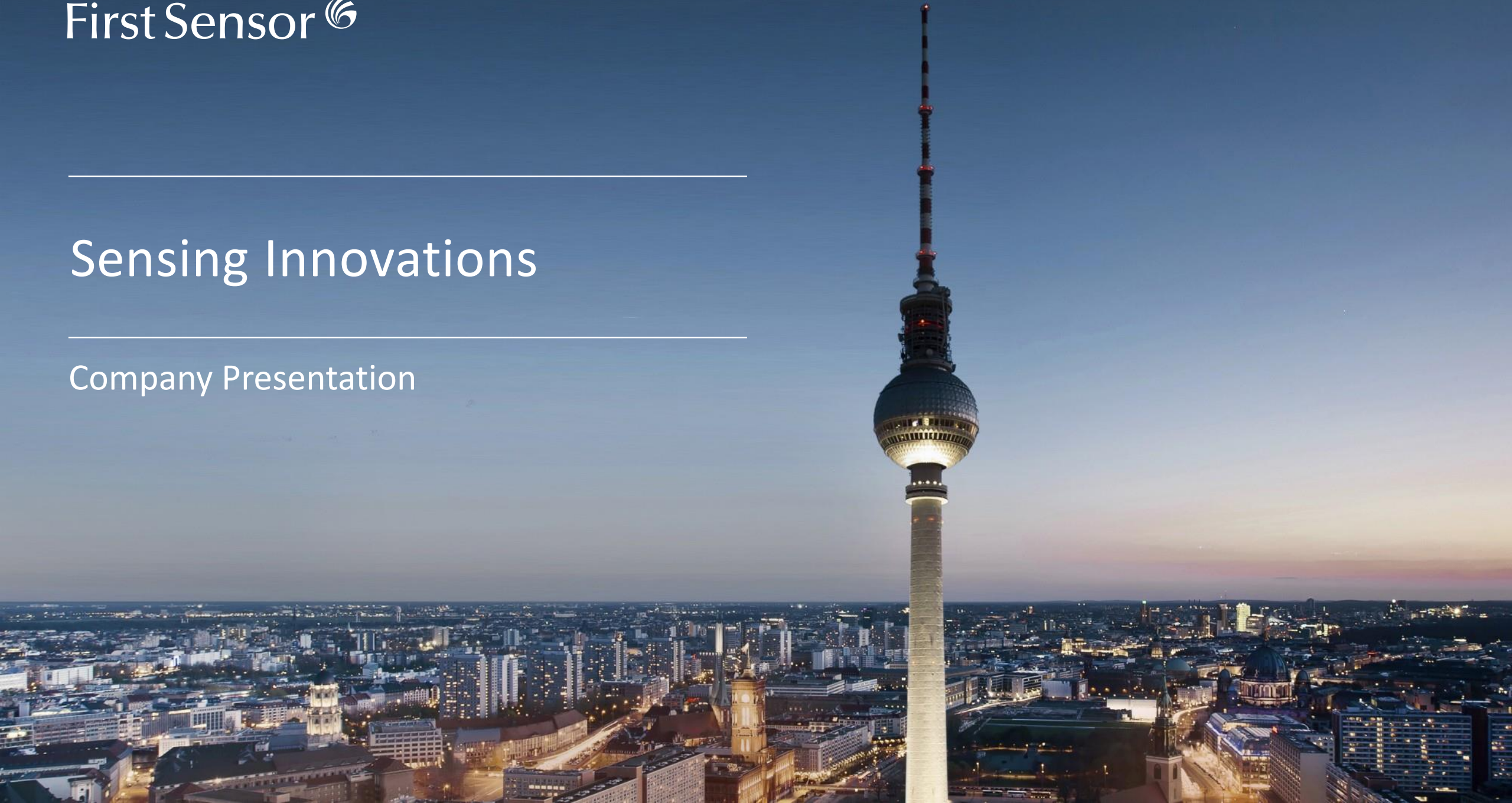


First Sensor 

Sensing Innovations

Company Presentation



Our Profile

OUR PROFILE

We are a german-based expert in sensor technologies

How we operate

- Founded in 1991 and grown through series of acquisitions and organically
- Headquartered in Berlin
- Production and development sites in 4 countries
- Sales in 33 countries in Europe, Americas and Asia
- About 1,000 employees
- €155,1 m sales in 2018

First Sensor 

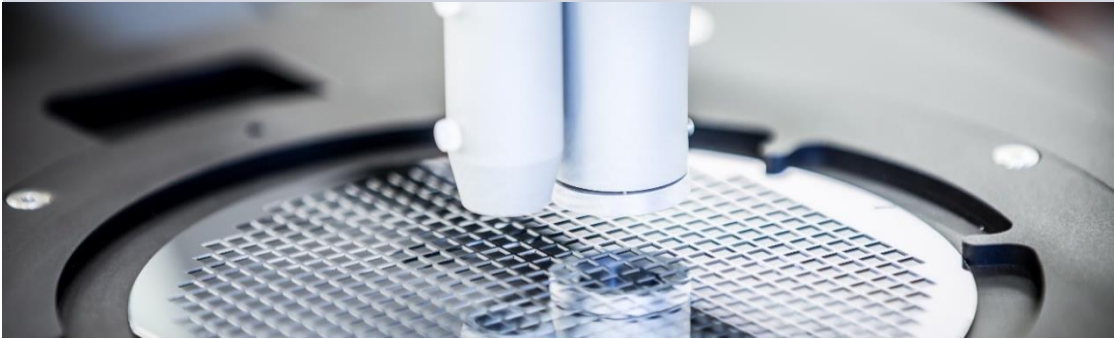
How we differ

- Unique capabilities in photonics, pressure sensors and advanced electronics
- Proven know-how to capture, filter and interpret physical parameters
- Long-term experience in industrializing differentiated technologies
- Solution-oriented and standard products for B2B customers
- Serving three distinct growth markets: Industrial, Medical, Mobility

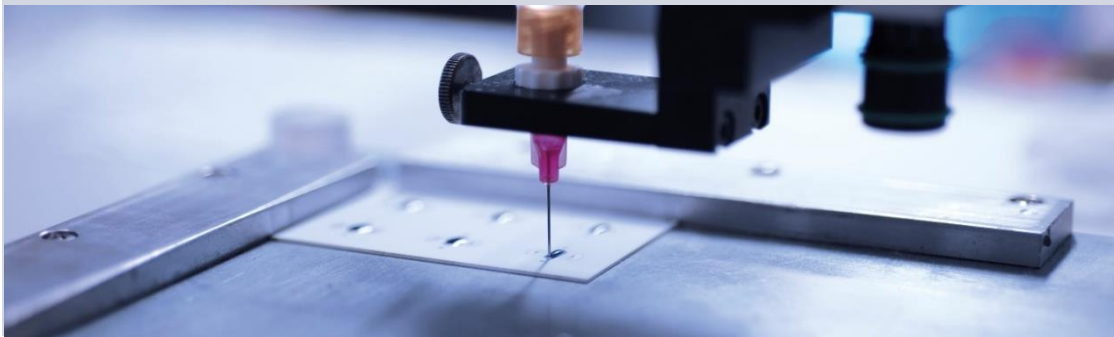
OUR PROFILE

We offer chip & packaging expertise

SEMICONDUCTOR PRODUCTION



MICROELECTRONIC PACKAGING



1 Berlin-Oberschoeneweide

- Headquarters with central company departments
- Specialized in semiconductor production
- Chips on 4 and 6 inch silicon wafers
- IATF 16949 certificate (Automotive Industry)

2 Berlin-Weissensee

- Focus on packaging technologies
- Specialized in the packaging of electronic microsystems for pressure, flow and optical sensors

3 Dresden-Alberstadt

- Expertise in customer-specific system development
- Production focus on pressure, flow and optical sensors as well as system solutions
- Automotive certified (IATF 16949) high volume production

4 Dresden-Klotzsche

- Design and connection technology of electronic microsystems
- Customer-specific miniaturization of optical sensors and pressure sensors
- Integrated Manufacturing Services (IMS)
- IATF 16949 certificate (Automotive Industry)

5 Ulm

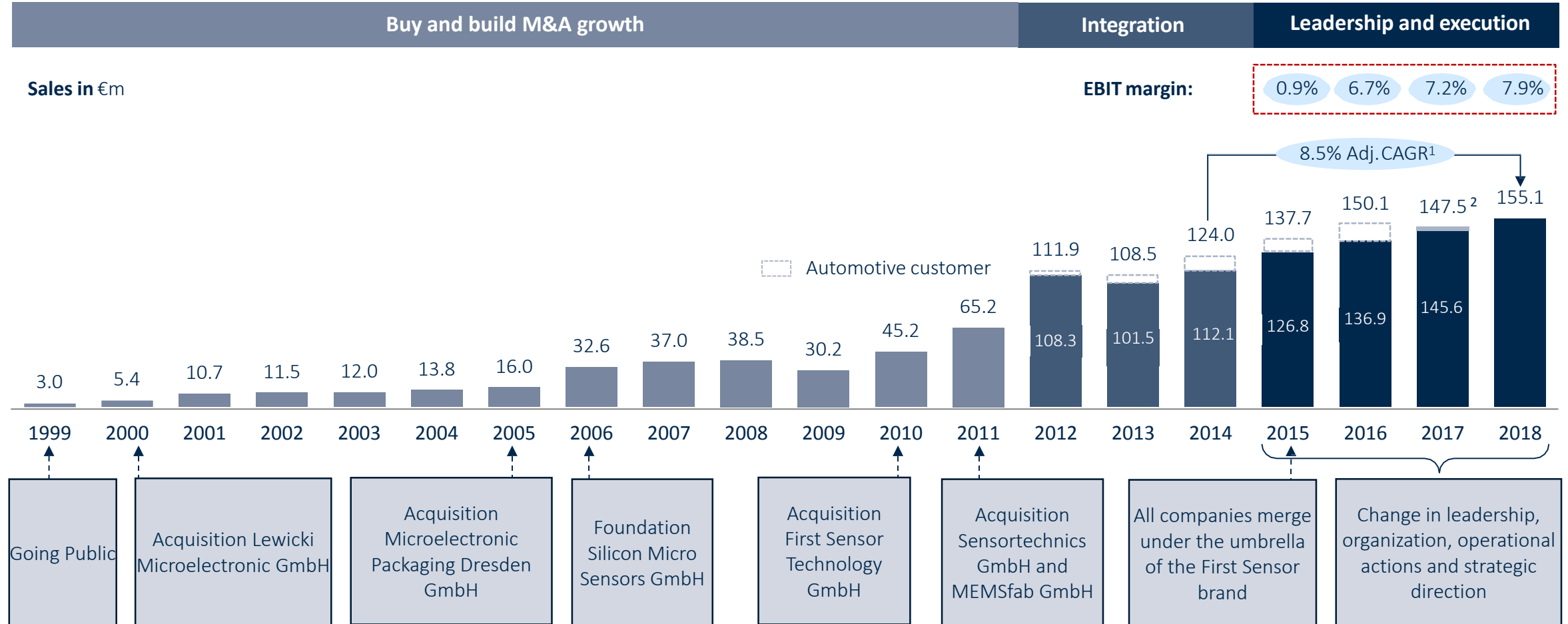
- Focus on packaging technologies for actuators (incl. emitters)
- Specialist for hybrid circuits, electronic modules and power electronics
- Products for safety-relevant process steps with a high quality requirements

6 Munich

- Primarily sells FIS standard products
- Small share of third party product distribution to complement portfolio
- Engineering and specification competence

OUR PROFILE

We are clearly on a path of profitable growth



Note: ¹ Based on sales excl. this Automotive customer sales. ² Decrease in 2017 due to expired order of a special Automotive customer (~€12m) which was mostly compensated for by new clients (~€7m).

OUR COMPETENCIES

We are a sensor expert for photonics, pressure & advanced electronics

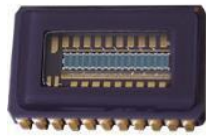


	<u>Core technologies in which First Sensor is particularly strong</u>	<u>Next measures</u>	<u>Strategic objectives</u>
MEMS "Pressure"	<ul style="list-style-type: none">– Full control of entire value chain including chip know-how– Focus on highest-end performance sector to differentiate through accuracy and product quality	<ul style="list-style-type: none">– Next generation H series– Expanding pressure business in Asia with H and K series	Drive market expansion of senseEdge technology for mobility, industrial and medical applications and strengthen low pressure and flow platforms
APD "Photonics"	<ul style="list-style-type: none">– Leading in APD technology that is key for fast growing applications such as LiDAR– Lowest noise amongst competitors, significantly improving detection quality– Superior design and process technology	<ul style="list-style-type: none">– New APD generation for autonomous machines– Strengthening photonic business in North America	Further strengthen our leading position in APD/LiDAR
Cameras "Photonics"	<ul style="list-style-type: none">– Ability to program and control the camera directly– Specialist for harsh environments and low-light applications– Design suited for easily connecting other sensors – basis for sensor fusion	<ul style="list-style-type: none">– Sensor fusion with Embedded ECU & software competencies– Growth with commercial & special vehicles	Establish a sustainable position in the future growth market for advanced driver-assistance systems and autonomous driving

Technologically leading pressure and optical components along the sensor value chain

OUR COMPETENCIES

We provide customer-specific sensor solutions and standard products

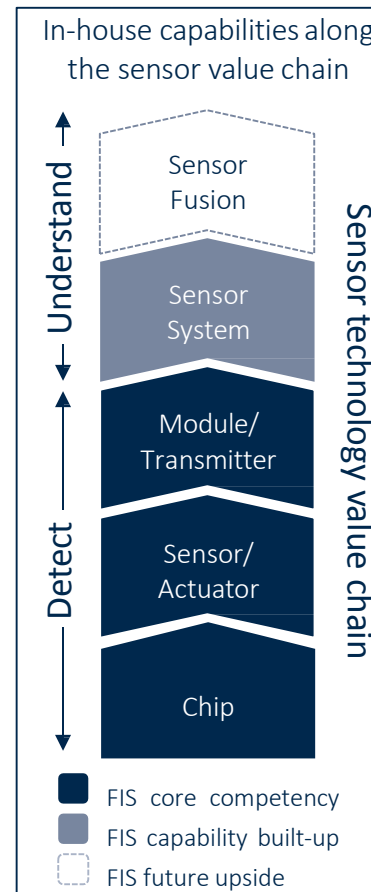
Broad and high quality product offering

Photonics	– Optical sensors	35%	
	– Cameras		
	– Radiation sensors	Sales share	
	– Laser diodes		
Pressure	– Pressure sensors	50%	
	– Thermal sensors		
	– Level sensors	Sales share	
	– Flow sensors		
Advanced Electronics	– Inertial sensors	15%	
	– Power semiconductors		
	– Magnet valves	Sales share	
	– Embedded systems for sensor fusion		

Know-how across multiple sensor products provides the basis for addressing specific customer needs across our three B2B markets



System expertise



1

Sensor Solutions

70%	Sales share
<ul style="list-style-type: none"> – Tailor-made sensor solutions addressing specific customer requirements 	

