



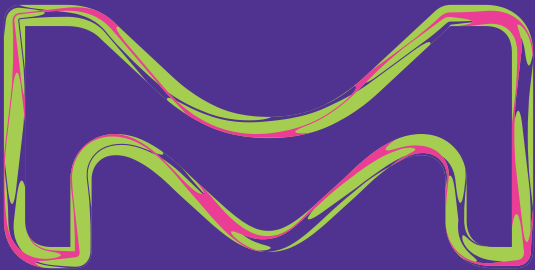
**MERCK KGAA,
DARMSTADT, GERMANY**

CREDIT SUISSE - 18TH ANNUAL

ASIAN TECHNOLOGY CONFERENCE

Rico Wiedenbruch, Head of Integrated Circuit Materials

Taipei - September 7, 2017





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Agenda

- 01 Business overview**
- 02 Transforming the company**
- 03 Performance Materials – Expanding leadership and innovation**
- 04 Executive summary and guidance**



01

BUSINESS OVERVIEW

Group

Portfolio of three high-tech businesses



Leading in specialty pharma markets

- Biologics and small-molecules
- Research focus: Oncology, Immunology & Immuno-Oncology
- Over-the-counter medicine



Leading life science company

- Tools and services for biotech research & production
- Tools and laboratory supply for the academic research and industrial testing

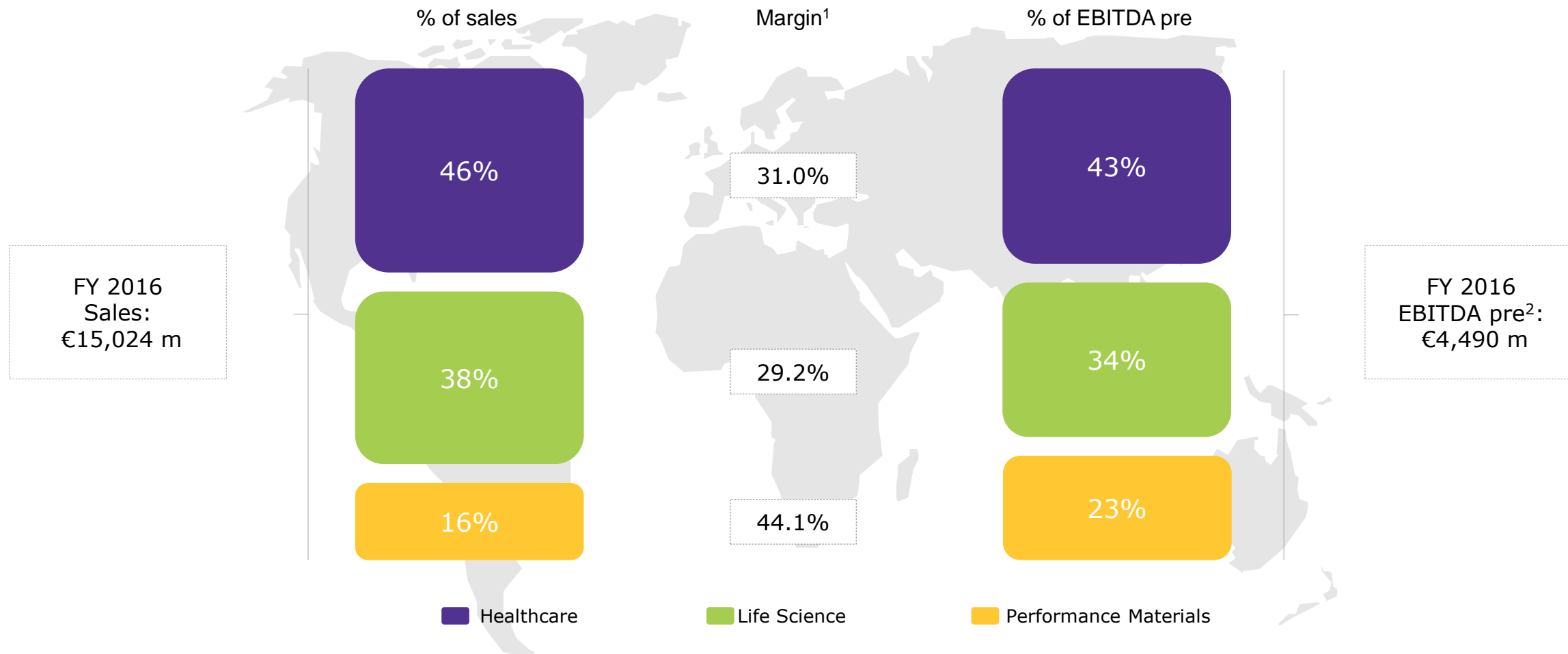


Market leader in specialty materials

- Innovative display materials
- Effect pigments and functional materials
- High-tech materials for electronics

Group

Strong businesses with attractive margins



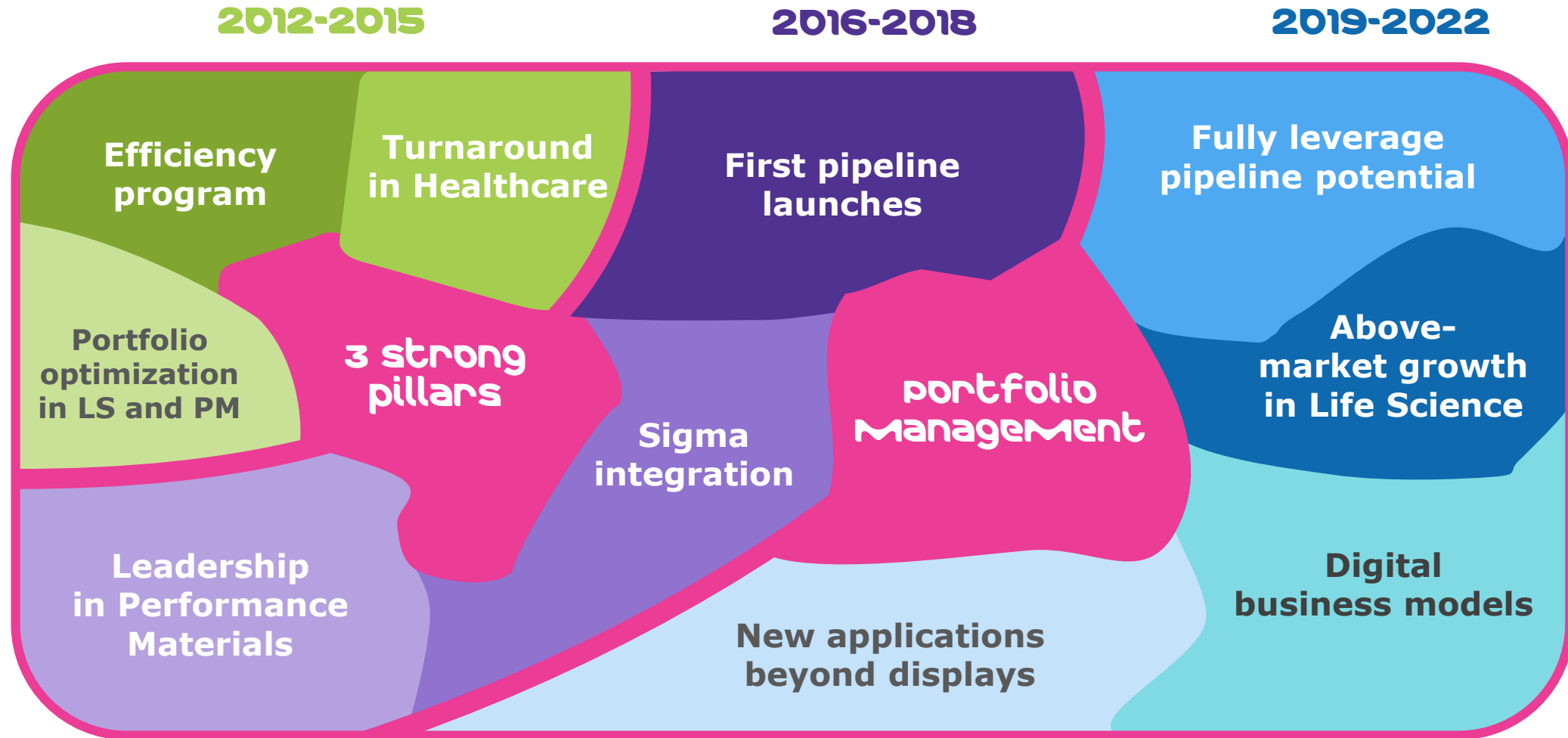
¹EBITDA pre margin in % of net sales; ²Including Corporate/Others (-€396 m)



