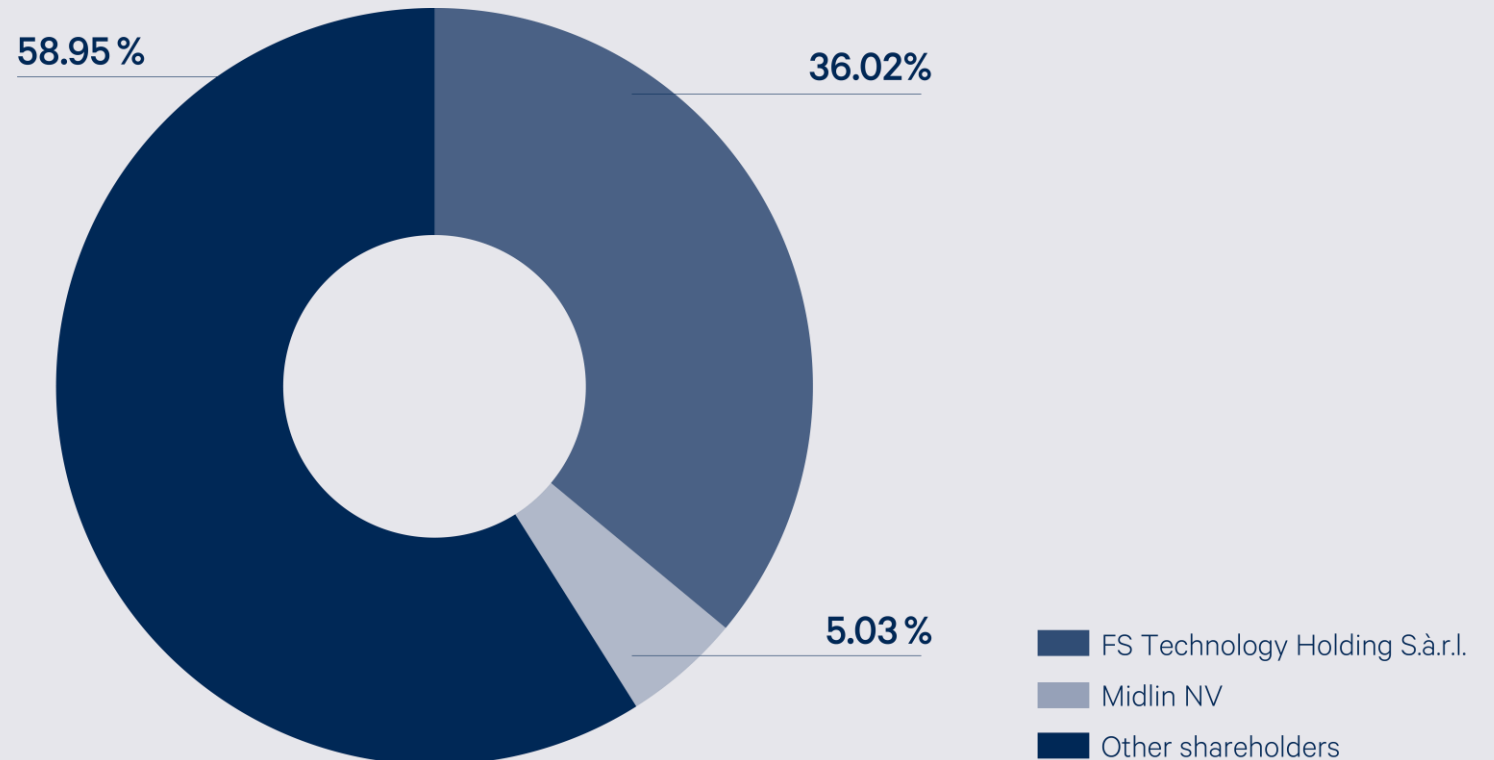
FIRST SENSOR SHARE

Currently, our free float amounts to nearly 59 percent.