2

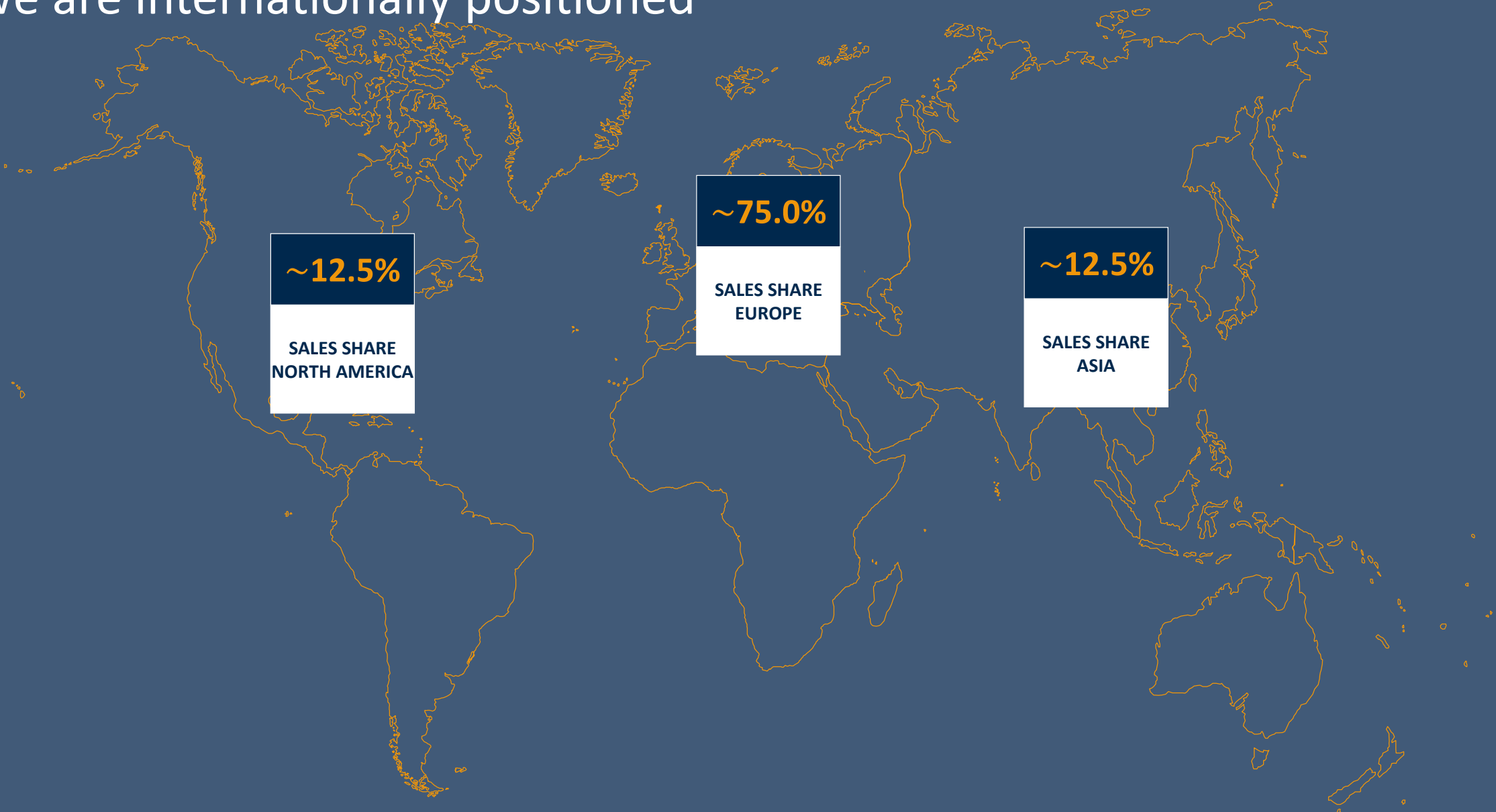
Standard Products

30%	Sales share
<ul style="list-style-type: none"> – Production, packaging and sale of standardized high-end sensor products 	

¹ Preliminary 2018 numbers.

OUR MARKET POSITION

We are internationally positioned



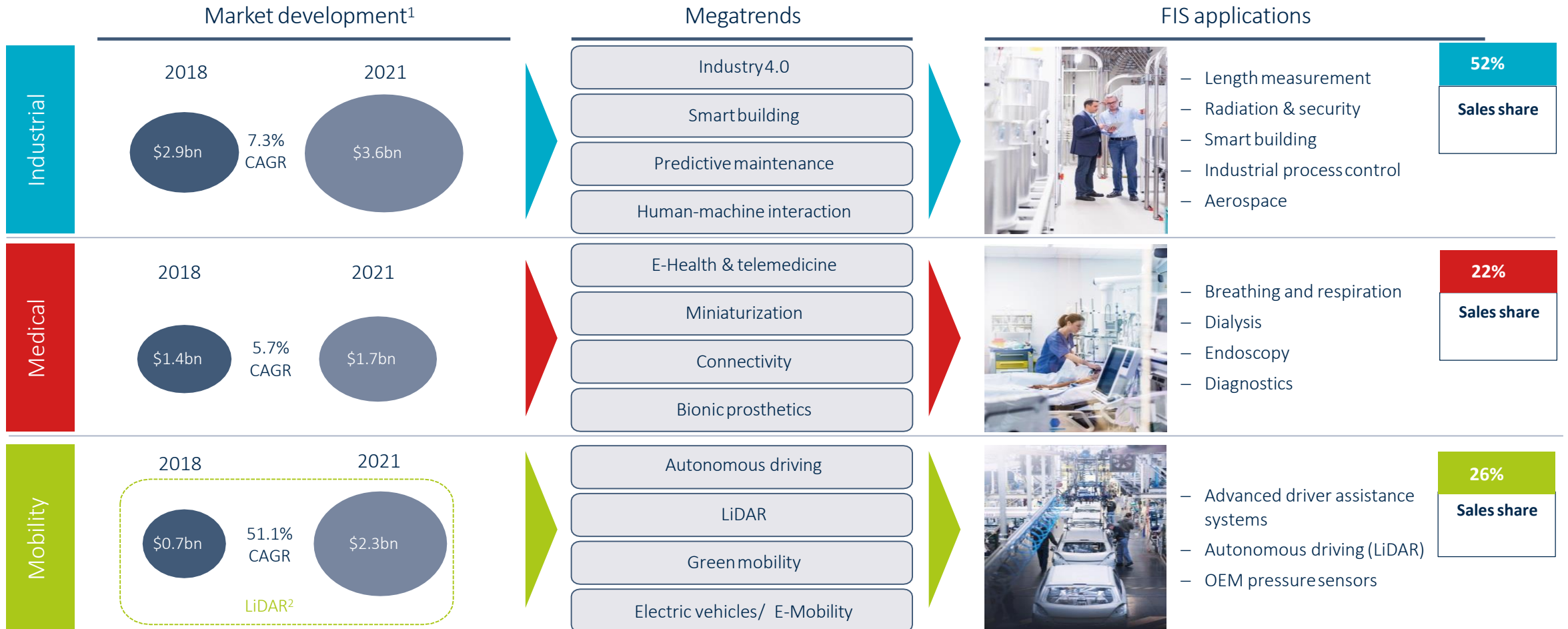
~12.5%
SALES SHARE
NORTH AMERICA

~75.0%
SALES SHARE
EUROPE

~12.5%
SALES SHARE
ASIA

OUR MARKET POSITION

We focus on three growing B2B markets

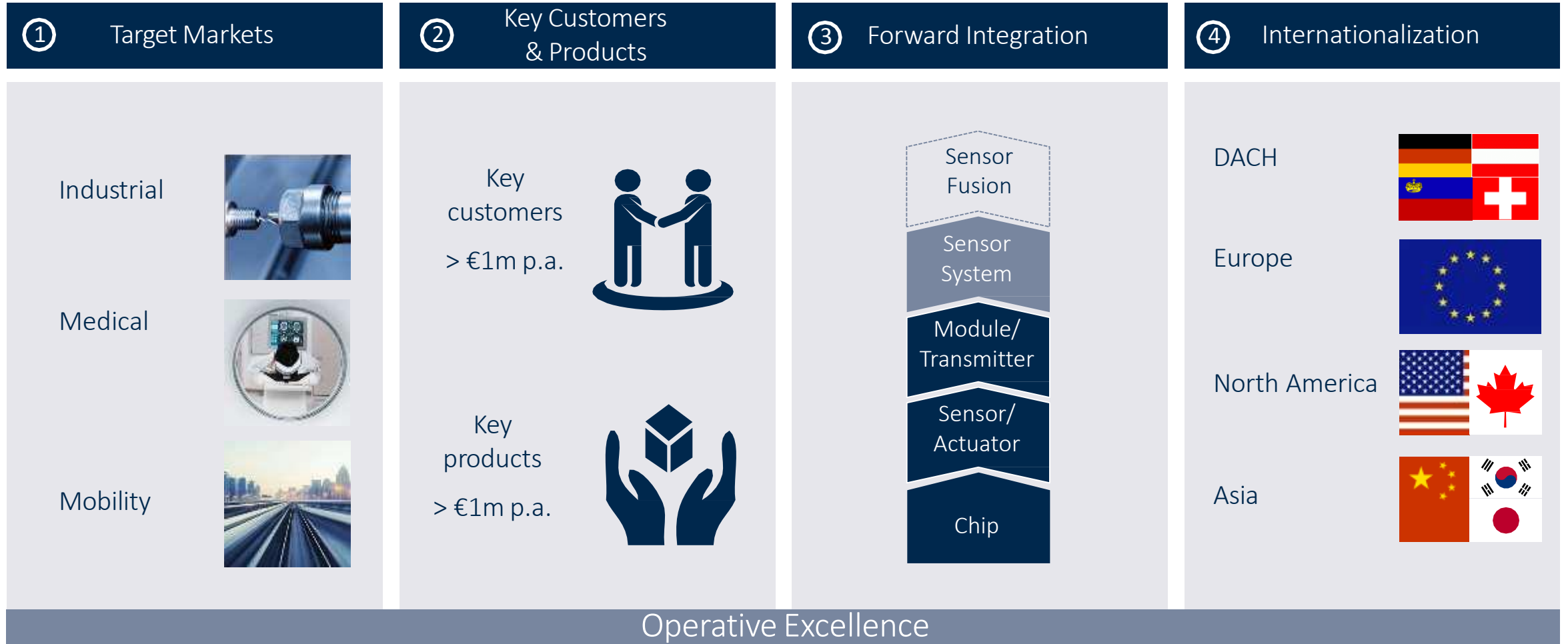


¹Based on Yole estimates for the global MEMS and sensor market. ² Includes LiDAR estimates for the automotive segment only.

Our Strategy

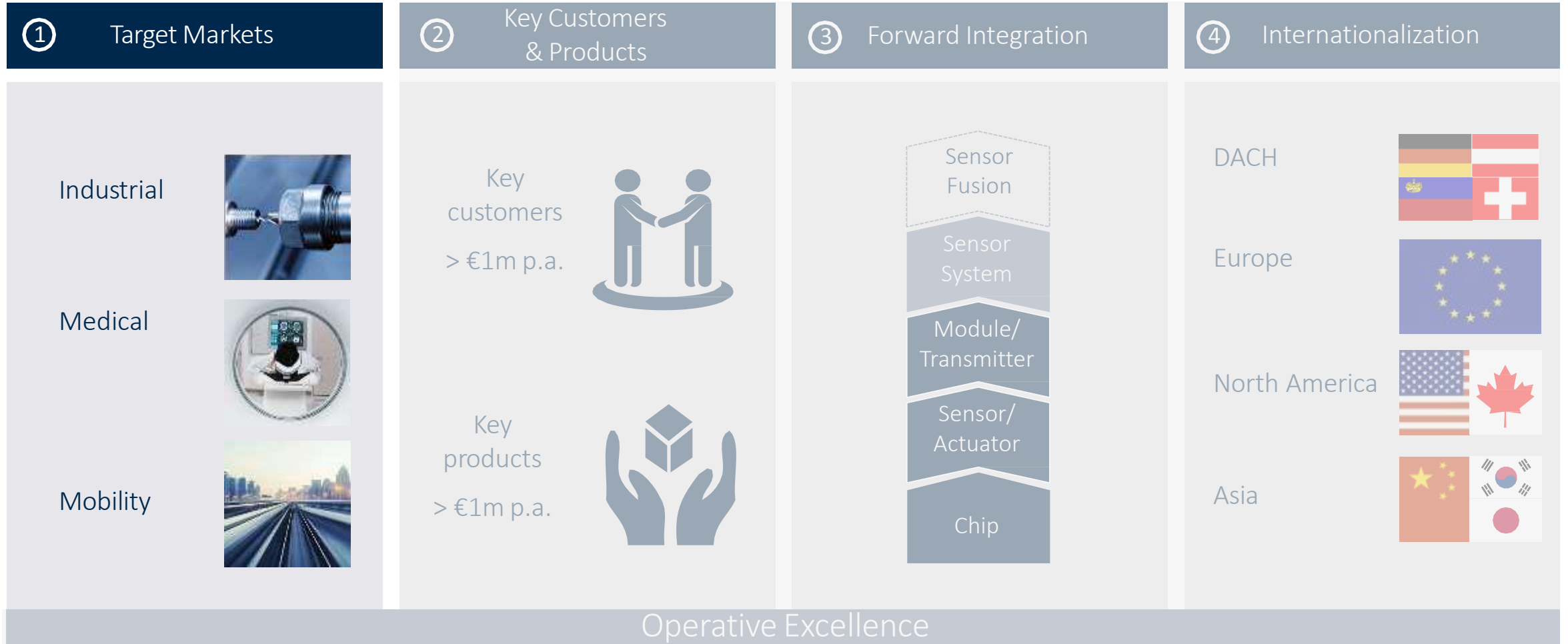
STRATEGY FOR PROFITABLE GROWTH

We generate and utilize economies of scale in 4 dimensions



STRATEGY FOR PROFITABLE GROWTH

Dimension 1: Clear focus on our target markets



DIMENSION 1: CLEAR FOCUS ON OUR TARGET MARKETS

We grow in megatrend driven target markets

INDUSTRIAL



MEDICAL



MOBILITY



DIGITIZATION & CONNECTIVITY

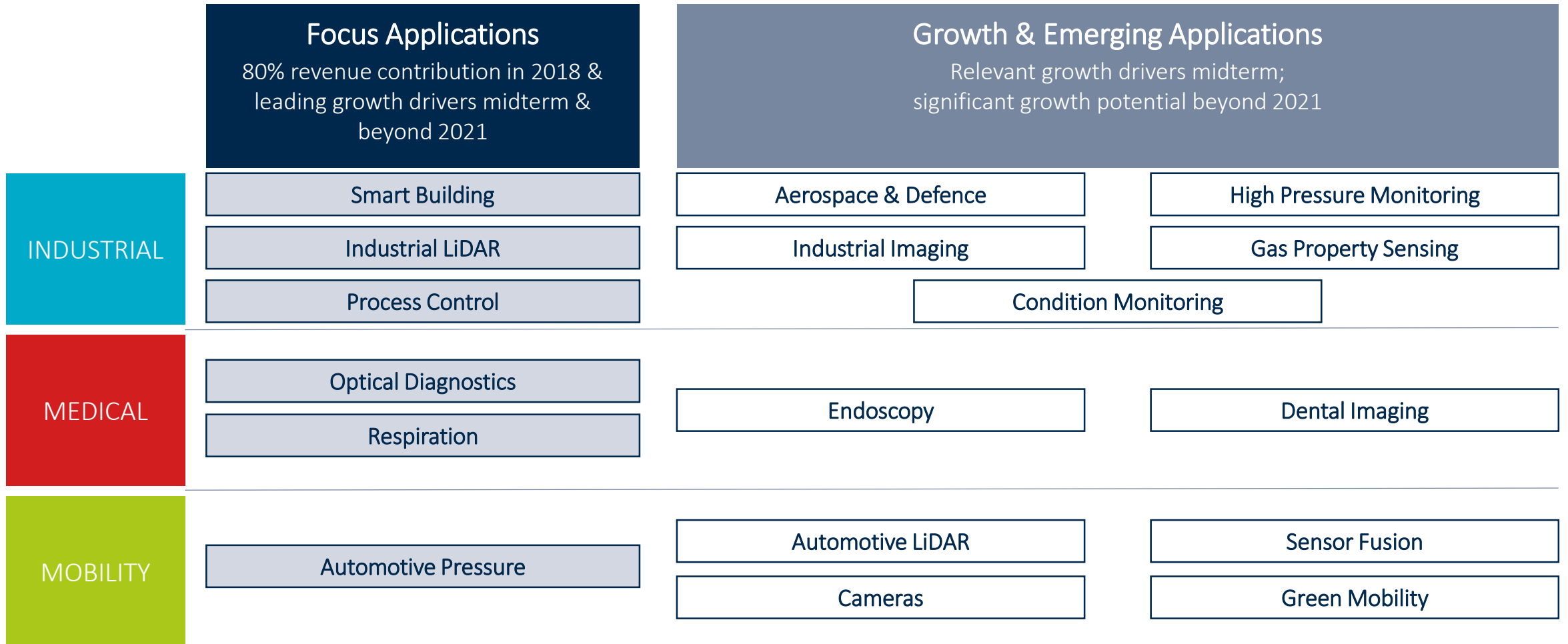
- INDUSTRY 4.0
- SMART CITIES
- INTERNET OF THINGS