02

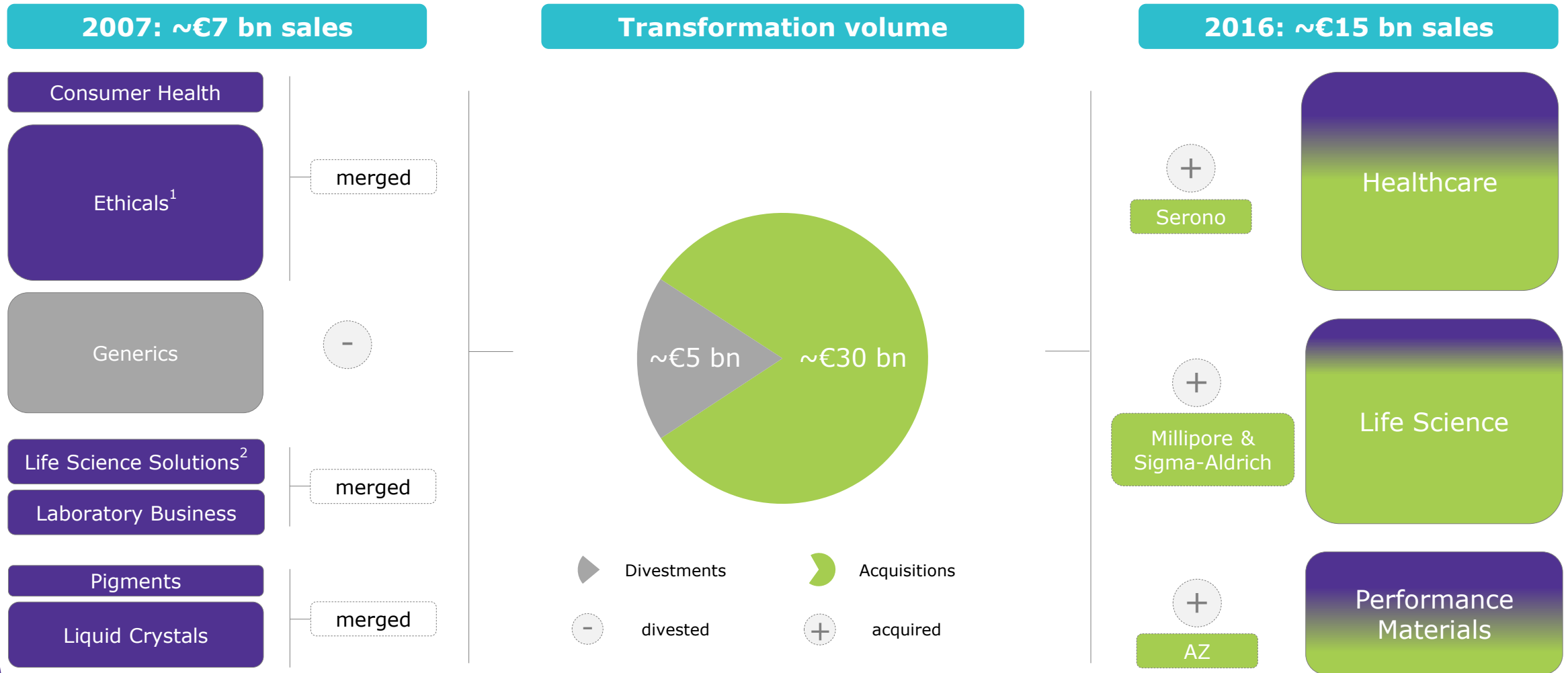
TRANSFORMING THE COMPANY

Group Strategic roadmap 2016-2022



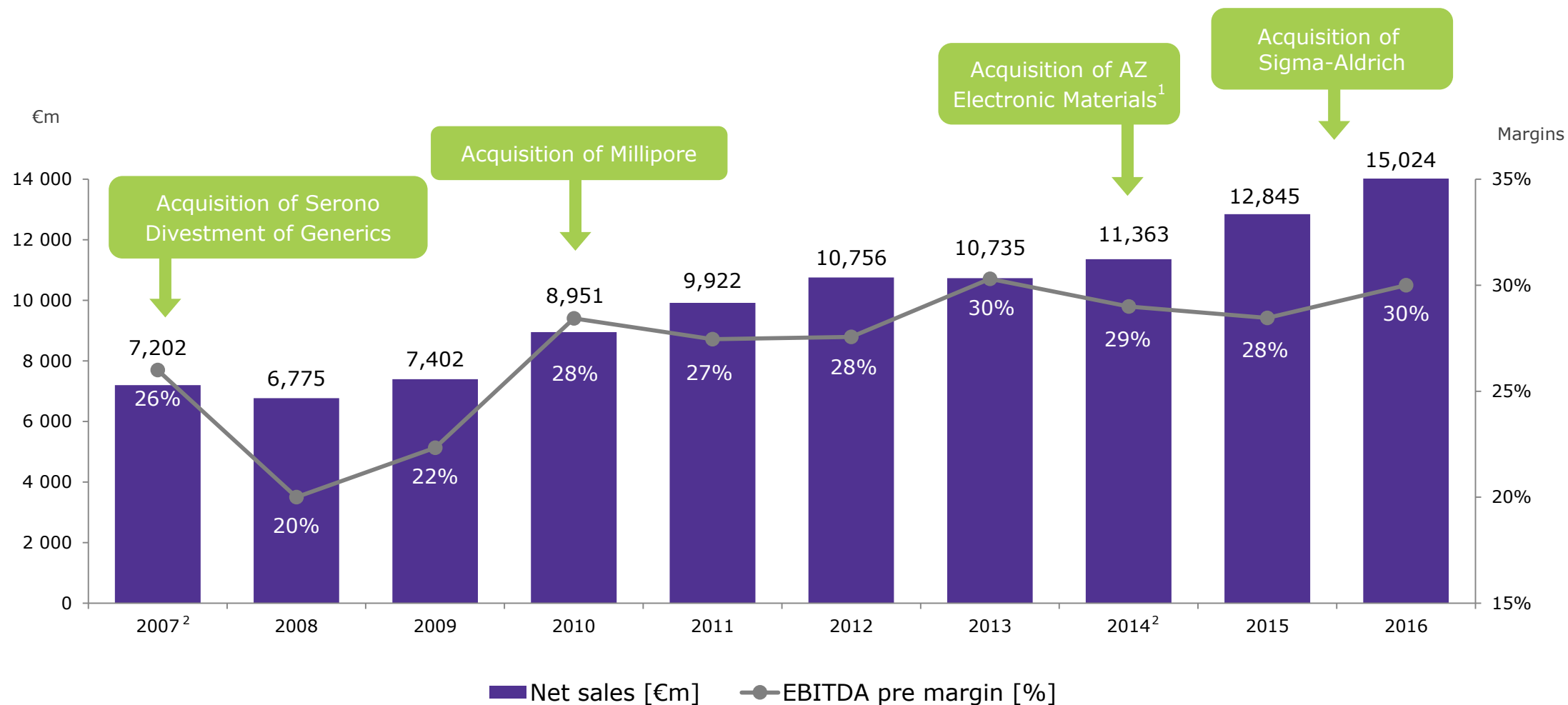
Group

We have added scale and strengthened the attractiveness of our portfolio



Group

Profitability improved fundamentally



¹Included since 2 May 2014; ²2007 and 2014 EBITDA pre margin adjusted for comparability

Group

We have created three leading businesses

Healthcare

+ Serono

- Leading biotech company
- Global footprint
- Strong presence in growth markets
- Solid underlying business
- Promising pipeline assets

Life science

+ Millipore
+ Sigma

- No. 3 in the world market
- Broad and global product portfolio
- Leading eCommerce platform
- Best-in-class supply chain management

Performance Materials

+ AZ

- World market leader
- Technology and innovation leader

Science

Technology

Innovation

Specialties

Quality

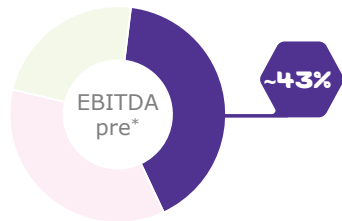
Customer focus

Group

Clear set of priority goals to be realized by 2018



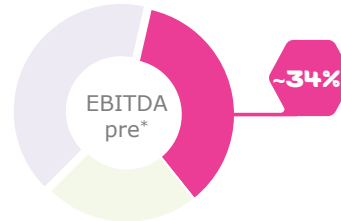
Healthcare



- Maximize growth of existing franchises
- Deliver pipeline: one product launch or indication p.a. from 2017



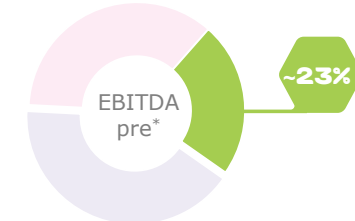
Life science



- Focus on seamless integration and deliver cost synergies
- Leverage strategic capabilities for value creation



Performance Materials



- Drive innovation and technology leadership across all businesses
- Innovate in applications also beyond displays

Merck KGaA,
Darmstadt,
Germany

- Deleverage to <2x net debt / EBITDA pre in 2018
- No large acquisitions (>€500 m) for the next 2 years (unless financed by divestments)
- Dividend policy reflects sustainable earnings trend

Our successful regular portfolio optimization will continue

DNA

- Acquisitions and divestments are part of the company's history
- Licensing transactions remain on our agenda

Regular portfolio review and active capital allocation will continue

prerequisites

- Merck KGaA, Darmstadt, Germany is highly cash-generative with free cash flow¹ ~€2 bn p.a.
- Financial flexibility is a prerequisite for transactions

Larger transactions will return once financial flexibility is restored

experience

- 28 transactions since 2002 for ~€38 bn²
- Track record of value-generating integration

All prior transactions earned their required cost of capital

clear criteria

- Supporting mid-term strategy and strengthening core business
- Growing in attractive markets
- Proven track record: strong ability to win
- Compelling financials