Key facts*

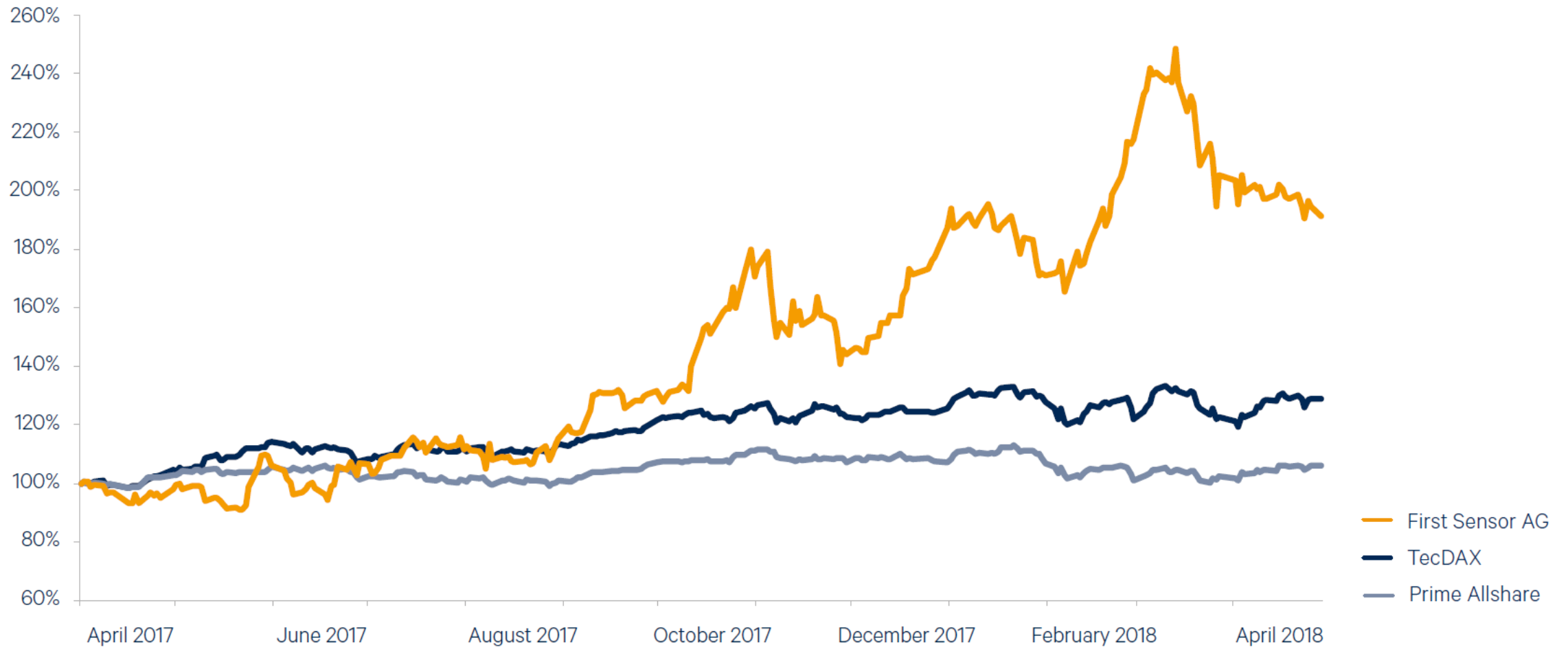
Market Cap:	€ 257.45 m
Traded stocks/day:	37,269
30 Day High:	31.8
30 Day Low:	23.2
Index Ranking Free Float Market Capitalization:	45
Index Ranking Turnover:	47

* March 31, 2018



FIRST SENSOR SHARE

First Sensor share recorded a performance of 15.8% in Q1 2018



Q1 INTERIM REPORT 2018

Meet First Sensor: Financial Calendar 2018

When?	What?
15.05. 2018	German Spring Conference, Marriott-Hotel, Frankfurt am Main
23.05.2018	Annual Meeting 2018, Penta Hotel, Grünauer Str. 1, 12557 Berlin
01.06.2018	Roadshow Oddo BHF, Paris, France
21./22.6.2018	Berenberg Pan-European Discovery Conference, Provence Côte d'Azur, France
13.08.2018	6-Month Financial Report
12.11.2018	Q3 Interim Report
26./27.11.2018	Analyst' Conference: German Equity Forum, Sheraton Airport Hotel, Frankfurt am Main

OUR EXECUTIVE BOARD



Dr. Dirk Rothweiler
CEO

since Jan. 1, 2017

- 2017 CEO, First Sensor AG
- 2008 Executive Vice President Optical Systems, Jenoptik AG
- 2005 Vice President Sales and Service, TCZ
- 2000 Managing Director Asia-Pacific, Süss Microtec Co. Ltd.
- 1999 Director Sales & Marketing, Süss Microtec AG
- 1995 Project Manager for the Semiconductor Technology Division, Carl Zeiss
- 1995 Doctorate from the Department of Engineering, RWTH Aachen



Dr. Mathias Gollwitzer
CFO

since Aug. 10, 2015

- 2015 CFO, First Sensor AG
- 2012 Vice President Group Controlling, EnBW Energie Baden-Württemberg AG
- 2008 CFO, Mercedes-Benz France SAS
- 2006 Director Corporate Controlling, DaimlerChrysler AG
- 2005 CFO, DaimlerChrysler Belgium/Luxembourg NV/SA
- 2002 Director Research and Technology, Daimler AG
- 1999 CEO, Temic Sprachverarbeitung GmbH
- 1995 Director Division Controlling, Telefunken Systemtechnik GmbH
- 1992 Expert Adviser Finance/Controlling, Deutsche Aerospace AG

WE LEAD THE FUTURE

Roadshow First Sensor AG

Paris, June 1, 2018

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