- E-HEALTH & TELEMEDICINE
- MINIATURIZATION
- AMBIENT ASSISTED LIVING

- AUTONOMOUS DRIVING
- GREEN MOBILITY

DIMENSION 1: CLEAR FOCUS ON OUR TARGET MARKETS

and focus on applications with most relevant contributions to growth



OUR STRATEGY FOR PROFITABLE GROWTH

Our next measures: Novelties, targeted sales & expanded capacities



▶ Grow with pressure in Asia

▶ New APD generation for autonomous machines

▶ Expand imaging in North America

▶ Next generation H series

▶ Increase production capacities

▶ Grow with optical packaging

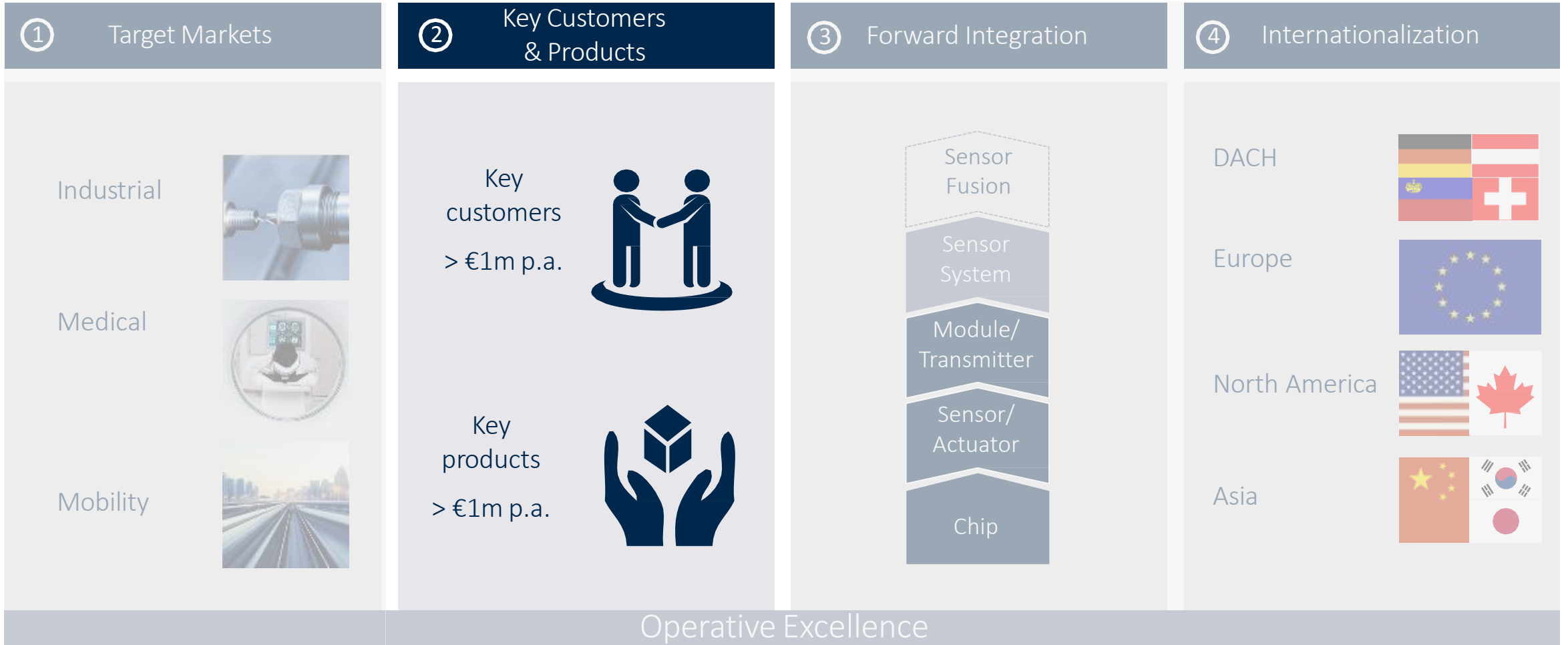
▶ Sensor fusion with Embedded ECU & software competencies

▶ Volume production with new camera family

▶ Conquer the truck market

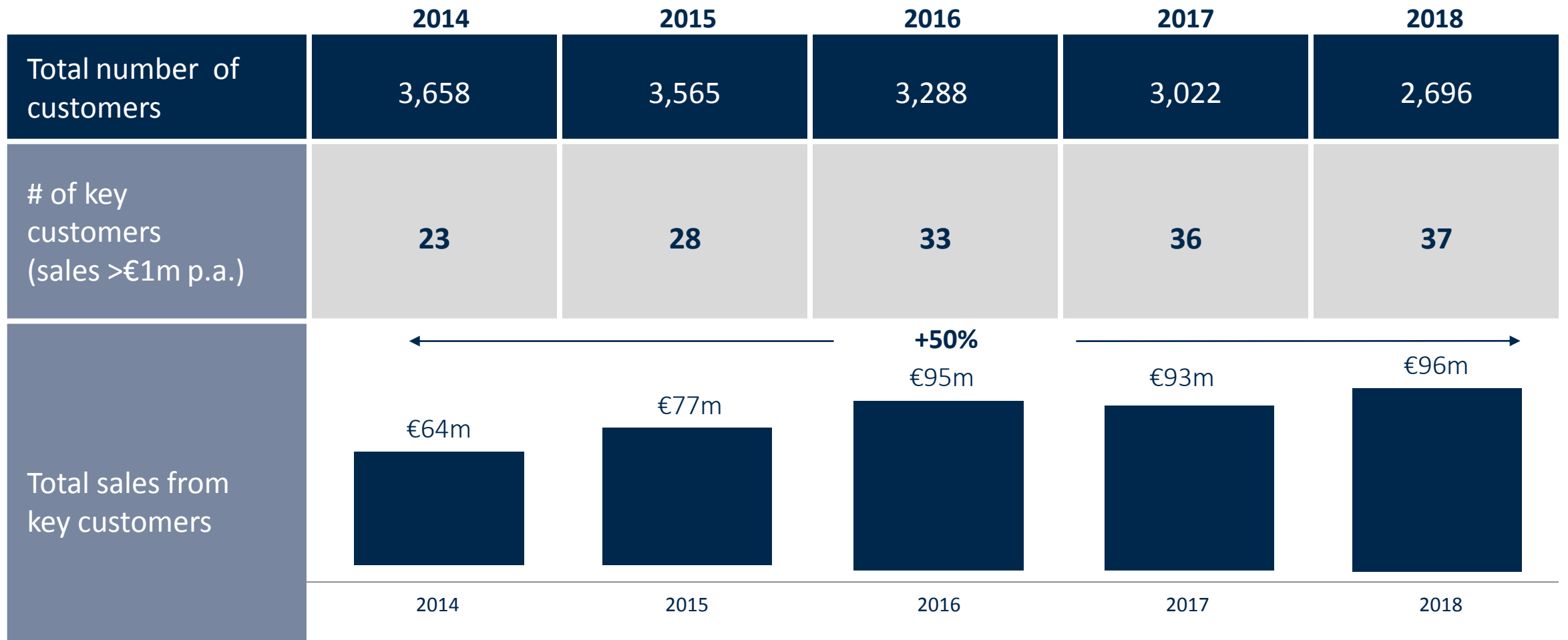
OUR STRATEGY FOR PROFITABLE GROWTH

Dimension 2: Clear focus on key customers and key products



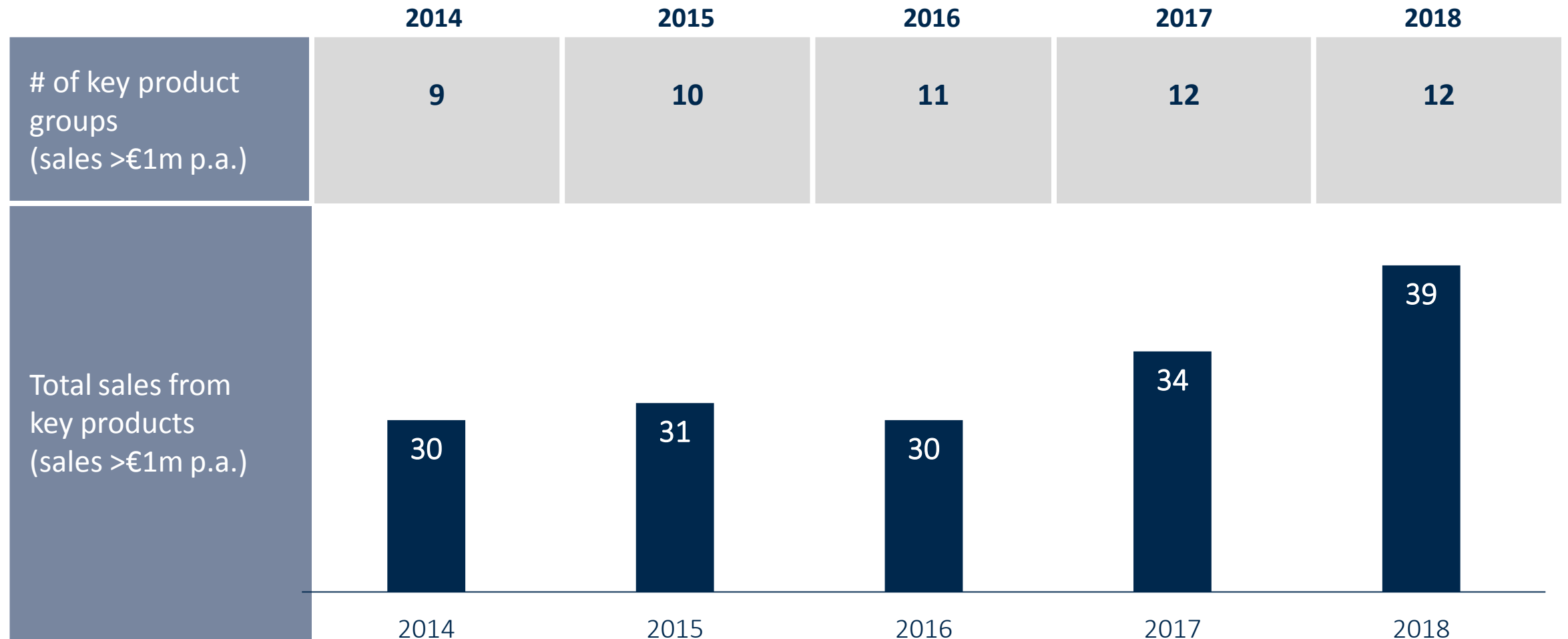
DIMENSION 2: CLEAR FOCUS ON KEY CUSTOMERS

We have significantly increased sales with our key customers



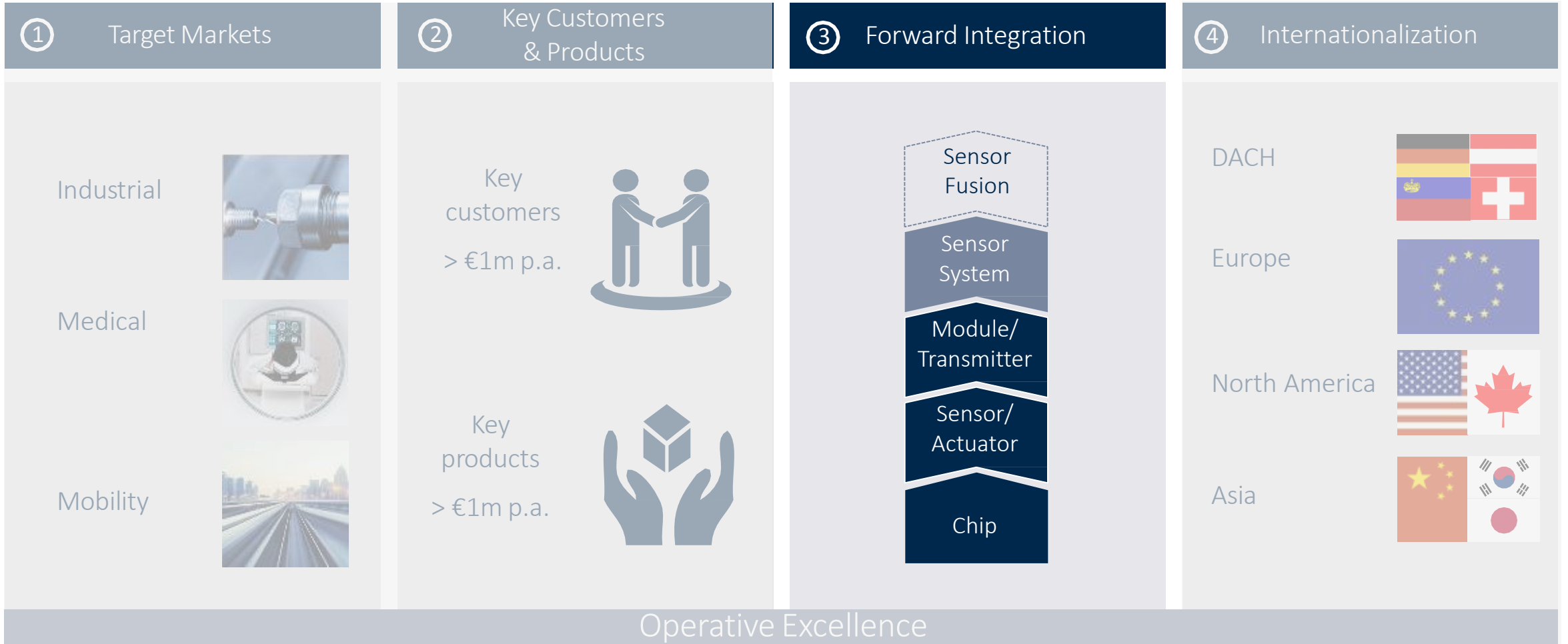
DIMENSION 2: CLEAR FOCUS ON KEY CUSTOMERS

Sales with our key products has grown since rollout of our strategy



OUR STRATEGY FOR PROFITABLE GROWTH

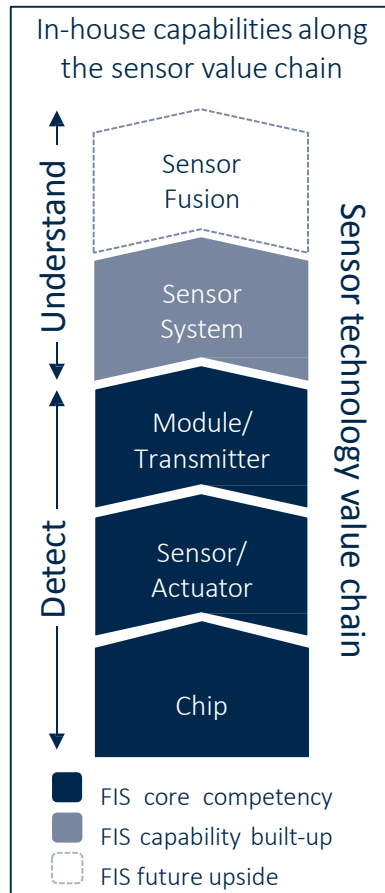
Dimension 3: Clear focus on forward integration