Disciplined approach to portfolio management will persist



03

**PERFORMANCE
MATERIALS –
EXPANDING LEADERSHIP
AND INNOVATION**

Performance Materials

Driving business model beyond the classical material supplier

Performance Materials

is the key player
in its Markets

Display Materials

- We are exploiting rich innovation opportunities in display market while advancing liquid crystals together with partners

Integrated Circuit Materials

- We are a Solution Provider for semiconductor customers addressing the needs of their production processes by providing innovative materials

Pigments & Functionals

- We are dominating pearlescent pigment technology and we create a portfolio of new materials for non-decorative high-tech applications

Advanced Technologies

- We are developing new businesses based on materials for PM as well as Company in general

Ongoing innovation

Launch of innovative products and new business models continues

Four strong pillars

Combination of four highly profitable businesses raises diversification

Market leadership

Strong market position is based on innovation power and differentiation

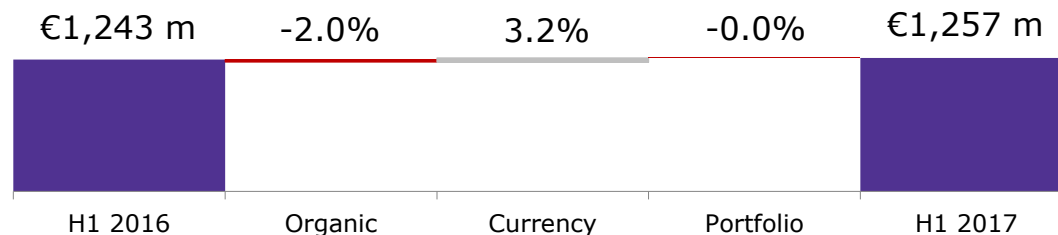
Performance Materials

Performance Materials: Liquid Crystals sales decline burdens profitability

Performance Materials P&L

[€m]	H1 2016	H1 2017
Net sales	1,243	1,257
Marketing and selling	-116	-126
Administration	-31	-36
Research and development	-101	-116
EBIT	399	362
EBITDA	534	487
EBITDA pre	547	503
Margin (in % of net sales)	44.0%	40.0%

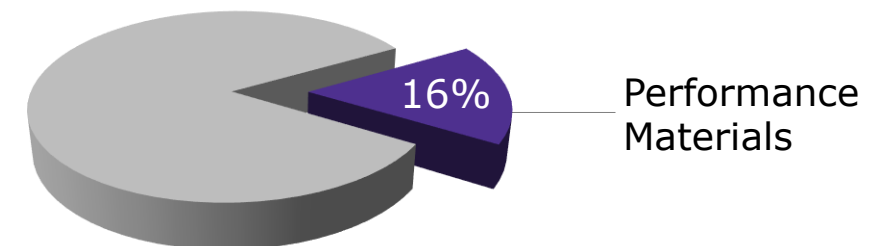
Net sales bridge



Comments













- Organic growth of Integrated Circuit Materials, Pigments and OLED cannot offset Liquid Crystal sales decline
- Ongoing LC market share normalization drives sales decline
- OLED continues to grow on industry capacity expansion & investments
- Strong growth of Integrated Circuit Materials driven by all major material classes, esp. strong dielectrics demand for complex chips
- Healthy growth of Pigments due to solid demand for decorative pigments especially in automotive applications; active cosmetics with tough comps
- Profitability reflects lower share of LC resulting in negative business mix as well as higher R&D for future growth projects

H1 2017 share of group net sales



Performance Materials

The four pillars are set for future profitable growth

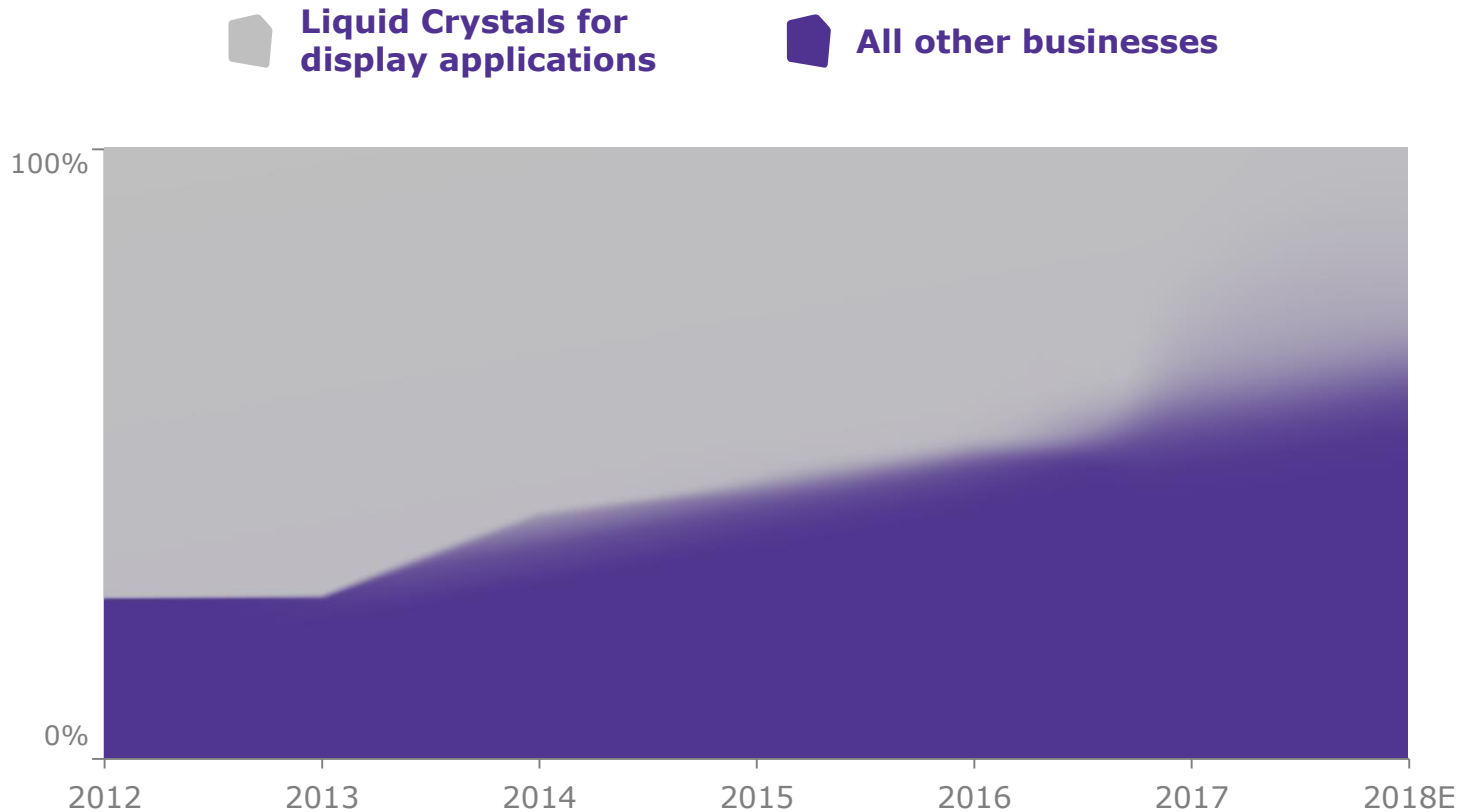
Business unit	% sales	Products	Mid-term growth trend
 Display Materials	 ~50-55%	<ul style="list-style-type: none"> Liquid crystals (LC) and photoresists for TVs, smartphones and tablet computers Other display and non-display applications (e.g. LC Windows) 	
 Integrated Circuit Materials	 ~15-20%	<ul style="list-style-type: none"> Dielectrics, colloidal silica, lithography materials, yield enhancers, edge-bead removers Polyimide raw materials and printing materials 	
 Pigments and Functional Materials	 ~15-20%	<ul style="list-style-type: none"> Effect pigments and functional materials for coatings, plastics, printing and cosmetics Functional materials for cosmetics & special applications 	
 Advanced Technologies	 ~5-10%	<ul style="list-style-type: none"> Organic and inorganic light emitting diodes Functional materials for electronics and energy solutions 	

Well-founded medium-term low single-digit growth profile

Performance Materials

Four-pillar-strategy driving a higher level of diversification

Sales share of Liquid Crystals for displays versus all other businesses



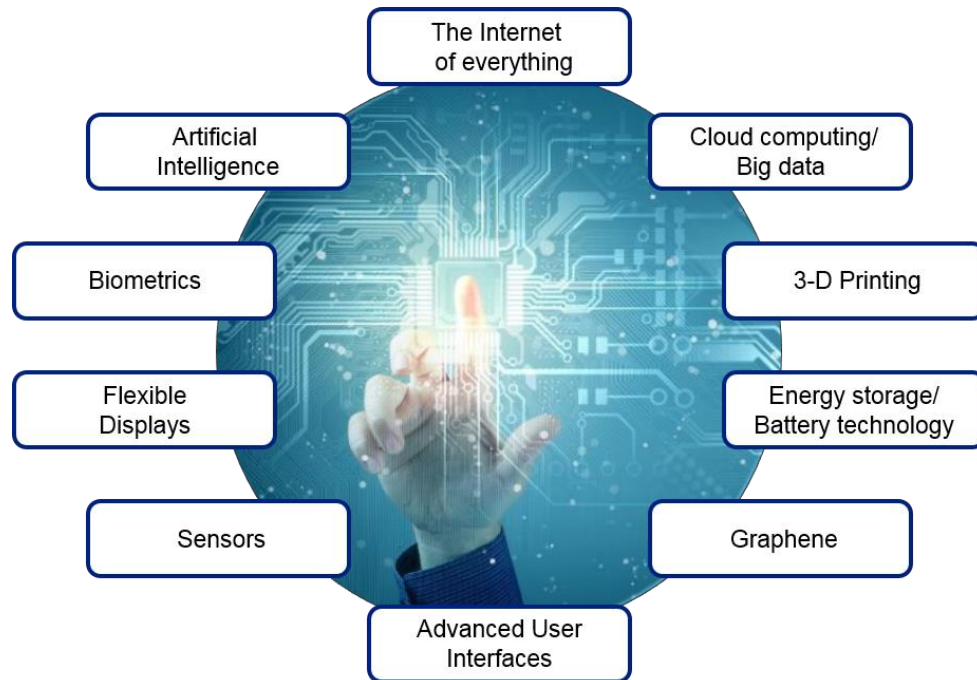
Diversification of Performance Materials increased due to