DIMENSION 3: CLEAR FOCUS ON FORWARD INTEGRATION

System expertise along the value chain is a strong basis for our offering

System expertise



Broad and high quality product offering

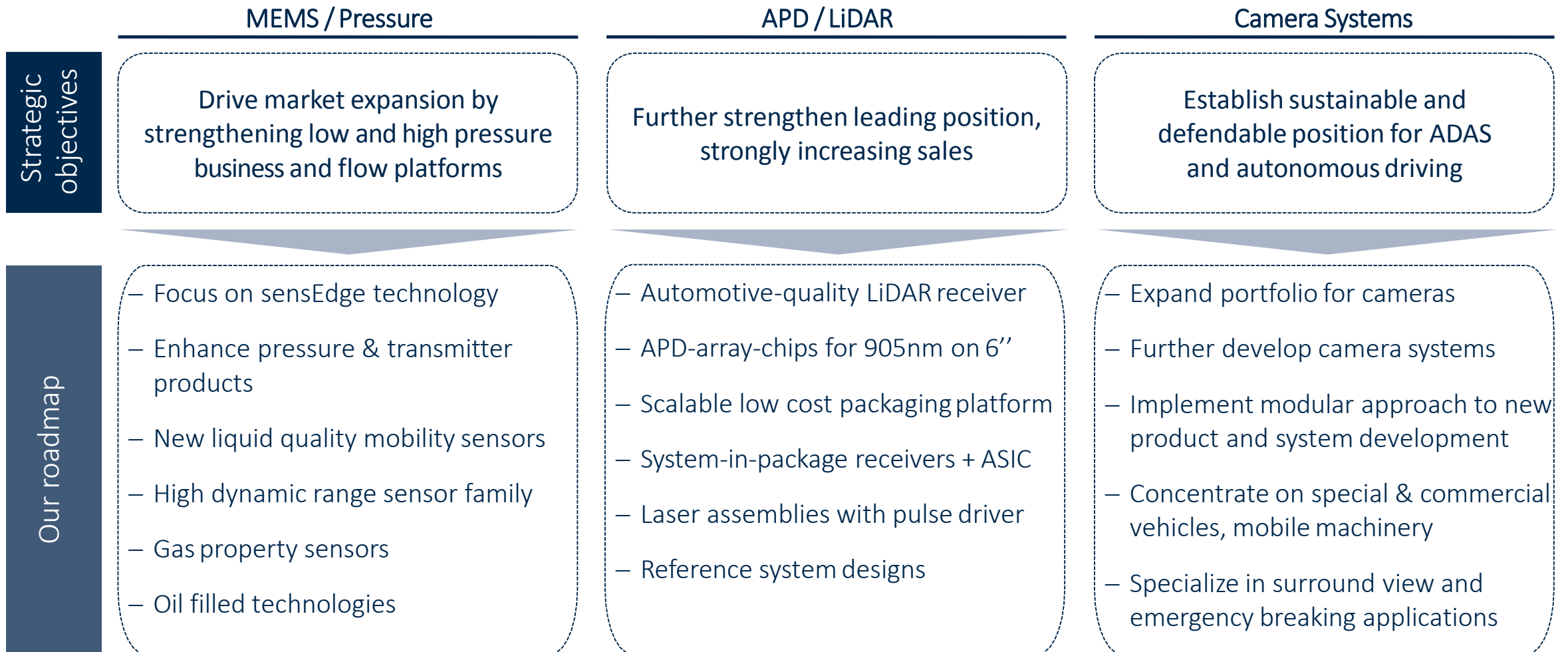
- | | |
|----------------------|---|
| Photonics | <ul style="list-style-type: none"> – Optical sensors – Cameras – Radiation sensors – Laser diodes |
| Pressure | <ul style="list-style-type: none"> – Pressure sensors – Thermal sensors – Level sensors – Flow sensors |
| Advanced Electronics | <ul style="list-style-type: none"> – Inertial sensors – Power semiconductors – Magnet valves – Embedded systems for sensor fusion |

Key growth drivers



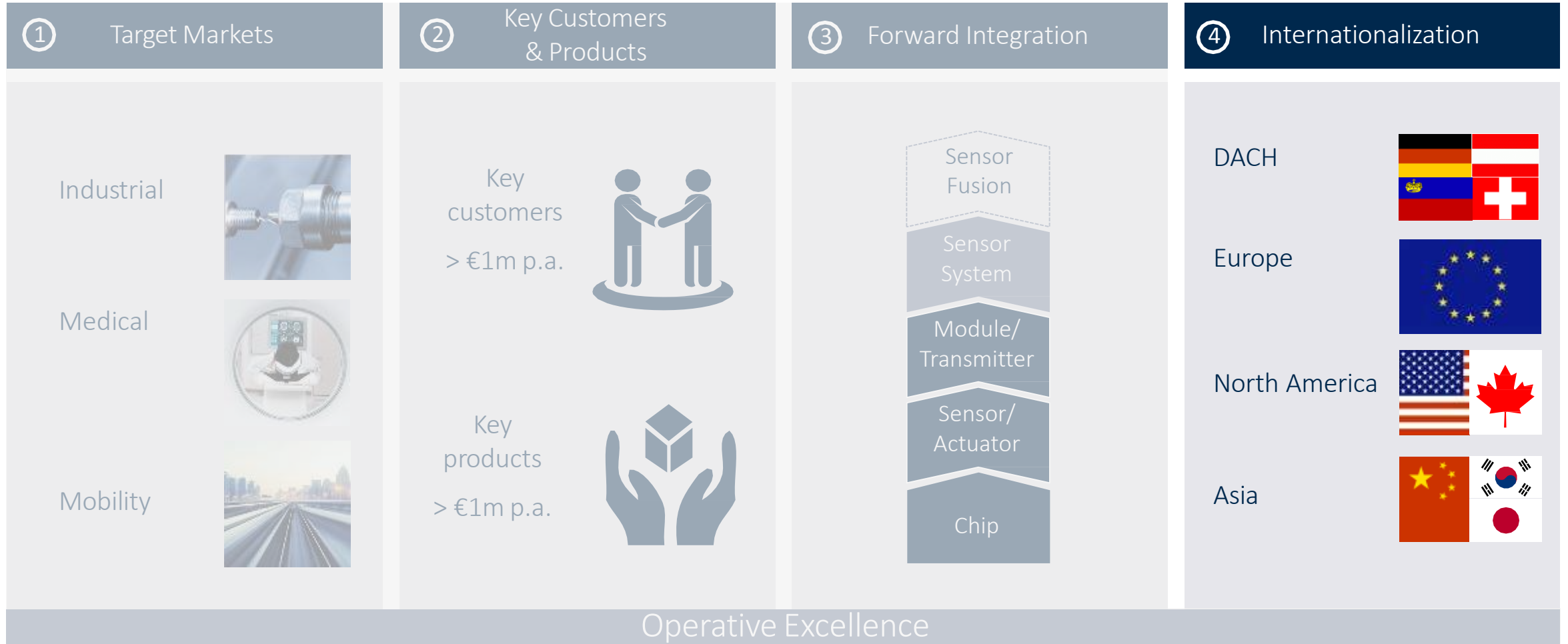
DIMENSION 3: CLEAR FOCUS ON FORWARD INTEGRATION

We use 3 key growths drivers to expand our market position



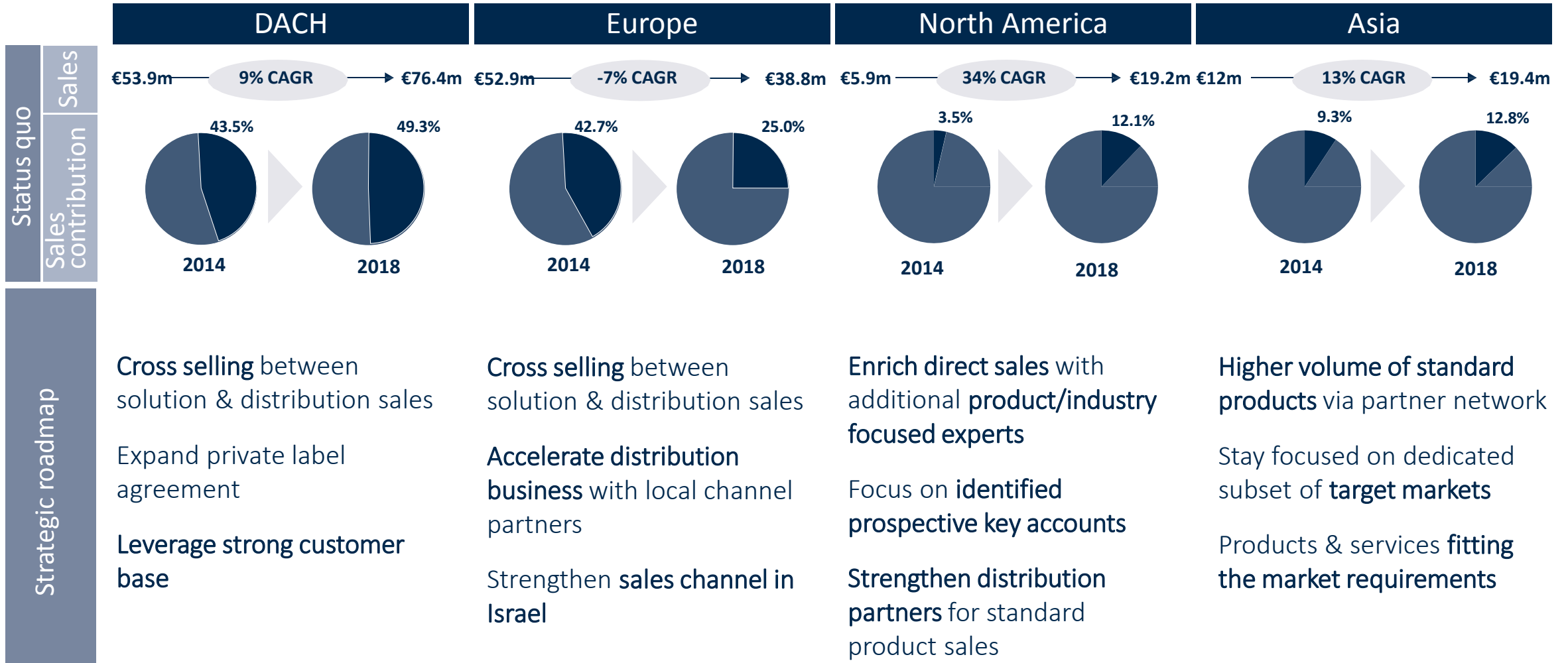
STRATEGY FOR PROFITABLE GROWTH

Dimension 4: Clear focus on internationalization



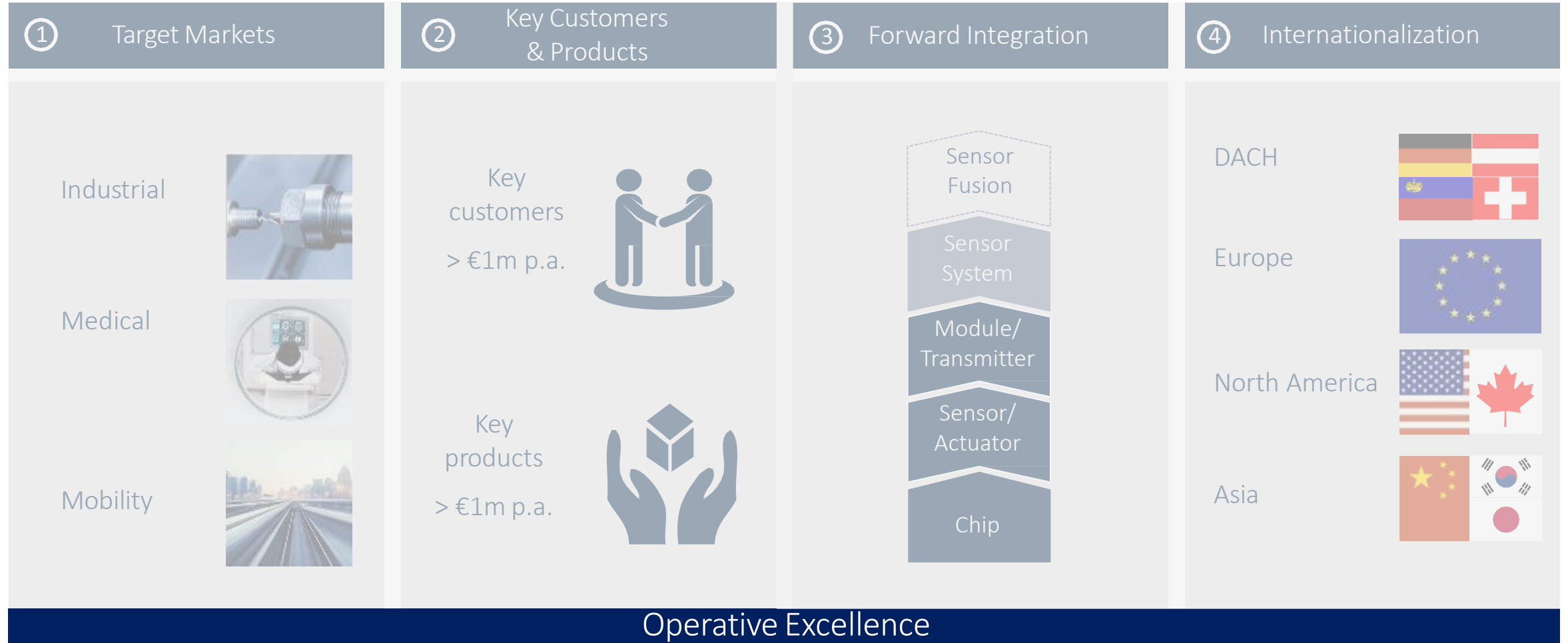
DIMENSION 4: CLEAR FOCUS ON INTERNATIONALIZATION

We expand our vertical and regional sales worldwide



STRATEGY FOR PROFITABLE GROWTH

Foundation: Operative Excellence



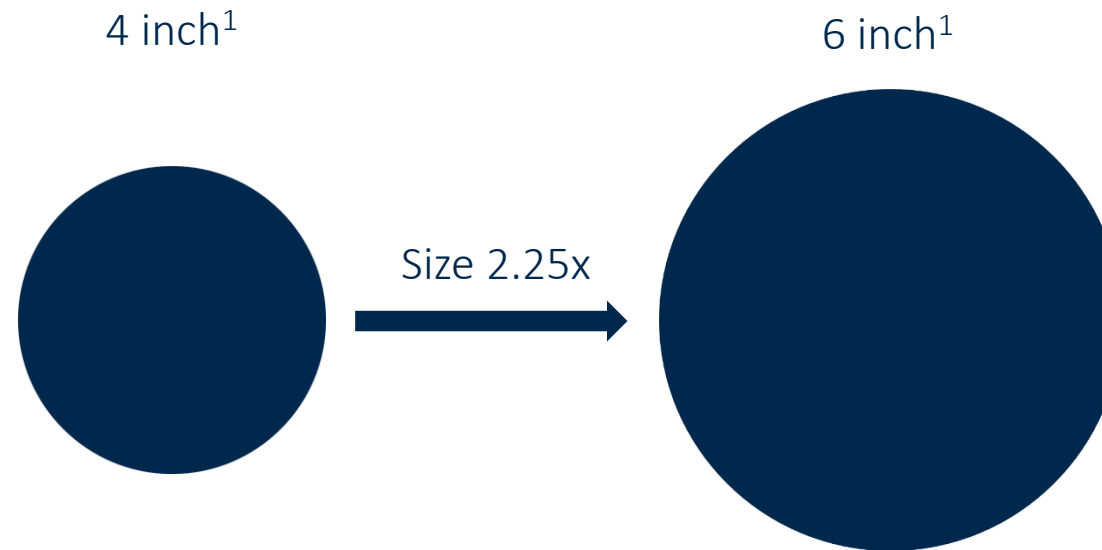
FOUNDATION: OPERATIVE EXCELLENCE

Introduction of 6 inch wafer will substantially enhance productivity

Strategic rationale

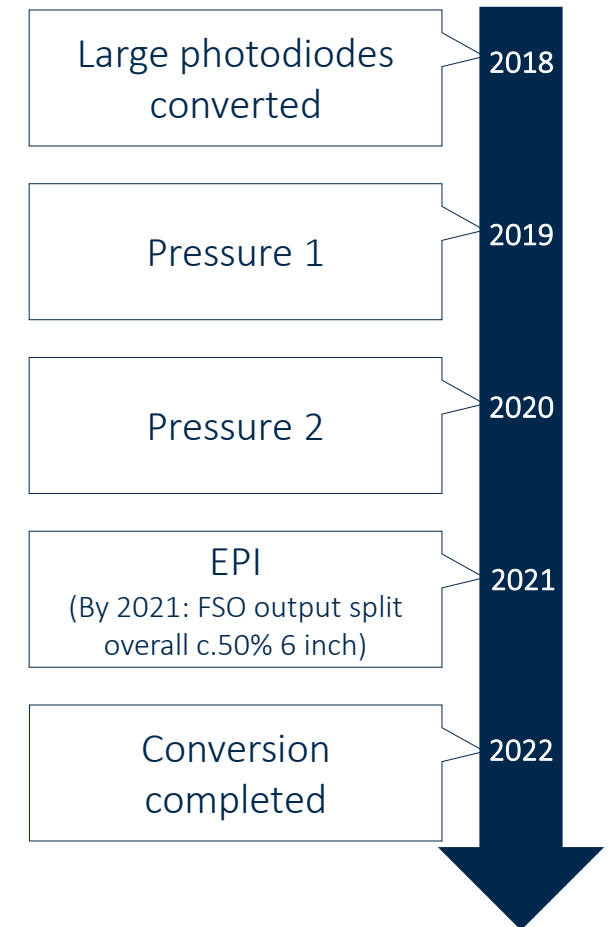
- **Production effectiveness** (improved edge/area ratio)
- **Production efficiency** (elimination of setup for conversion from 4 to 6 inch)
- **Cost reduction** (more chips on one wafer)
- **Pilot projects completed:** 10% of volume already converted
- **6" investments already completed**, further investments only to renew equipment set and new technologies

Introduction of 6 inch wafer



Same process steps and process time for main processes will reduce costs dramatically