- AZ acquisition in 2014
- LC market shares returning to more normal levels
- Higher growth of non-LC businesses

Performance Materials

At the forefront of technological development

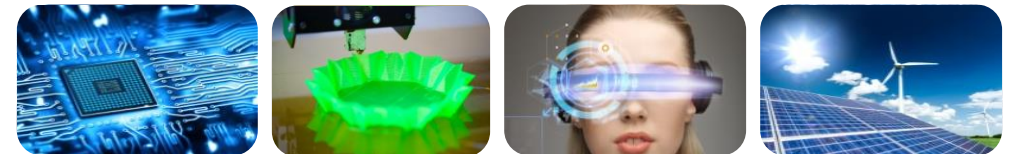
From the "Top 10 technologies that are transforming the world" in 2015...



Source: IHS

...to "Megatrends" & "Digitization" initiatives at Merck KGaA, Darmstadt, Germany in 2016:

- PM develops next generation materials for most of the "IHS Top 10 Technologies that are transforming the World"
- Based on the "Megatrends", PM is putting even more emphasis on selected core trends



Integrated Circuit Materials

Enabling solutions for the semiconductor market and adjacent industries

Dielectric Materials

- Spin-on silicon-based materials forming electrical insulation layers inside the microchips, displacing chemical vapor deposition (Spinfil®)



Lithography Materials

- Diverse portfolio of bespoke materials that improve resolution and performance and reduce costs in the IC lithography process



Silica Materials

- Colloidal silica used in chemical mechanical planarization (CMP), substrate polishing and industrial applications (Klebosol®)



IC Process Materials

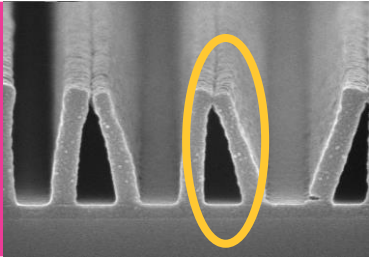
- Removers, developers and other solvents as well as polyimide raw materials



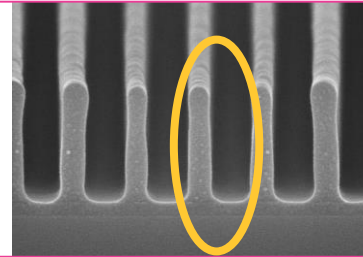
Integrated Circuit Materials

Developing dedicated solutions for customer challenges, enabling innovation

Pattern collapse

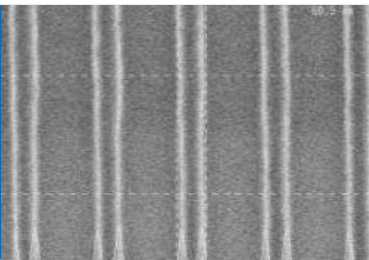


Firm[®] rinse materials



- As lines get narrower and closer together in advanced chip generation, they tend to “stick” due to surface tension.

Lithography limitation

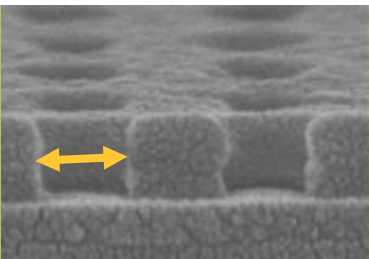


Directed self assembly (DSA)

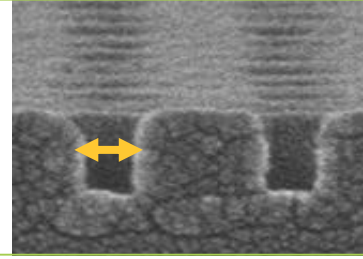


- Block Copolymer can generate small lines or contact holes by self-assembly. This allows miniaturization without expensive new equipment.

Wide features



Relacs[®] shrink materials



- Shrink materials “shrink” the gap between lines and, hence, allow the manufacture of narrower features otherwise not possible

Integrated Circuit Materials

Benefiting further from complex technological advances and underlying market trends

Market drivers and technological trends

Miniaturization: Devices are becoming smaller with better performance

- Need for enabling materials to reduce size (Moore's law)

Mobility: Everyone is continuously connected without direct power supply

- More chips needed for local energy production
- Energy storage → smaller batteries with higher density

Internet of Things: Everything is continuously connected

- More gadgets and devices that include chips
- Increasing amount of communication and sensor chips

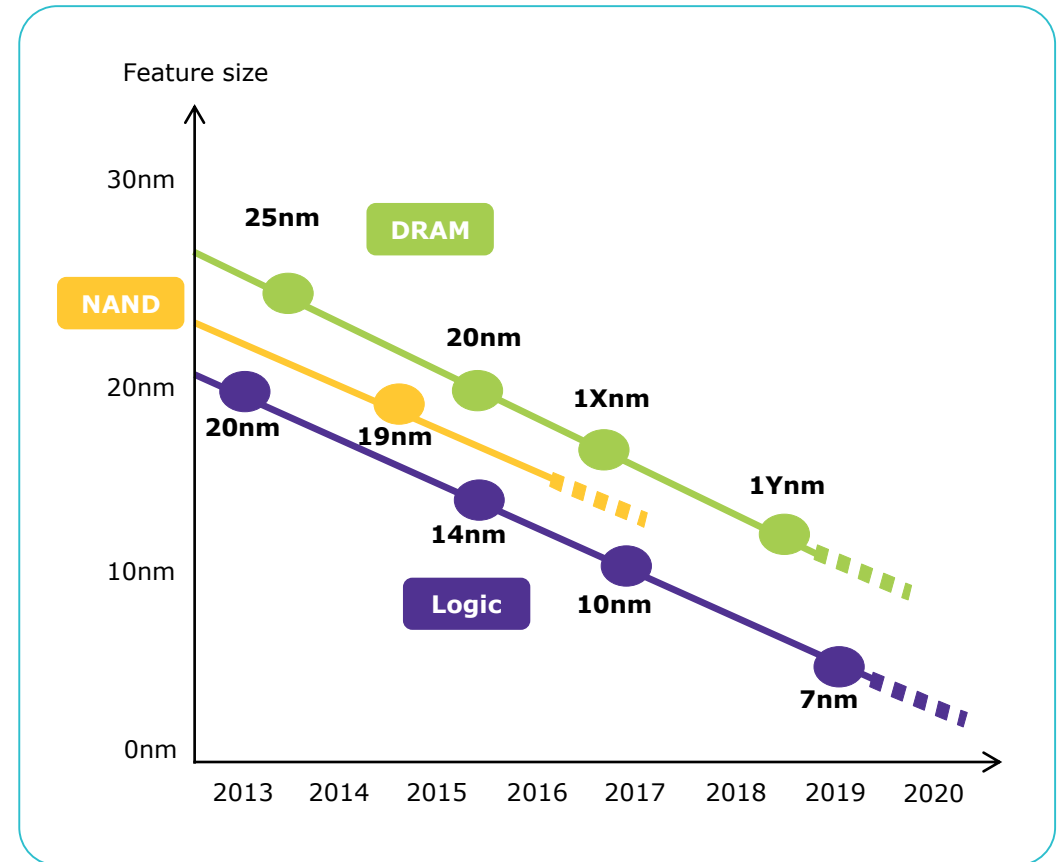
Big Data: Increasing need for intelligent data storage

- Switch from hard disk drives (HDD) to solid state drives (SSD)

Selected competitors

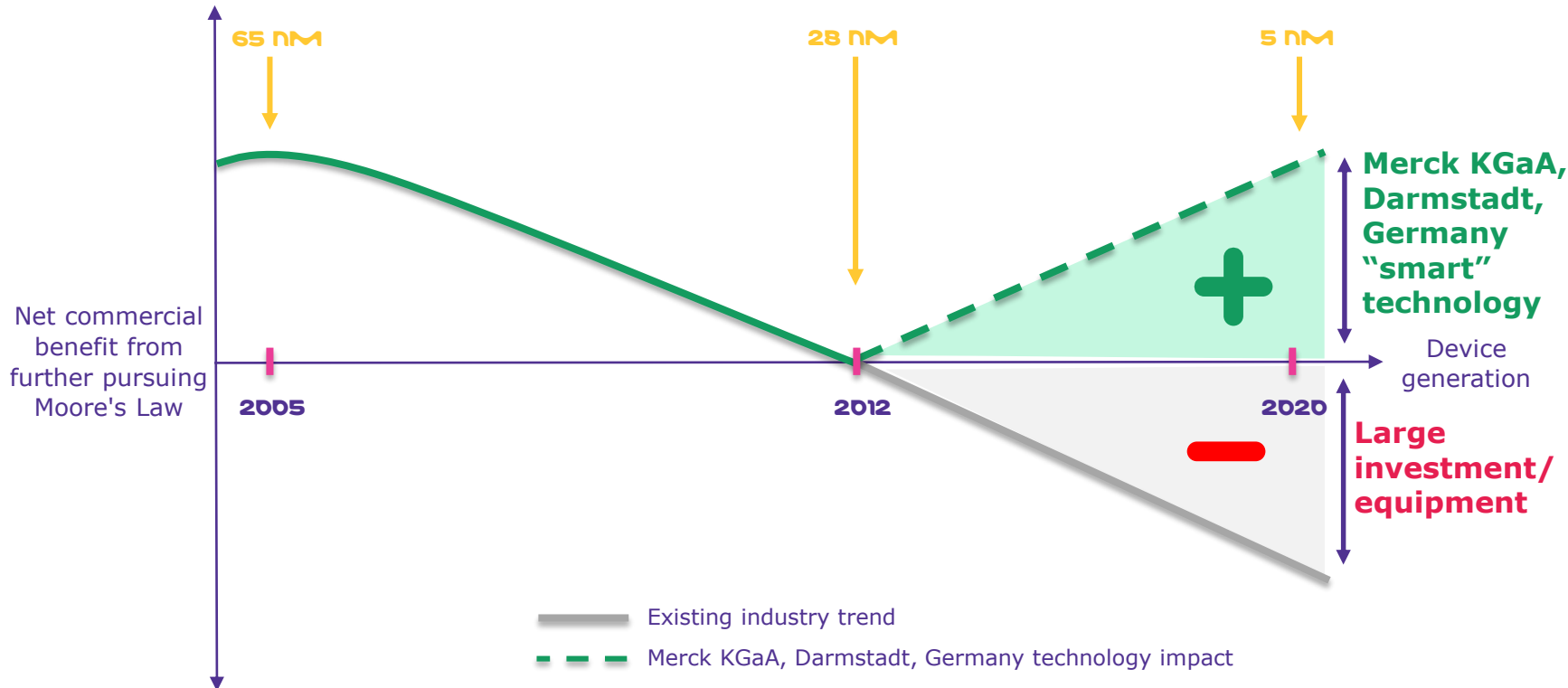
- Tokyo Ohka Kogyo
- Dow Electronic Materials
- Nissan Chemicals
- JSR

Feature sizes develop as predicted by Moore's law



Integrated Circuit Materials

The age of new semiconductor technologies



Miniaturization benefit driven by

- Smaller chip size
- Bigger wafer size
- Higher throughput
- Break-even point reached at 28 nm (existing model)

Miniaturization costs rise due to

- Higher R&D costs
- More expensive equipment
- Lower throughput

Moore's Law already ended from an economic perspective, and Merck KGaA, Darmstadt, Germany's materials solutions become crucial in chip manufacturing and in advanced packaging

Integrated Circuit Materials

Merck KGaA, Darmstadt, Germany is offering tackles key industry growth drivers

1 Slowdown of Moore's Law is shifting focus to innovative materials



- Partner of choice for leading chip manufacturers to address new needs
- Comprehensive portfolio of innovative materials
- Strong innovation pipeline
- Promising synergies from broadened portfolio

2 Non leading-edge chip manufacturers become more diversified



- Dedicated offering for customers who do not own the newest production technology and node size
- Global footprint and strong customer orientation
- Close technical field support and customer service

3 Packaging will be key enabler of future performance enhancements



- Broad product portfolio for packaging solutions
- Eco-friendly products
- Local footprint in Asia

We have become a leading supplier into the chip manufacturing industry and are well-positioned to benefit from promising market opportunities

Integrated Circuit Materials

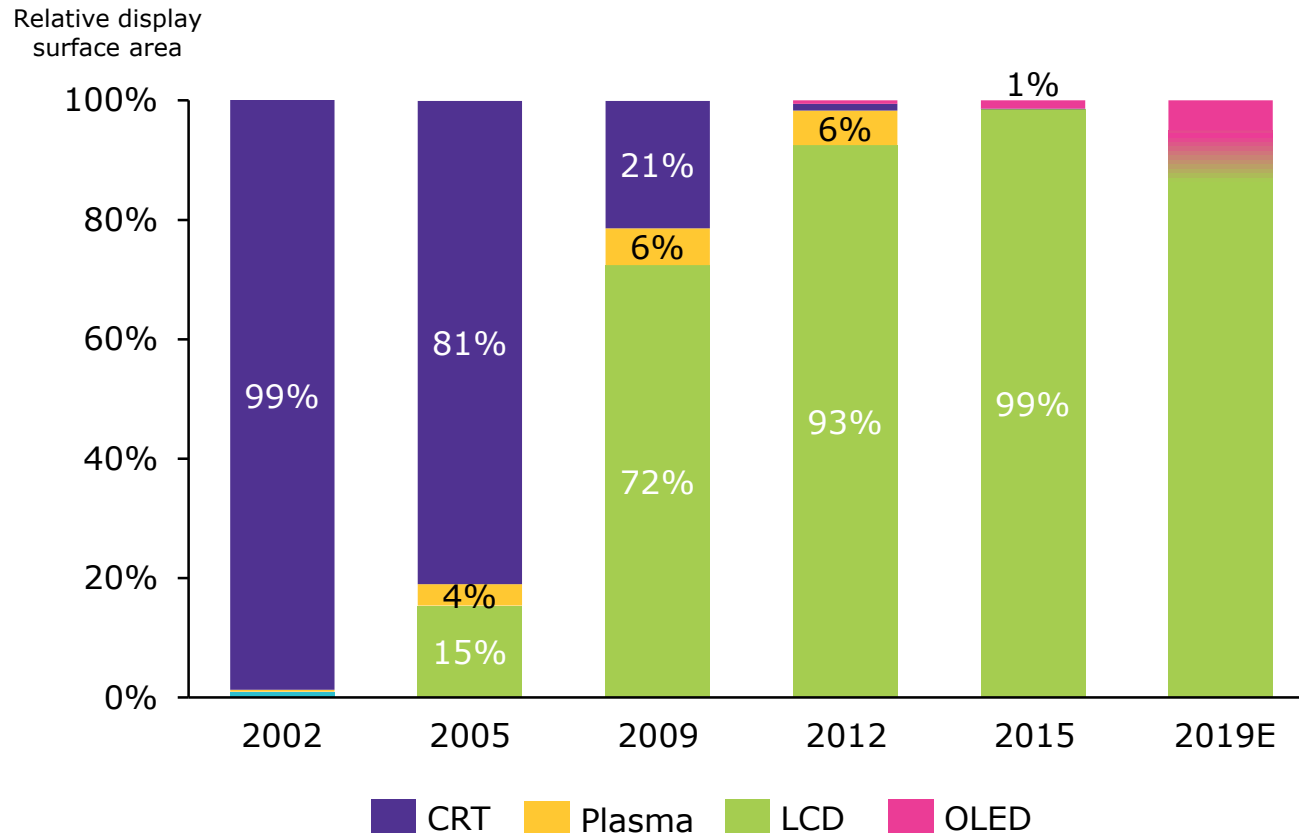
With our unique portfolio, we are well positioned for future growth



Display Materials

Liquid crystals are clearly the dominant display technology

Market share by display technology



Rationale for LCD leadership

For consumers:

- Price
- Thinner frames
- Higher resolution in all sizes
- Proven track record of extreme reliability

For manufacturers:

- Price and scalability
- Production costs and capacities

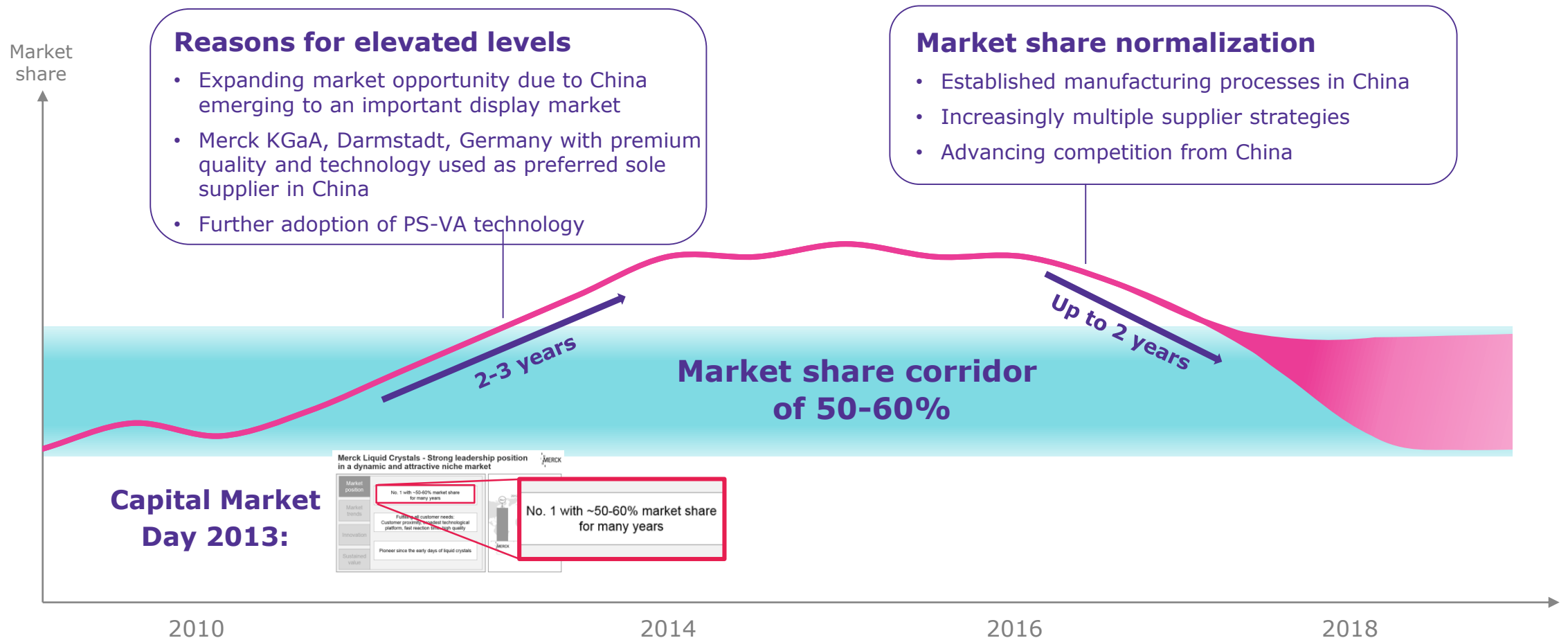
LCD progress creates higher technological and commercial entry barriers

OLED share will increase in mobile applications

Display Materials

Market shares in Liquid Crystals are returning to normal levels

Merck KGaA, Darmstadt, Germany global liquid crystal market share development



Display Materials

Market share normalization in liquid crystals will have financial implications

sales:

- ~ €200 – 300 m Liquid Crystals sales decline, depending on market share assumptions
- Started end of 2016; expected to last up to end of 2018

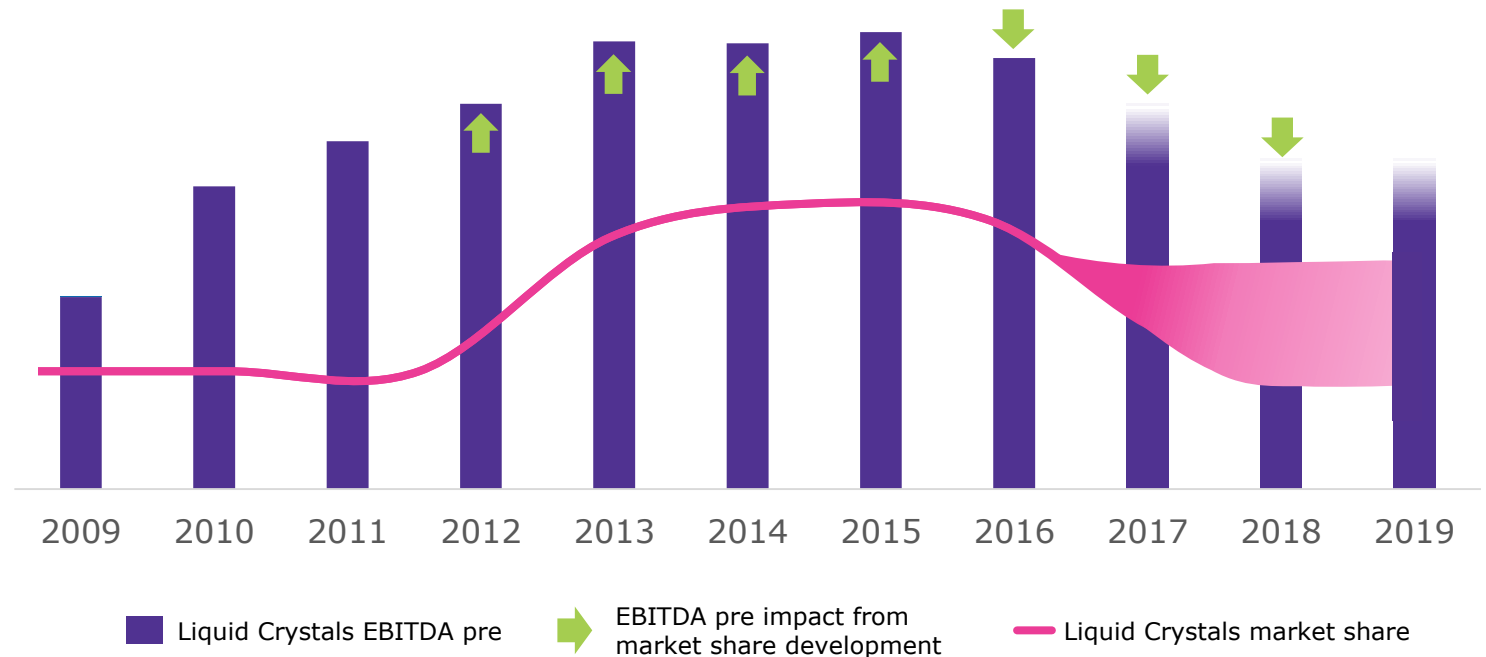
profitability :

- Volume growth temporarily below typical price decline
- Lower volume growth limits operational efficiencies
- Lower share of business with highest profitability causes negative mix

Earnings:

- Significant EBITDA pre impact

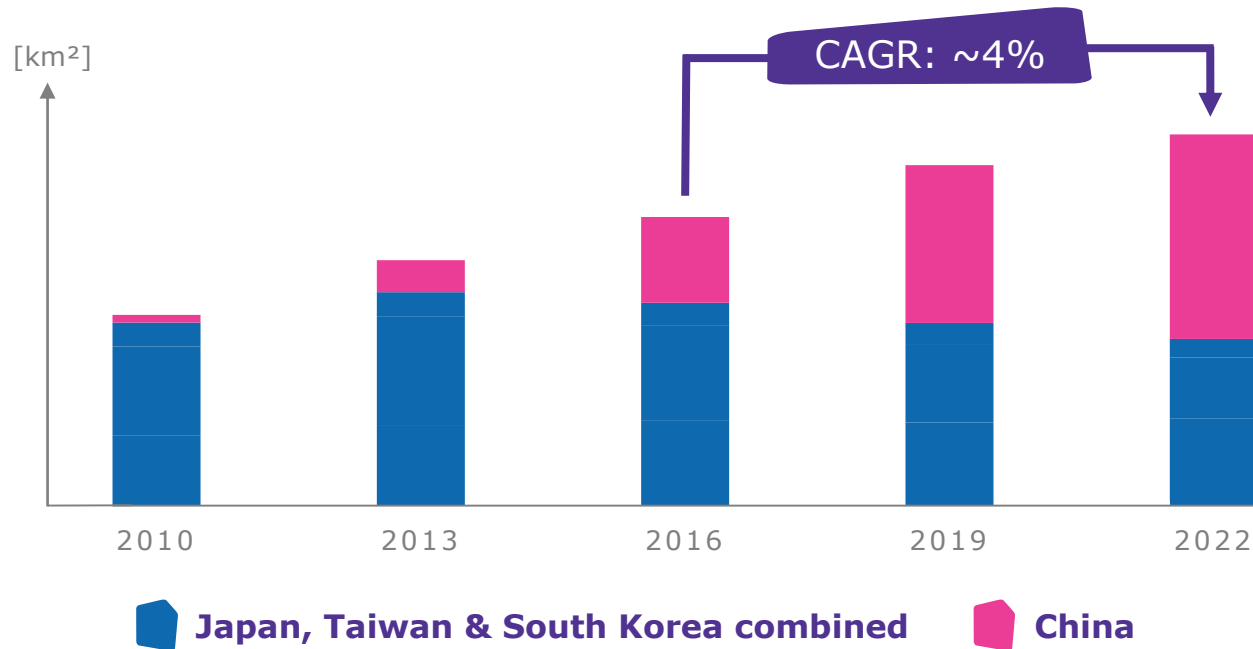
Liquid Crystals: Organic EBITDA pre and market share illustration



Strong sales and EBITDA pre contribution from 2012-2015 to reverse from 2017 onwards

Merck KGaA, Darmstadt, Germany will leverage its capabilities to address shift towards more dynamic Chinese market

Share of global display production capacities by region [km²]*



Panel market dynamics in China

- Strong capacity build-up since 2012
- Historically main focus on local market supply with low to medium end displays
- Possibility to enter into global and higher-end markets in the future

Leverage Company's competitive advantage

- *Customer proximity:* Reallocate resources to improve specific customer support
- *Application and production know-how:* Develop technologies that translate into commercial value
- *Continuous innovation:* Investments in Shanghai R&D hub to support local customers

Capacity growth will benefit our leading supply capabilities especially from 2019

Display Materials

Unique selling proposition of SA-VA for manufacturers and consumers

1 Process

- Elimination of LC alignment process
- Fewer sources of production errors
- Fully compatible with current PS-VA process