Timeline of conversion



FOUNDATION: OPERATIVE EXCELLENCE

We actively utilize outsourcing for a flexible production network

Outsourcing process



Driving criteria for further outsourcing

- Risk mitigation
- Increase margin
- Focus on USPs

Target products

- Commodity technologies with high demand for automation (investment = capital intensive)
- Intensive manual work

Benefits

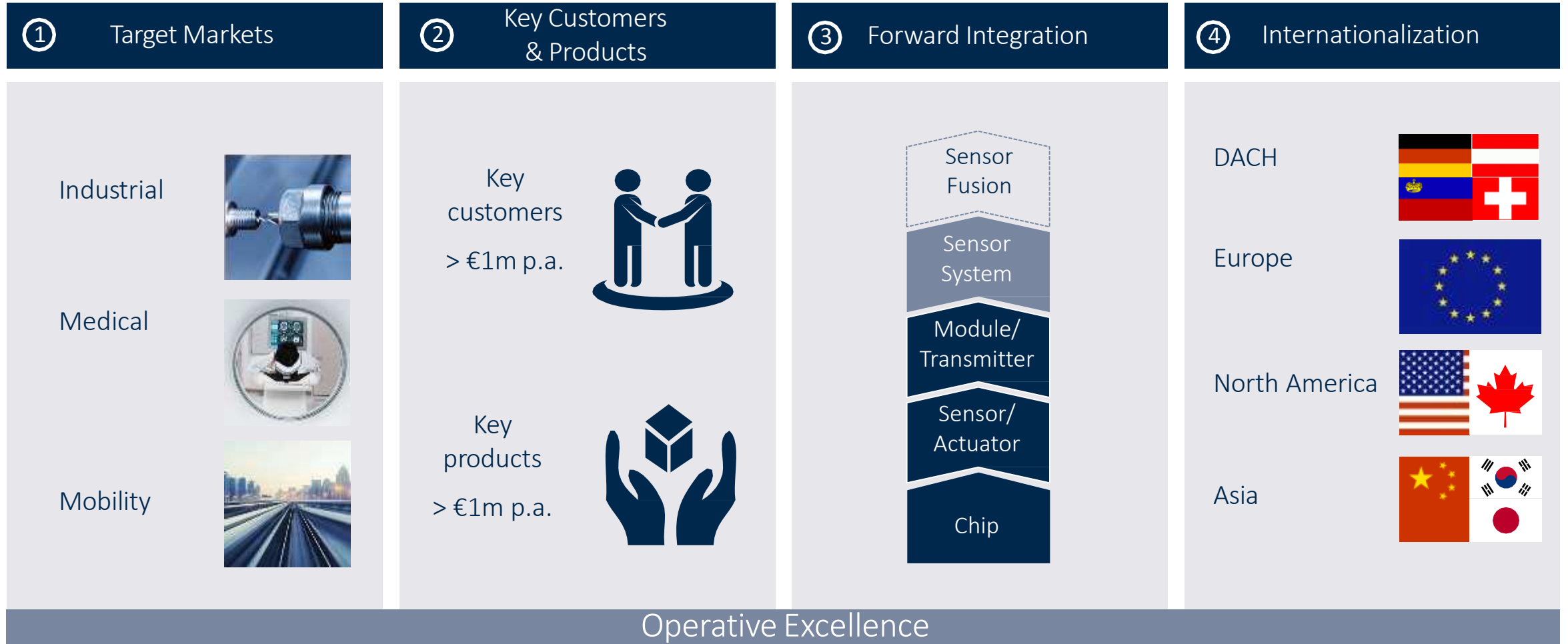
- Higher margin through production in low cost countries
- Reduced capital requirements
- High flexibility

Risks

- Qualification
- Dependency (influence)
- Continuous improvement vs. price

STRATEGY FOR PROFITABLE GROWTH

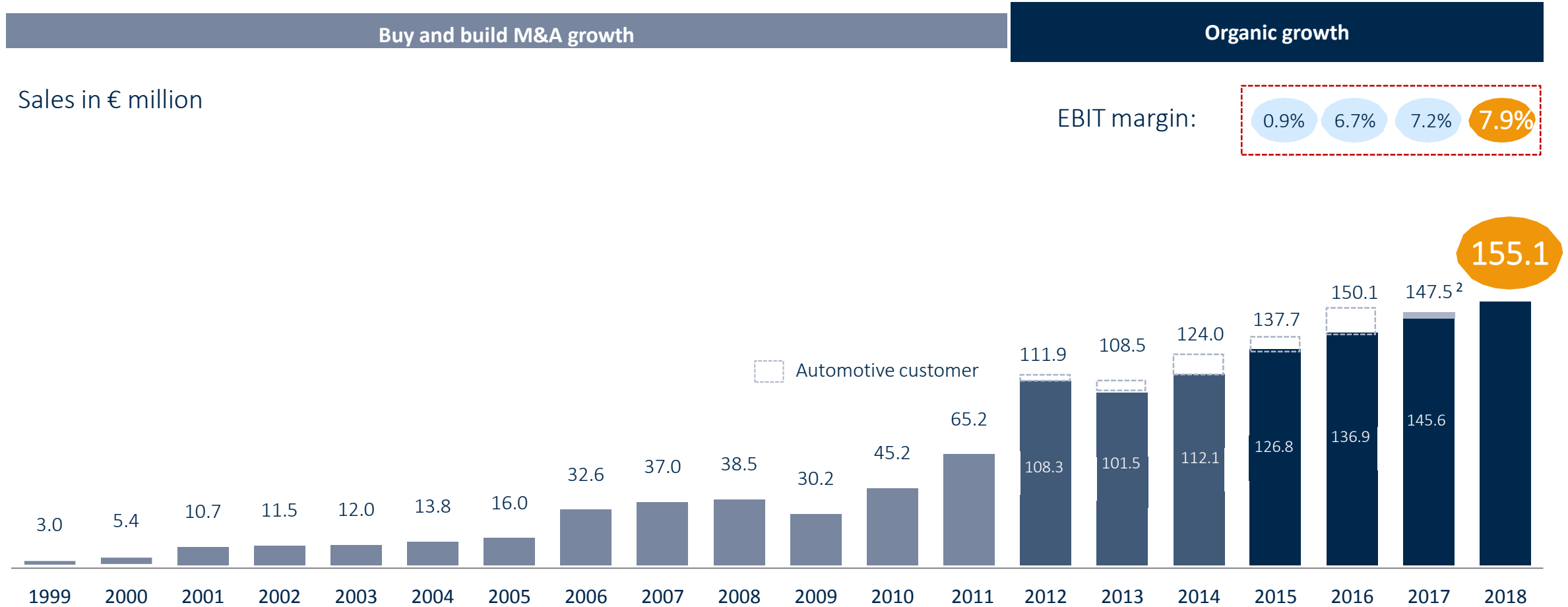
We generate and utilize economies of scale in 4 dimensions



Our Key Figures 2018

FINANCIAL RESULT 2018: AT A GLANCE

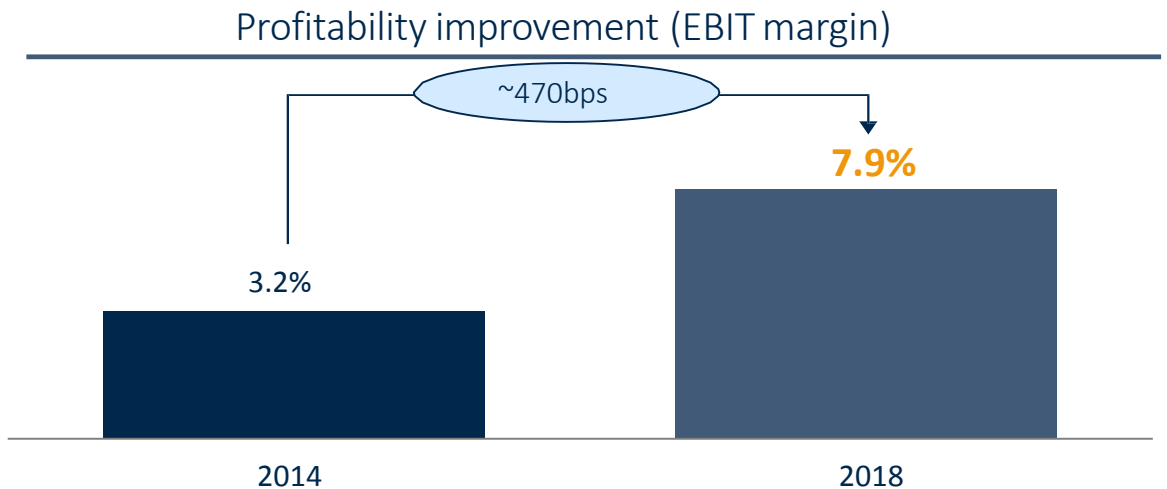
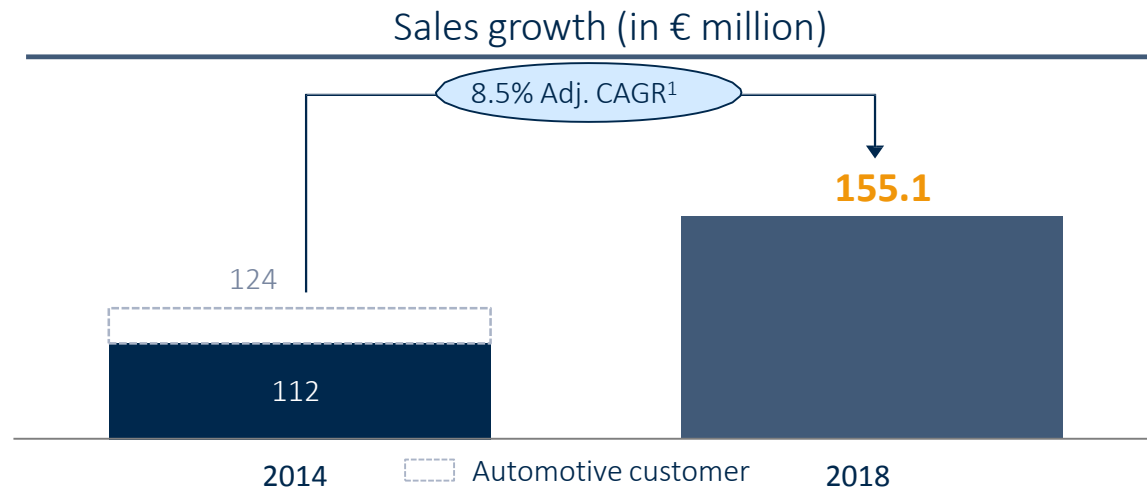
We further succeed in implementing our strategy for profitable growth



Note: 1 Based on sales excl. this automotive customer sales. 2 Decrease in 2017 due to expired order of a special automotive customer (~€12m) which was mostly compensated for by new clients (~€7m).

FINANCIAL RESULT 2018: AT A GLANCE

Top-line growth & margin improvement based on dedicated measures



Strong top-line growth despite portfolio restructuring efforts and focus on operational excellence

- Set-up of one group-wide sales team, regionally focused teams for Asia and Americas, KAM for large customers
- Streamlining of product and customer portfolio: Significantly less variances, volume bundling, “last time buy offers”
- Standard products successfully offered to the markets
- Value-based pricing and volume incentives esp. in solutions business

Significantly expanded margin levels through operational measures and phase-in of higher margin products

- ONE process map for all facilities/functions with ONE SAP 4/HANA
- Transparent controlling tools and KPIs
- Major improvements in terms of batch size, lead time, value chain efficiency, yield and sourcing
- Increased production efficiency through harmonization
→ 40 % gross margin target for all standard products and solutions

¹ Based on sales excl. sales of a special automotive customer

FINANCIAL RESULT 2018: P+L STATEMENT

Significant improvement of all relevant key figures has been achieved

In € million	2017	2018	Change
1. Revenues	147.5	155.1	7.6
Other operating income	3.3	2.6	-0.7
Change in inventory	-1.5	4.5	6.0
Other own work capitalized	2.5	2.0	0.5
Cost of material	-69.3	-76.1	-6.8
2. Gross profit	82.5	88.1	5.6
3. Personnel expenses	-46.6	-49.0	-2.5
4. Other operating expenses	-16.3	-17.8	-1.5
Operating result (EBITDA)	19.6	21.3	1.6
Depreciation and amortization	-6.8	-6.8	
Operating result before goodwill amortization (EBITA)	12.8	14.5	1.7
Goodwill amortization	-2.3	-2.2	
5. Earnings before interest and tax (EBIT)	10.6	12.2	1.7
6. Financial result	-3.4	-1.8	1.6
Income before tax (EBT)	7.1	10.4	3.3
Taxes	-2.8	-2.9	-0.1
Net income	4.4	7.5	3.1

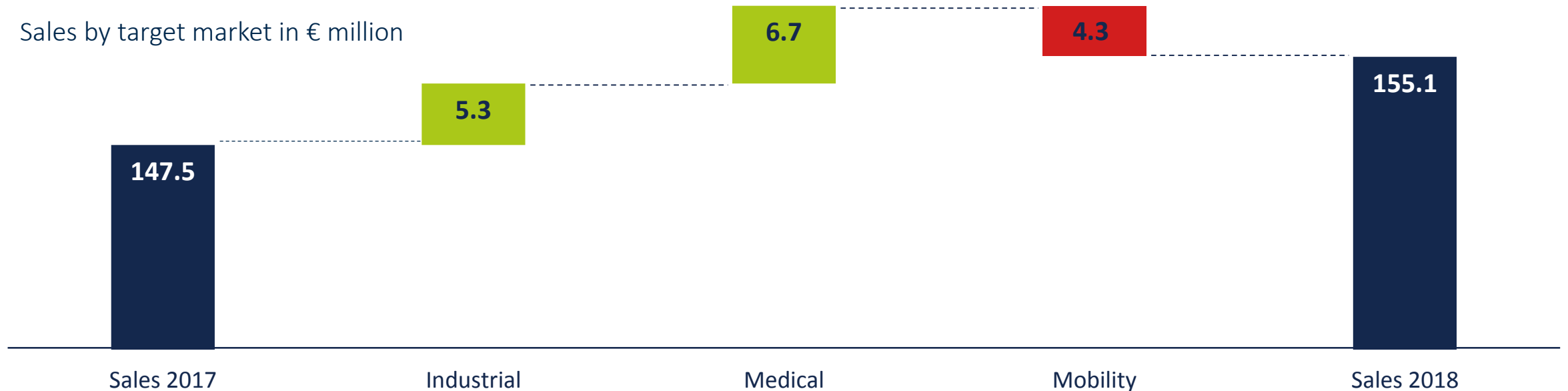
2.96%

4.85%

P+L STATEMENT:REVENUES

We continue in implementing our strategy for profitable growth

Sales by target market in € million



Industrial

- Sales growth 7.0%
- New business in the area of photonic and pressure sensors
- Raising demand in Asia

Medical

- Sales growth 23.7%
- Raising demand for H series
- Expanded business with imaging solutions in North America

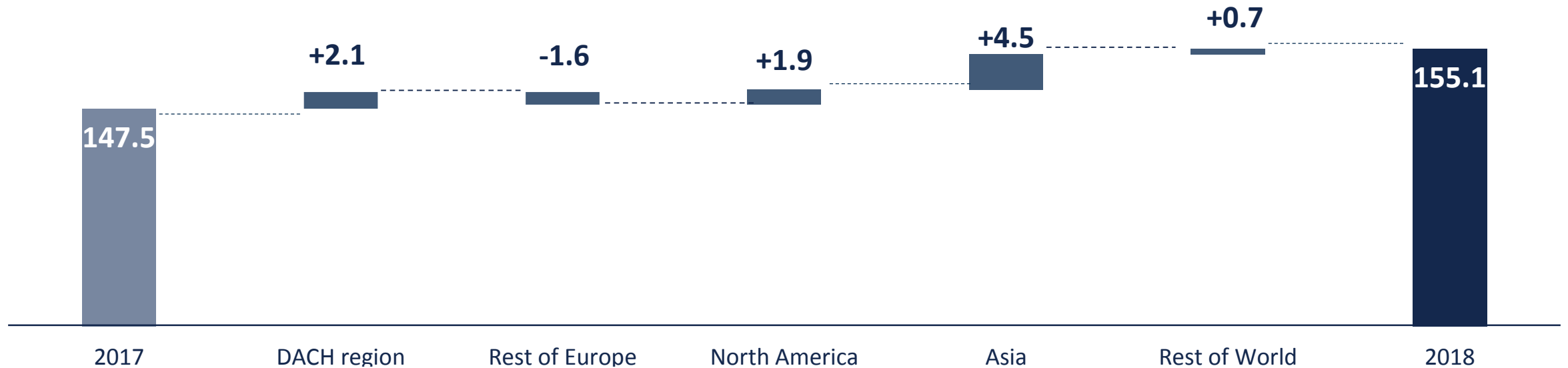
Mobility

- Sales decline -9.6%
- Volatile geopolitical developments in automotive industry
- Launch of Camera & ECU products

P+L STATEMENT: REVENUES

We further strengthen our international presence

Sales in € million

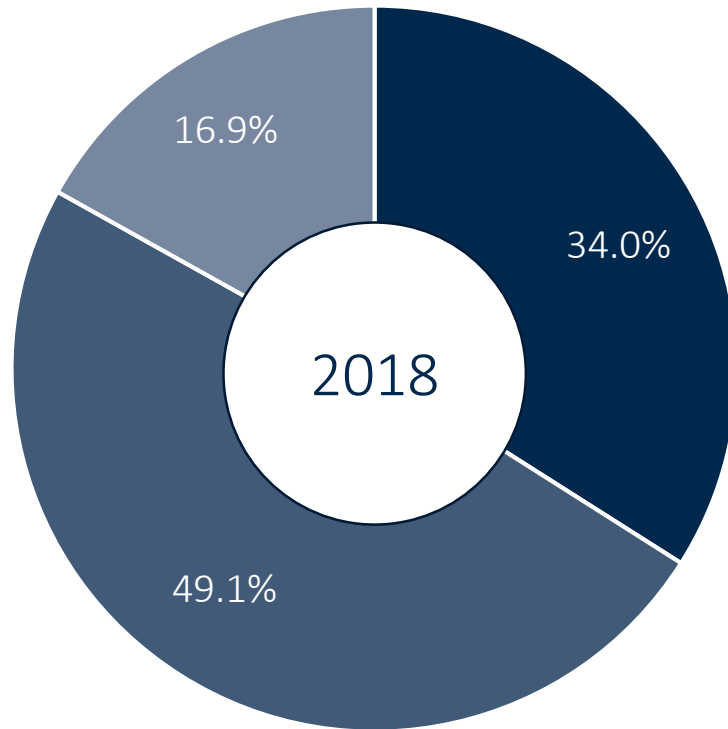


DACH region <ul style="list-style-type: none">– Growth + 2.8%– Germany remains the biggest market	Rest of Europe <ul style="list-style-type: none">– Sales decrease in Hungary– Sales increase in Switzerland	North America <ul style="list-style-type: none">– Growth + 11.3%– Sales increase in USA and Canada	Asia <ul style="list-style-type: none">– Growth + 30.2%– Sales increase in China
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P+L STATEMENT: REVENUES

Growth drivers: photonic and pressure sensors

Sales share product groups in %



■ Photonics ■ Pressure ■ Advanced Electronics

Commentary

Photonics

- LiDAR receivers for driver assistance systems, robots and drones
- Customer-specific camera modules for industrial inspection and aerial surveillance
- Embedded electronic control unit (ECU) for driver assistance systems

Pressure

- Customer-specific pressure sensor component for industrial transmitters
- Gas property sensor system for fast and efficient detection of gas mixtures

P+L STATEMENT: GROSS PROFIT

Gross profit with 52.9% slightly decreased due to higher inventories

In € million

Other Operating Income



Change in Inventory



Other Own Work Capitalized



Cost of Material



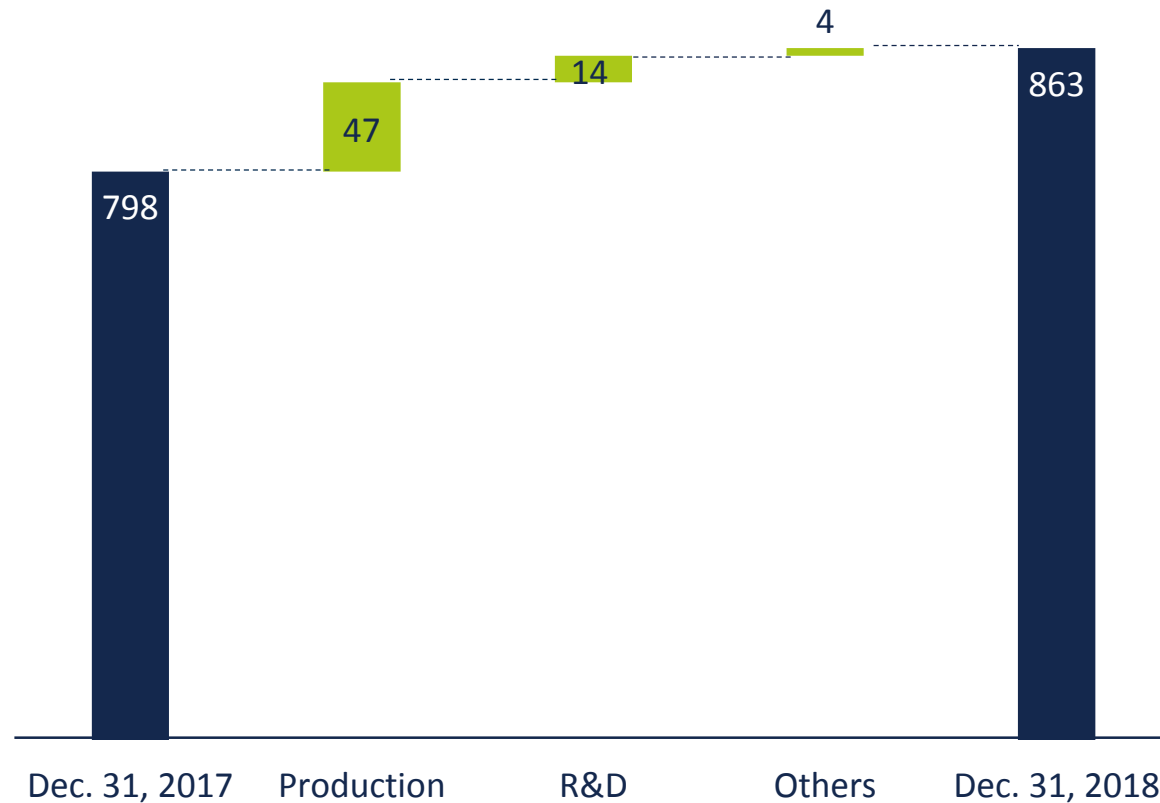
Commentary

- **Other operating income:** investment grants and changes in provisions
- **Inventories:** increase because of significantly improved order situation/ the necessity of safeguarding supply capability
- **Capitalized costs:** development costs pursuant to IAS 38 accounted for €1.6 million of this sum
- **Cost of Material:** rose due to increase in total operating performance
- **Gross Profit: 52.9% (previous year: 53.3%)**

P+L STATEMENT: PERSONNEL EXPENSES

Increased FTE through investing in production and R&D for growth

Employees in FTE



Salary/ Wages in € million



Breakdown 2018 in € million

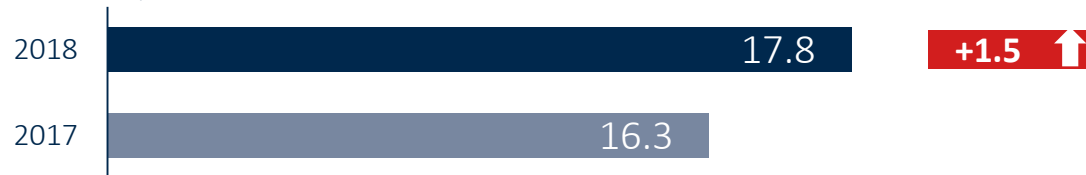


P+L STATEMENT: OTHER EXPENSES

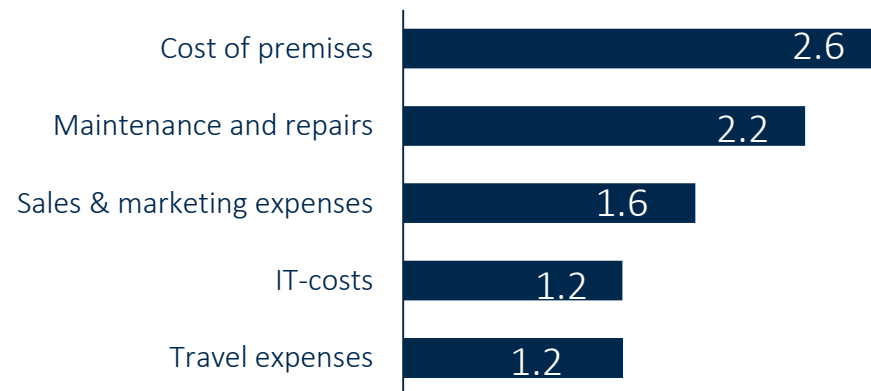
Other operating expenses increase slightly by € 1.5 million

In € million

Other Expenses



Breakdown 2018, Top 5



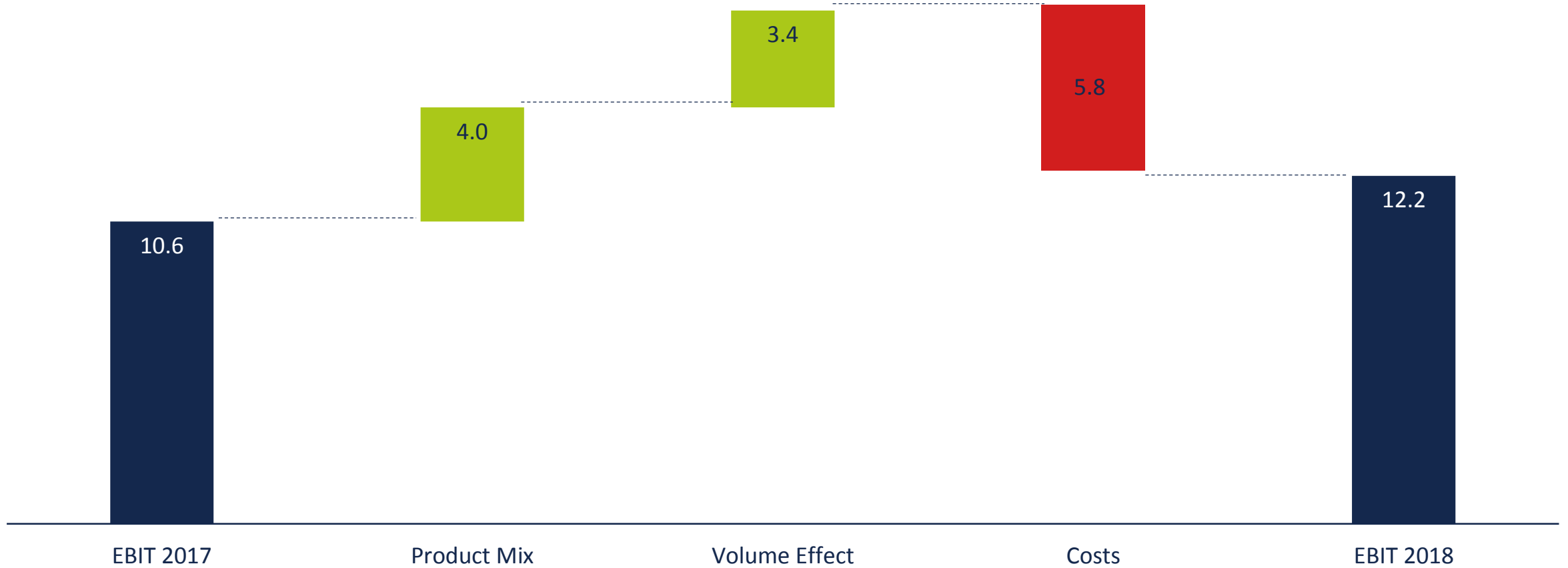
Commentary

- Increased costs for maintenance of buildings and production equipment
- Increased recruitment costs for hiring qualified staff
- Higher R&D expenses for investing in new product generations
- More travel expenses due to internationalization
- Warranty expenses decrease by 45.6%
- Legal and accountancy fees decrease by 32.8%

P+L STATEMENT: EBIT

EBIT increased by 16%

EBIT in € million



P+L STATEMENT: FINANCIAL RESULT

Foreign currency policy leads to improved financial result

In € million

Financial Result

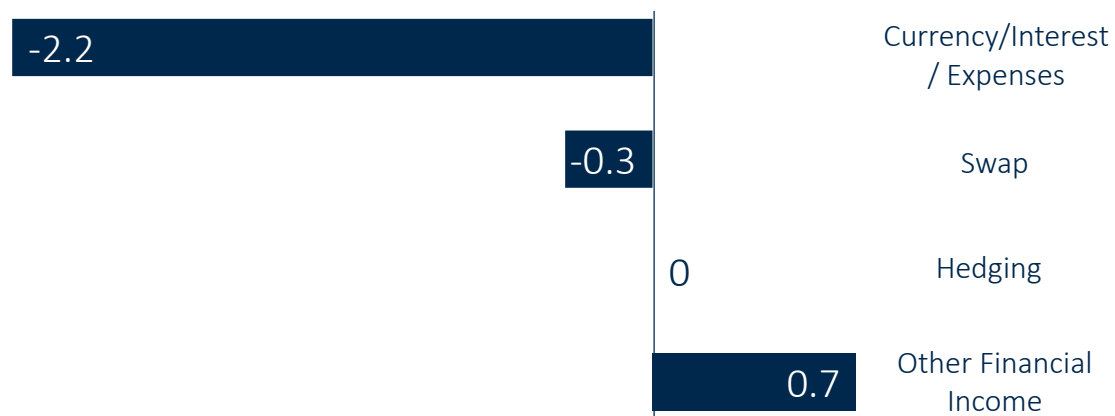


Commentary

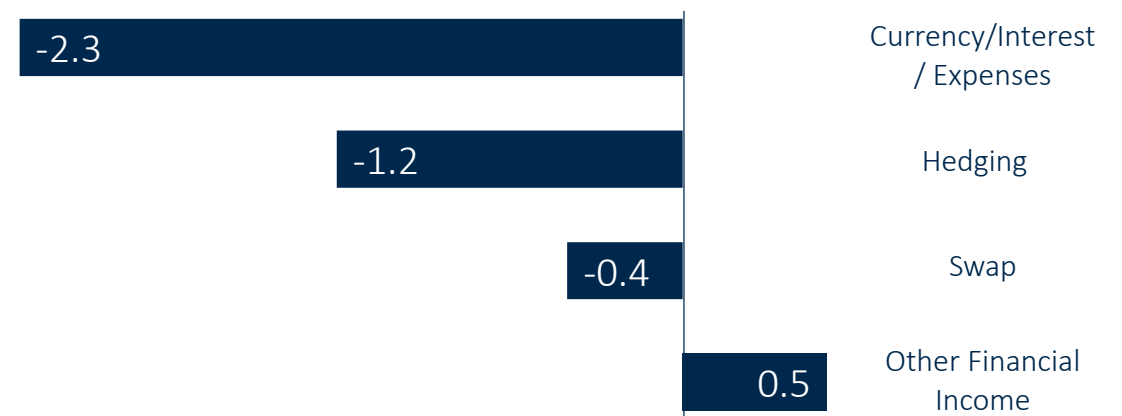
- Contribution to earnings from currency gains and losses improved: €-1.6 million due to early reversal of currency option contracts (TARF)