Innovation 3

- Low-temperature production enables potential for future applications (Plastic, flexible, organic)
- Enables thin bezel TV production



2 Costs

- Lower material costs as alignment material not needed anymore
- Lower Capex requirements



Green 4

- Less energy and waste
- Reduced need for solvents



SA-VA has the potential to become a value driver for us

Pigments & Functional Materials

Leading supplier of high-tech performance chemicals



- We are the leading supplier of effect pigments
- These are used in decorative materials such as Automotive and Industrial, Cosmetics, Printing and Plastic applications
- Unique optical properties are key for customers



- We are a leading player in functional materials such as Cosmetic Actives & Fillers, Laser Marking, Security
- Our offering includes technical functional materials and selected raw materials for cosmetic applications
- Specific features related to product functionalities are key for customers in a wide range of markets

Advanced Technologies

Our leading OLED business is well set to exploit display market opportunities

Market position

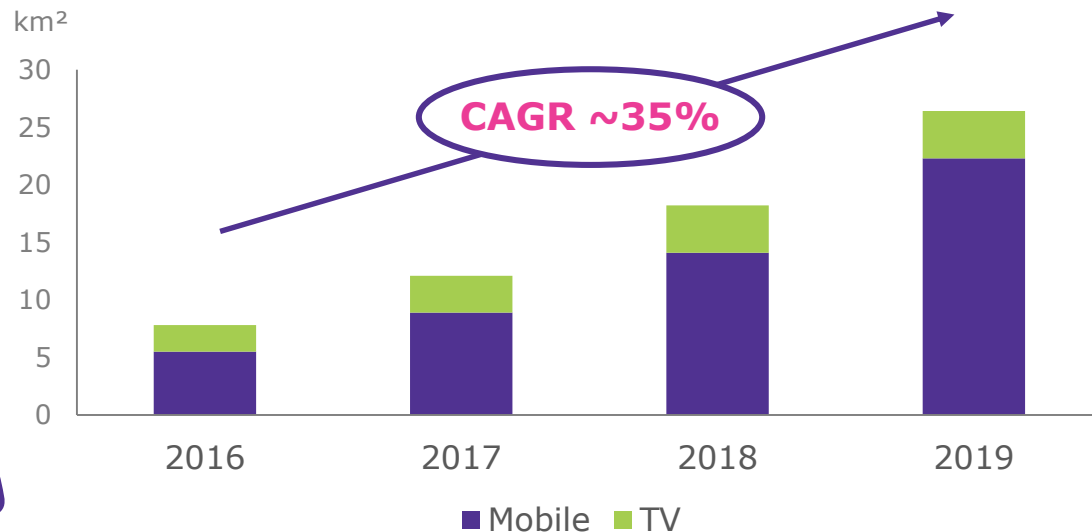
- Among top 3 OLED material provider
- Unrivalled experience and expertise in displays
- Long & intimate relationships with all display producers
- Recent capacity expansion to serve growing demand

our ambition

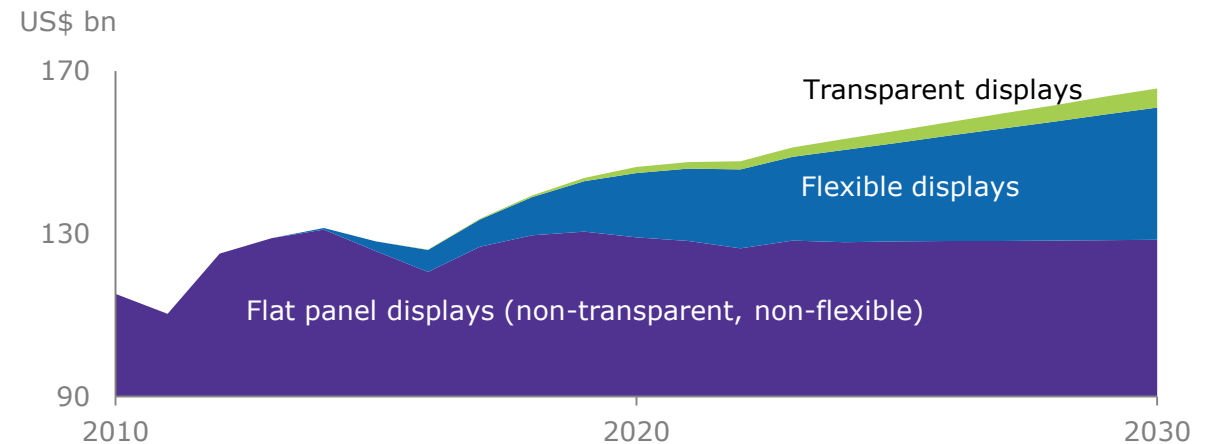
solution provider

- Supplier of all OLED stack layers
- Excellence in vapor & printable materials
- In-house testing of materials
- Tailor-made solutions for customers

Announced OLED capacity expansion¹



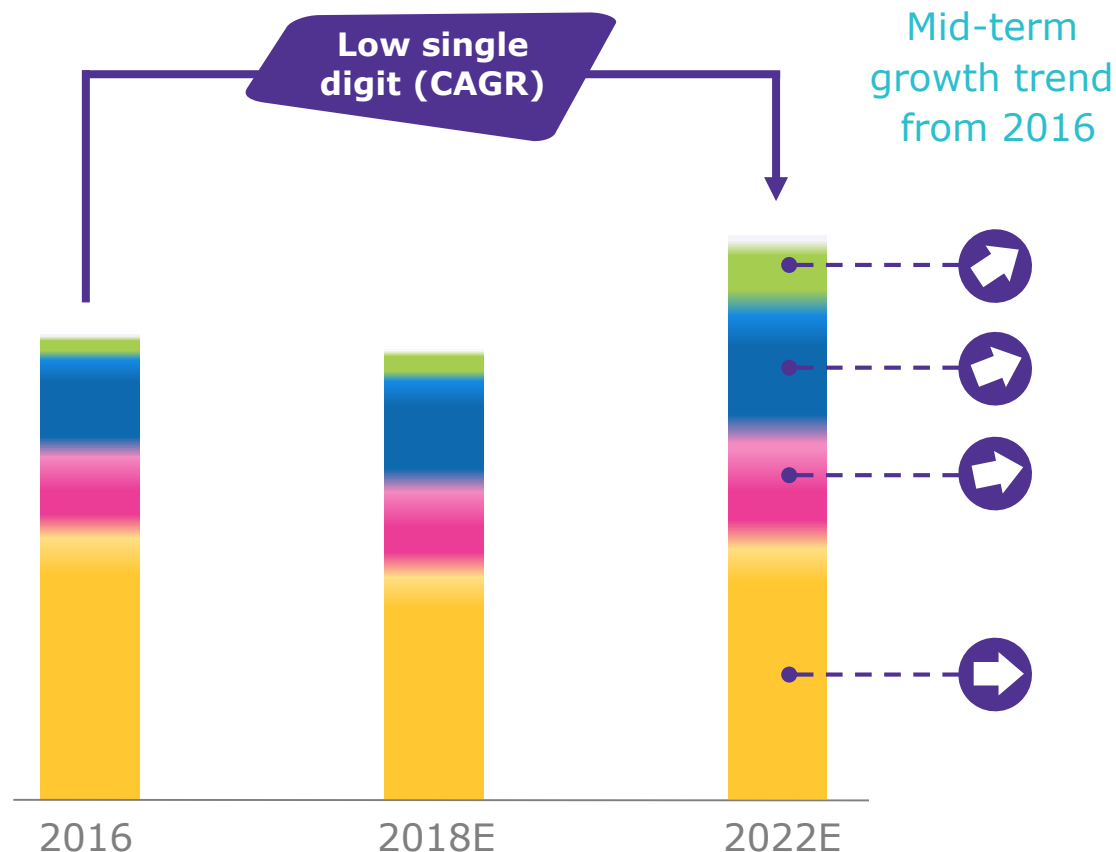
Display market development¹



Performance Materials

On track to achieve solid growth path

Performance Materials mid-term sales development and drivers



Advanced Technologies

Enhance and exploit leading position in OLED

Integrated Circuit Materials

Outpace market growth with specialty materials assisting miniaturization

Pigments & Functional Materials

Expansion into larger functional material markets

Display Materials

- Assumed market share stabilization after 2018
- Area demand and capacity growth of ~4%
- New modes mitigating price declines (SA-VA, UB-Plus,...)
- Liquid Crystals initiatives beyond displays to contribute from 2018 onwards (windows, antennas, light guiding)



04

EXECUTIVE SUMMARY AND GUIDANCE

Group

We are well on track to deliver on our promises



Group

Net debt reduced by ~€1.4 bn¹
Strict financial discipline supports rating



Healthcare

Base business growing
2 avelumab indications launched



Life Science

Sigma-Aldrich synergies raised and well on track
Organic growth above market



Performance Materials

Market challenges well managed
New technologies in test phase

**Important
Milestones
reached
to deliver
on our
promises**

**CMD²
December
2015**

**Q2 2017
Results**

2018

Group

We have clear financial priorities for the next two years



Focus on **cash flow**
and **deleveraging**

- **Strong cash flow** will be used to drive down gearing to <2x net debt / EBITDA pre in 2018
- **Larger acquisitions (>€500 m) ruled out** for the next two years (or financed by divestments)
- **Dividend policy** reflects sustainable earnings trend