BALANCE SHEET: CASHFLOW

Breakdown 2018



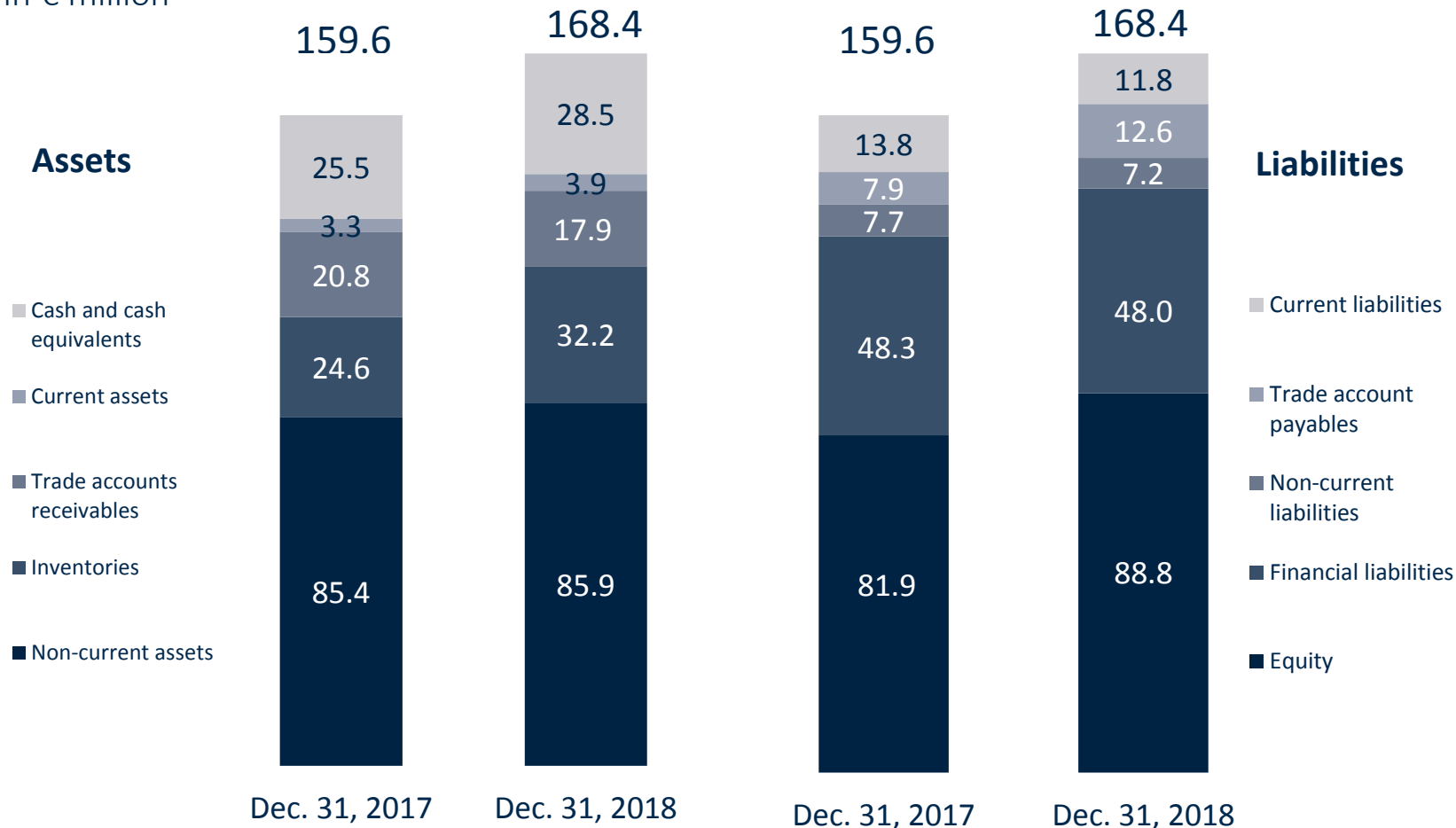
Breakdown 2017



FINANCIAL RESULT 2018: BALANCE SHEET

Equity ratio rose by 1.4%

In € million



Commentary

Cash

2018: €28.5 million

2017: €25.5 million

Net Working Capital

2018: €37.3 million

2017: €37.1 million

Equity Quota

2018: 52.7%

2017: 51.3%

Net Debt

2018: €19.5 million

2017: €22.8 million

BALANCE SHEET

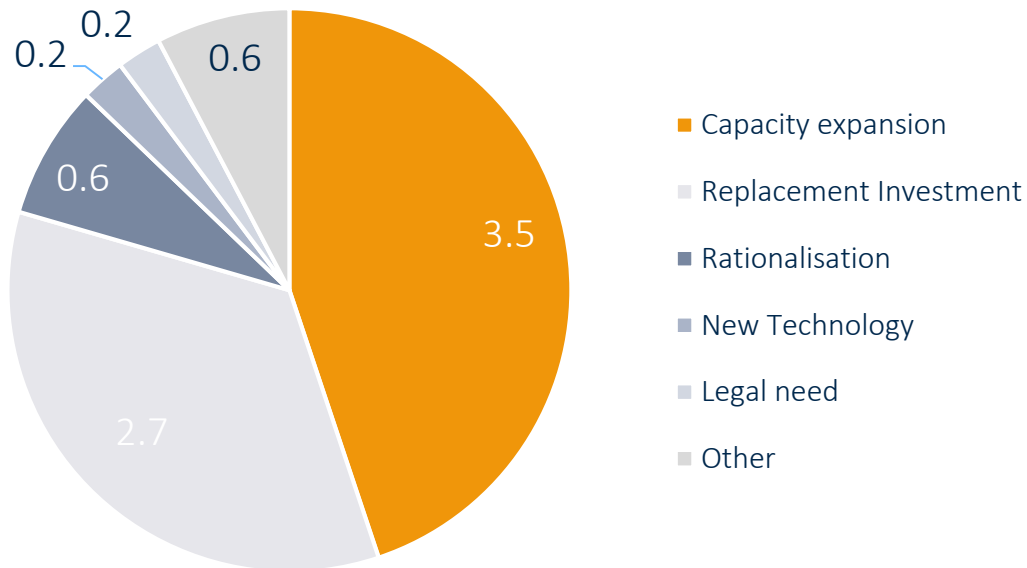
Investments in capacities and new equipment for growth

In € million

Equipment



Bookings



Commentary

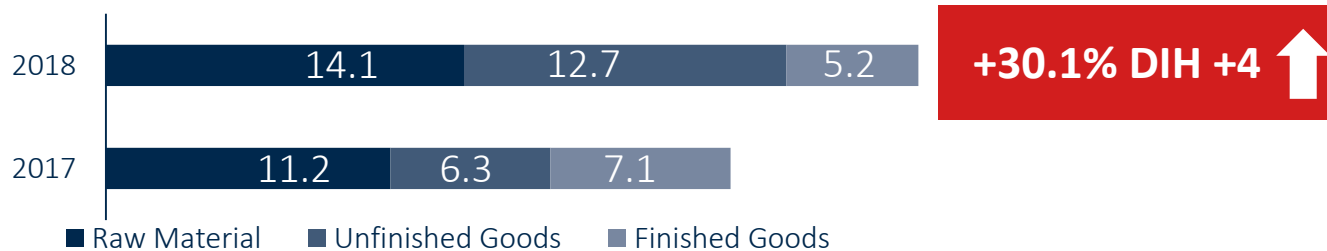
- Renovation of the sites Berlin-Weißensee, Oberdischingen and Dresden Klotzsche
- New equipment for our Fab in Berlin-Oberschöneweide
- 6-Inch-Equipment mainly implemented in 2017
- Selected insourcing of production processes in Berlin

BALANCE SHEET: NET WORKING CAPITAL

DSO slightly improved due to reductions of overdues and factoring

In € million

Inventory



Receivables



Liabilities Supplier



Commentary

- Inventories were increased by €7.6 million in view of the market and order situation
- Accounts receivable were reduced by €2.9 million to €17.9 million owing to receivables management and the use of factoring

BALANCE SHEET: CASHFLOW

Group's liquidity position remains comfortable

In € million

Cash Flow	2017	2018
Operating CF	16.0	15.9
Investing CF	-12.5	-9.6
Free CF	3.5	6.3
Financing CF	-1.7	-3.4
Total CF	1.8	2.9
Cash	25.5	28.5

Commentary

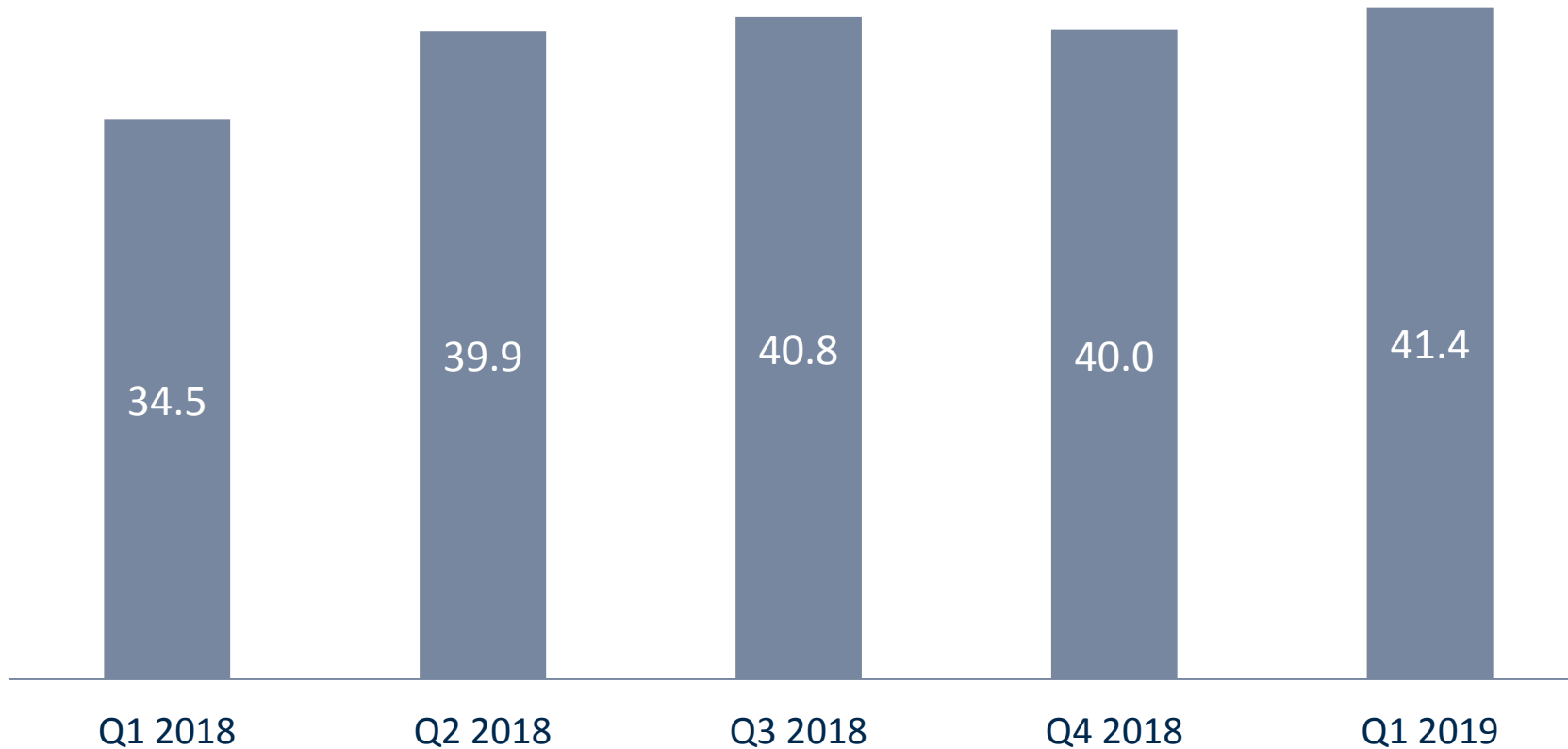
- Operating cash flow on same level as previous year
- Cash flow from investing activities still reflects the high level of investment required by First Sensor
- Investments largely related to new machinery and equipment (expanding vertical integration, process improvements and increasing capacity)
- Cash flow from financing activities included the dividend distribution of €1.6 million

Our Key Figures Q1 2019

Q1 RESULT

Solid sales growth

Total sales in € million



Comments

Further strengthening First Sensor's core business Photonics (+€3.5 million) and Pressure (+€3.5 million)

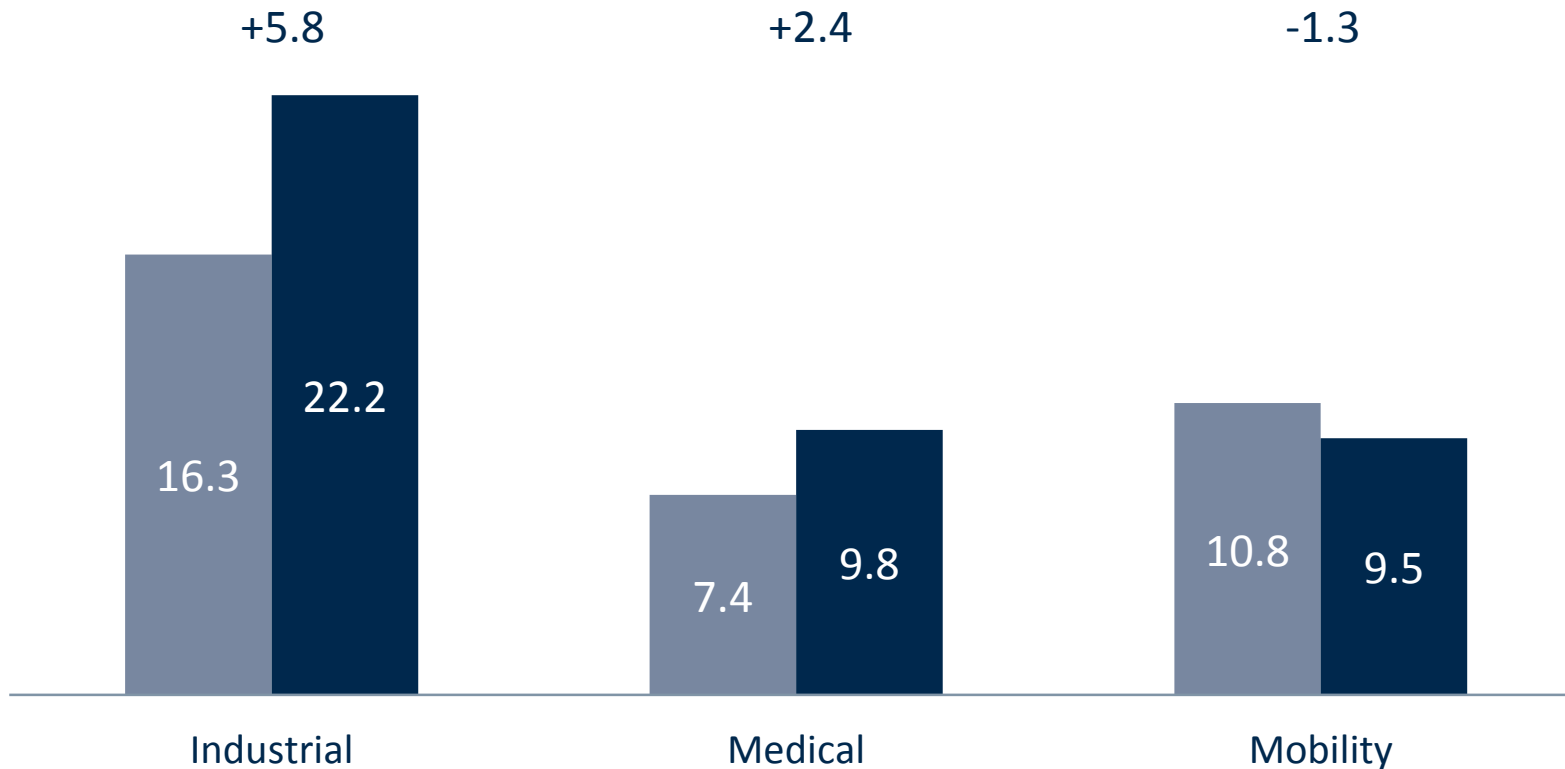
Growing demand for Imaging solutions and standard products of our H series

Q1 RESULT

Strong demand in Industrial and Medical target markets

Sales by target market in € million

■ Q1 2018 ■ Q1 2019



Comments

Industrial: +25%; Growth in Photonics & Pressure / North America & Asia

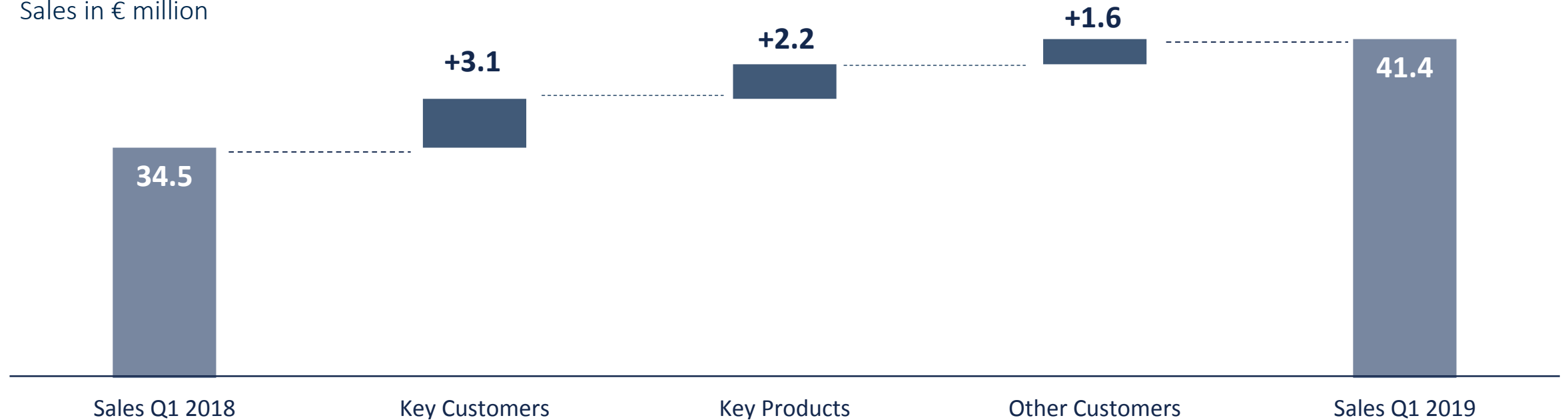
Medical: +25%; Growth in Diagnostics (Photonics) & Breathing (Pressure)

Mobility: -14%; volatile political environment cause shifts in order behavior

Q1 RESULT

Increased sales with key customers and key products

Sales in € million



Key Customers

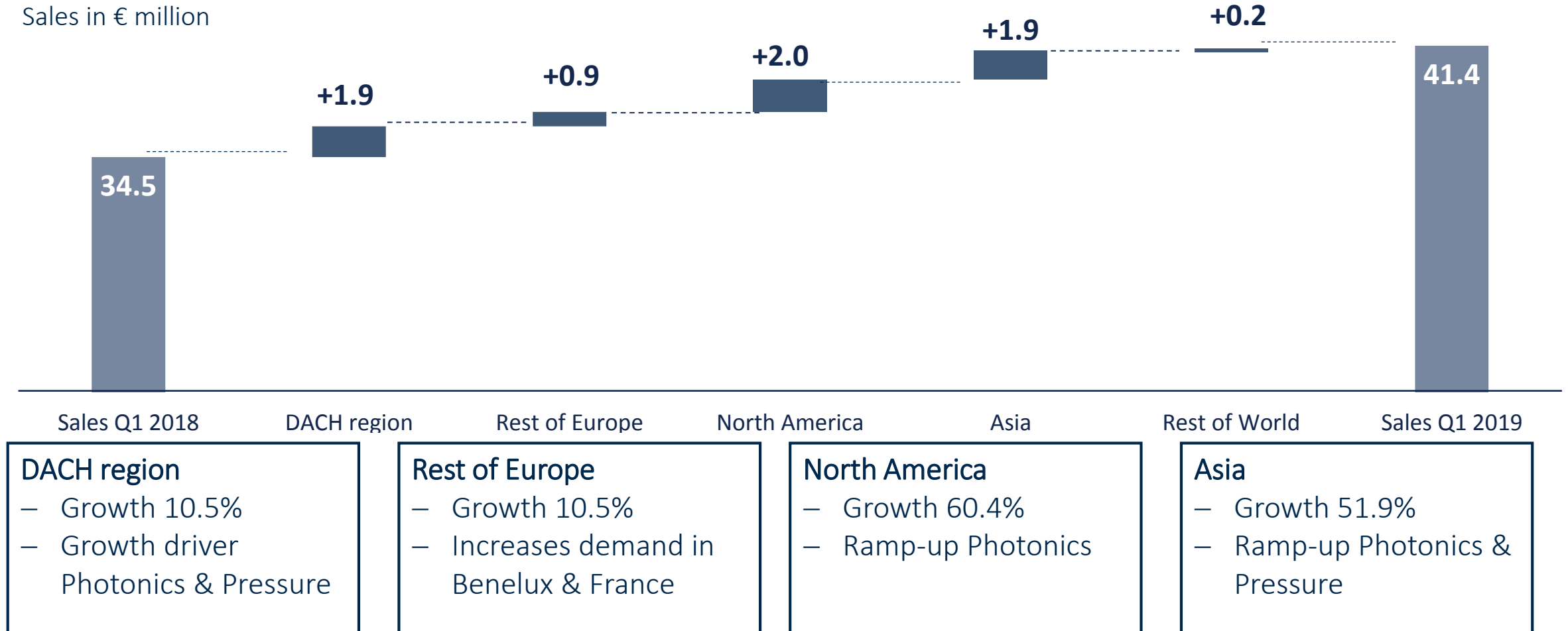
- Strong demand for Imaging Solution in the target markets Industrial und Medical

Key Products

- Strong demand for pressure sensors (H series) by Industrial und Medical customers
- Strong demand for pressure chips for Process Control

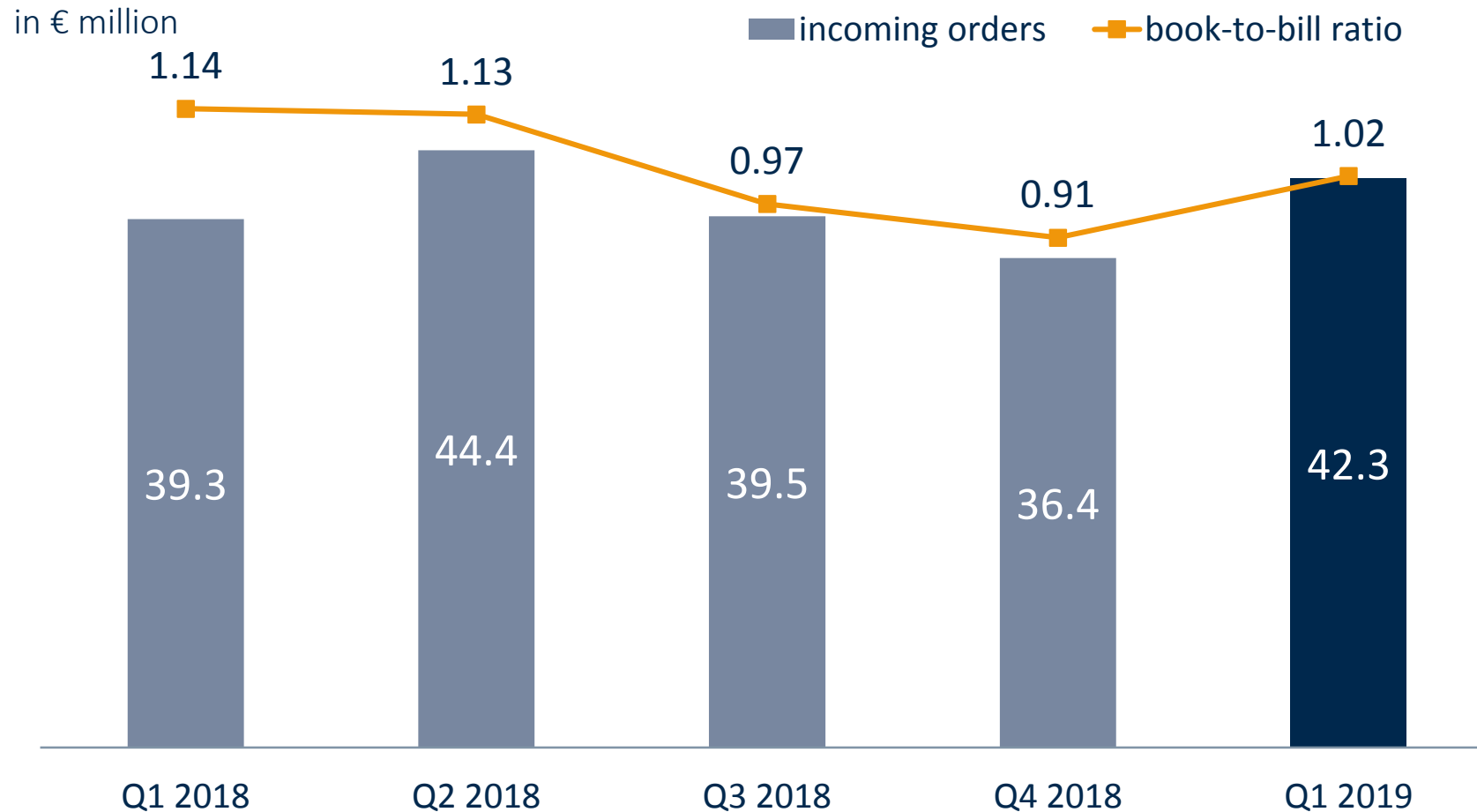
Q1 RESULT

Expanded activities in North America & Asia show further results



Q1 RESULT

Order intake Q1 at €42.3 million, backlog at €98.4 million



Comments

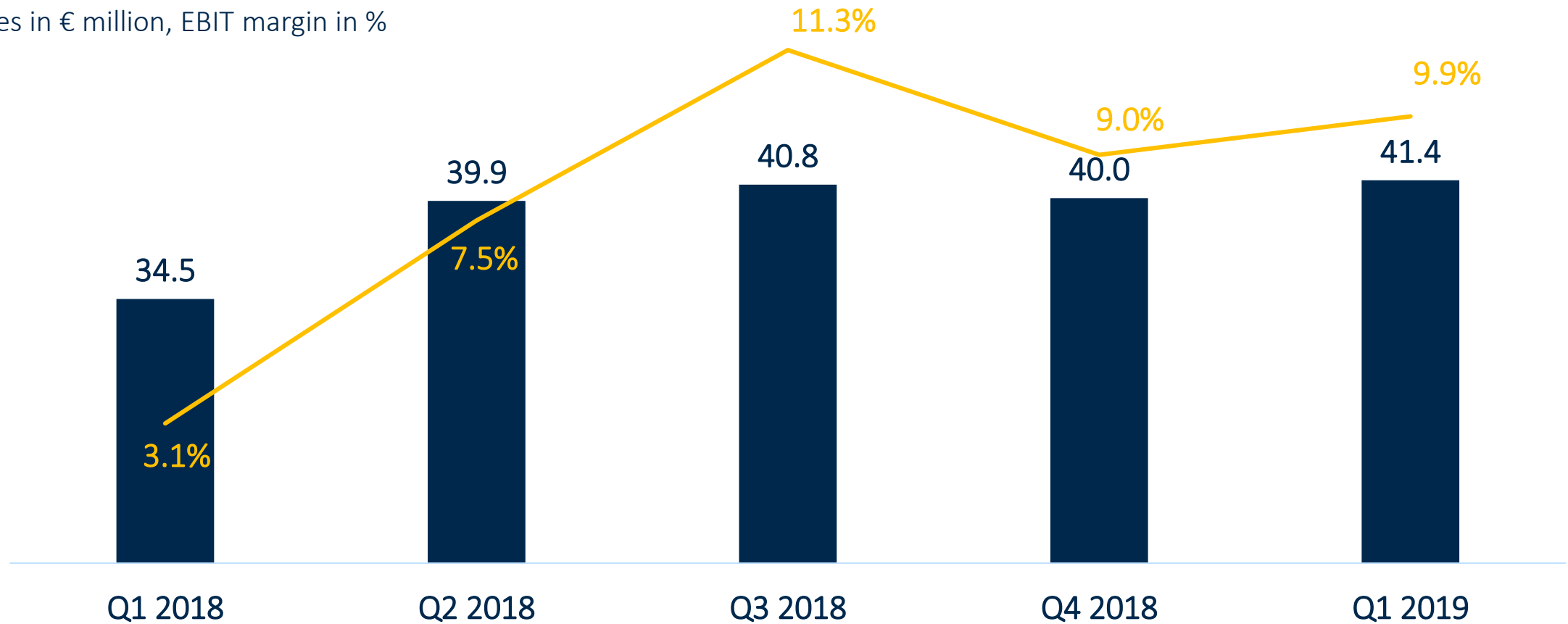
Order backlog remains at a high level of €98.4 million

70% are scheduled for 2019

Q1 RESULT

Continuous improvements lead to 9.9% EBIT margin

Sales in € million, EBIT margin in %



OUTLOOK

Executive Board confirms the Guidance for 2019

SALES IN € MILLION

160-170

EBIT MARGIN IN %

8.5-9.5

OUTLOOK

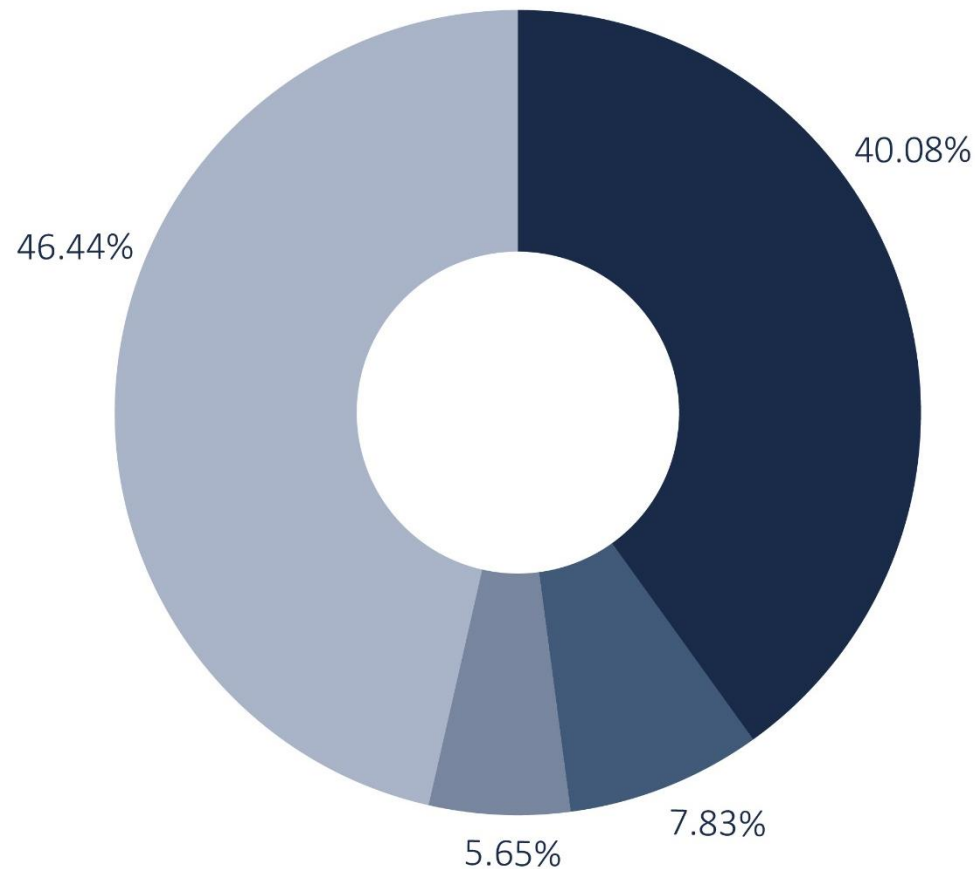
Chances and risks for sales and profitability

	Sales	Profitability
Chances	<ul style="list-style-type: none">– Strong sensor technology market:– Global market for optical and pressure sensors with average growth rate approx. 7-8% to 2022– High order backlog €97.6m, 80% to ship in 2019	<ul style="list-style-type: none">– Economies of Scale– Continuous measures to improve operational excellence:– Rising sales with value-add products
Risks	<ul style="list-style-type: none">– Slowing economic growth– Volatility in key trade-related decisions– Shortage in materials supply– Order behavior of large customers	<ul style="list-style-type: none">– Changes in product mix– Sales related decrease in economies of scale delays transition to 6-Inch production– Increases in purchase prices, wages and salaries

Our Shareholder Structure

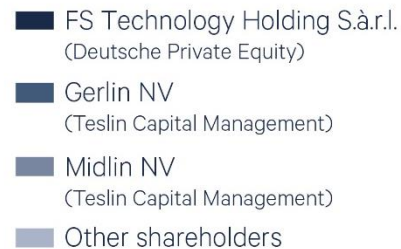
SHAREHOLDER STRUCTURE

Consideration of DPE to sell ist shares is going on



Shareholder structure
according to the existing
informations

Status: April 24, 2019



October 31, 2018

- Adhoc: DPE considers to sell its shares in First Sensor AG
- As a result, it is possible that a possible acquirer will be obliged to submit a takeover bid
- First Sensor AG intends to play an active role in shaping the possible process

November 12, 2018

- Goldman Sachs assists First Sensor during the further process

Sensing Innovations

Company Presentation

May 2019

First Sensor AG

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This presentation contains forward-looking statements. This presentation does not represent any solicitation to purchase shares of First Sensor AG. Rather it is intended exclusively for information purposes with regard to possible future developments at the company. All future-oriented information in this presentation was produced on the basis of probability-based planning and represents statements regarding the future which cannot be guaranteed. Rounding differences may occur.