Ongoing cost discipline

- **Synergy generation** is utmost priority
- **Cost discipline** continues in all business sectors
- **Further efficiency gains** from ongoing improvement and harmonization of processes and systems



**Efficient capital
allocation**

- **All our businesses** have growth potential
- **Decisions on growth investments** are based on sound business cases and robust clinical data

Near-term financial priorities will secure our profitable growth path

Full-year 2017 guidance broadly confirmed

▶ **Net sales:** ~ €15.3 – 15.7 bn ◀

▶ **EBITDA pre:** ~ €4,400 – 4,600 m ◀

▶ **EPS pre:** ~ €6.15 – 6.50 ◀





Appendix

01 Guidance details

02 Healthcare

03 Life Science

04 Financial details



01

GUIDANCE DETAILS

2017 business sector guidance



Healthcare

Net sales

- Slight organic growth
- Ongoing organic Rebif decline
- Other franchises growing; repatriation of Glucophage/China supportive

EBITDA pre

~ €1,900 – 2,000 m



Life Science

Net sales

- Organic growth slightly above market, driven by Process Solutions
- First minor contribution of top-line synergies

EBITDA pre

~ €1,780 – 1,850 m



Performance Materials

Net sales

- Slight to moderate organic decline
- Volume increases in all businesses
- Continuation of Liquid Crystal market share normalization in China

EBITDA pre

~ €950 – 1,050 m

Additional financial guidance 2017

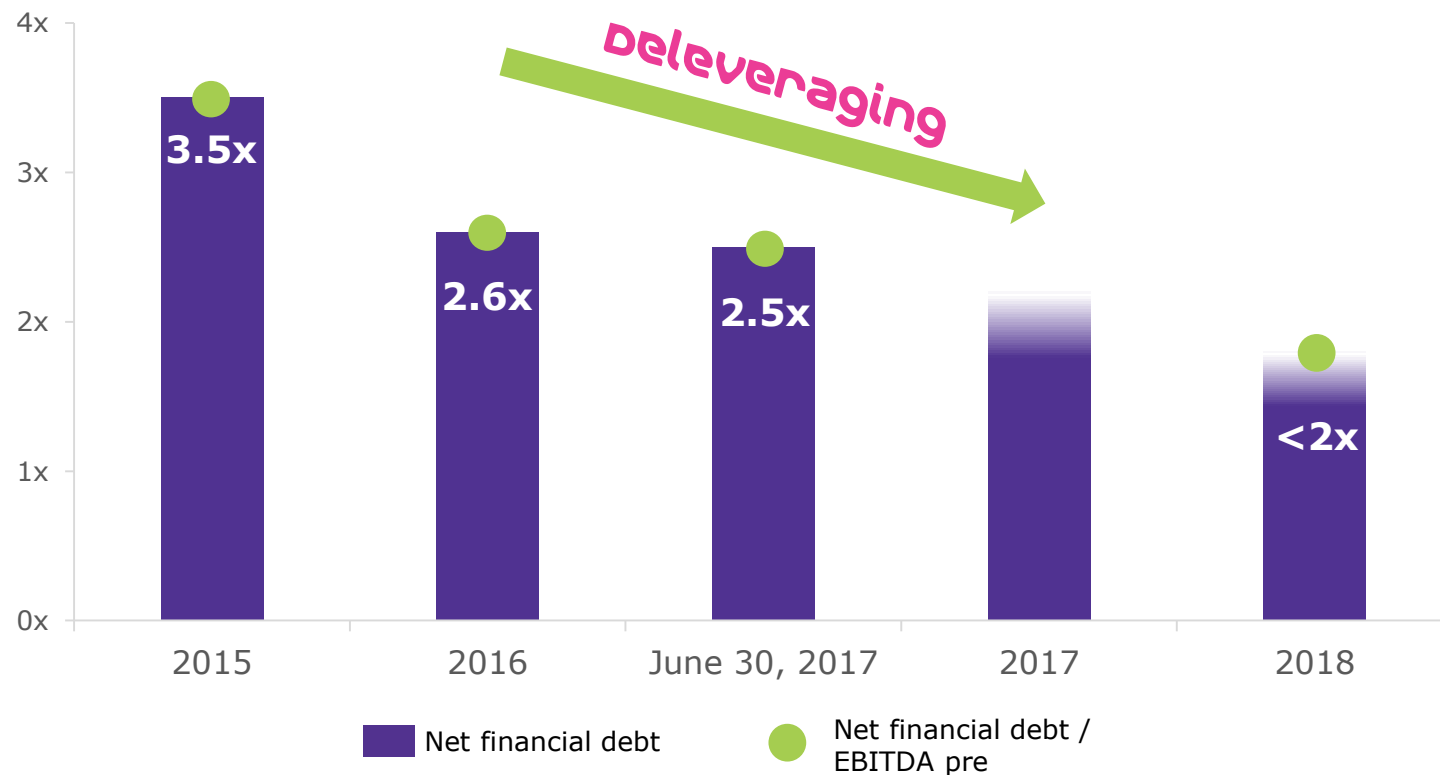
Further financial details

Corporate & Other EBITDA pre	~ -€350 – -400 m
Interest result	~ -€250 – -260 m
Effective tax rate	~ 23% to 25%
Capex on PPE	~ €850 – 900 m
Hedging/USD assumption	2017 hedge ratio ~60% at EUR/USD ~ 1.11 to 1.13
2017 Ø EUR/USD assumption	~ 1.09 – 1.13

Strong focus on cash generation to ensure swift deleveraging

Net financial debt* and leverage development

[Net financial debt/
EBITDA pre]



Focus on deleveraging

- Commitment to swift deleveraging to ensure a strong investment grade credit rating and financial flexibility
- Strong cash flow will be used to drive down leverage to expected <2x net debt/EBITDA pre in 2018
- Larger acquisitions (>€500 m) ruled out for the next two years (or financed by divestments)

Life Science and Healthcare with natural hedge, while Performance Materials affected by currency swings



Sales

- Global presence
- ~40% of sales in Europe

Costs

- High Swiss franc cost base due to manufacturing sites
- R&D hub and notable sales force in U.S.

FX Impact



Sales

- Balanced regional sales split between EU, NA and RoW

Costs

- Extensive manufacturing and research footprint in the U.S.
- Global customer proximity requires broad-based sales force

FX Impact



Sales

- ~80% of sales in Asia-Pacific
- Industry is USD-driven

Costs

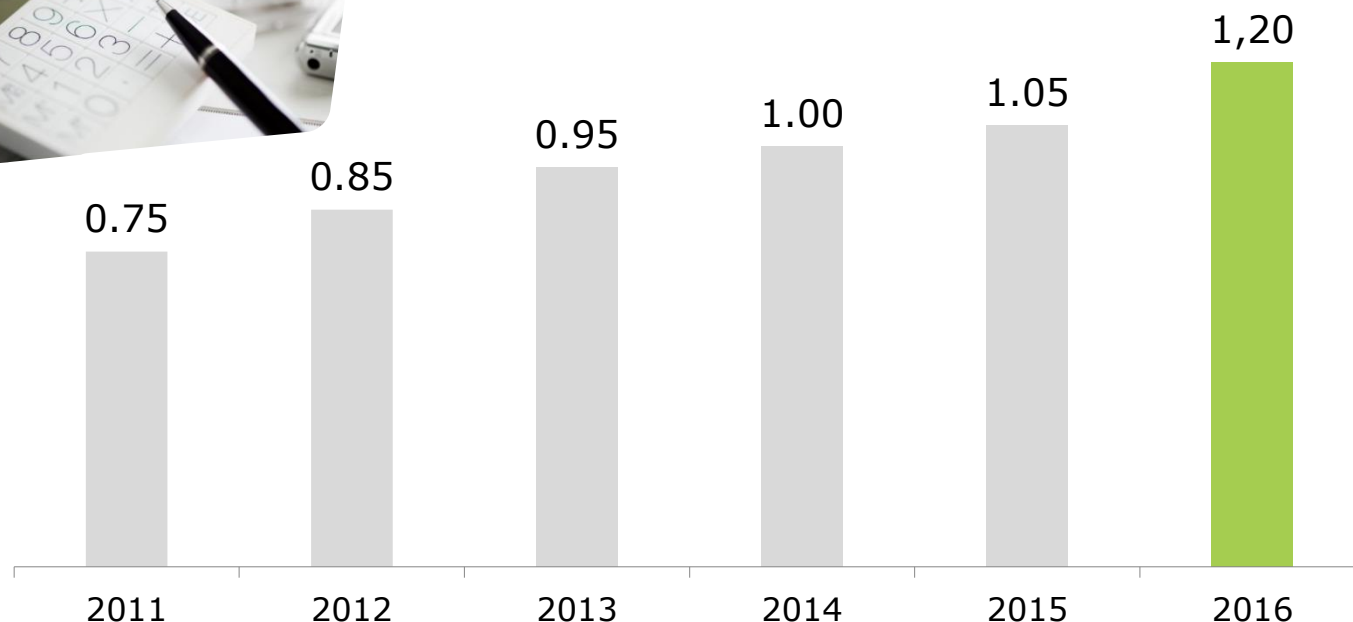
- Main production sites in Germany
- Several R&D and mixing facilities in Asia

FX Impact



Sustainable dividend development

Dividend¹ development 2011-2016



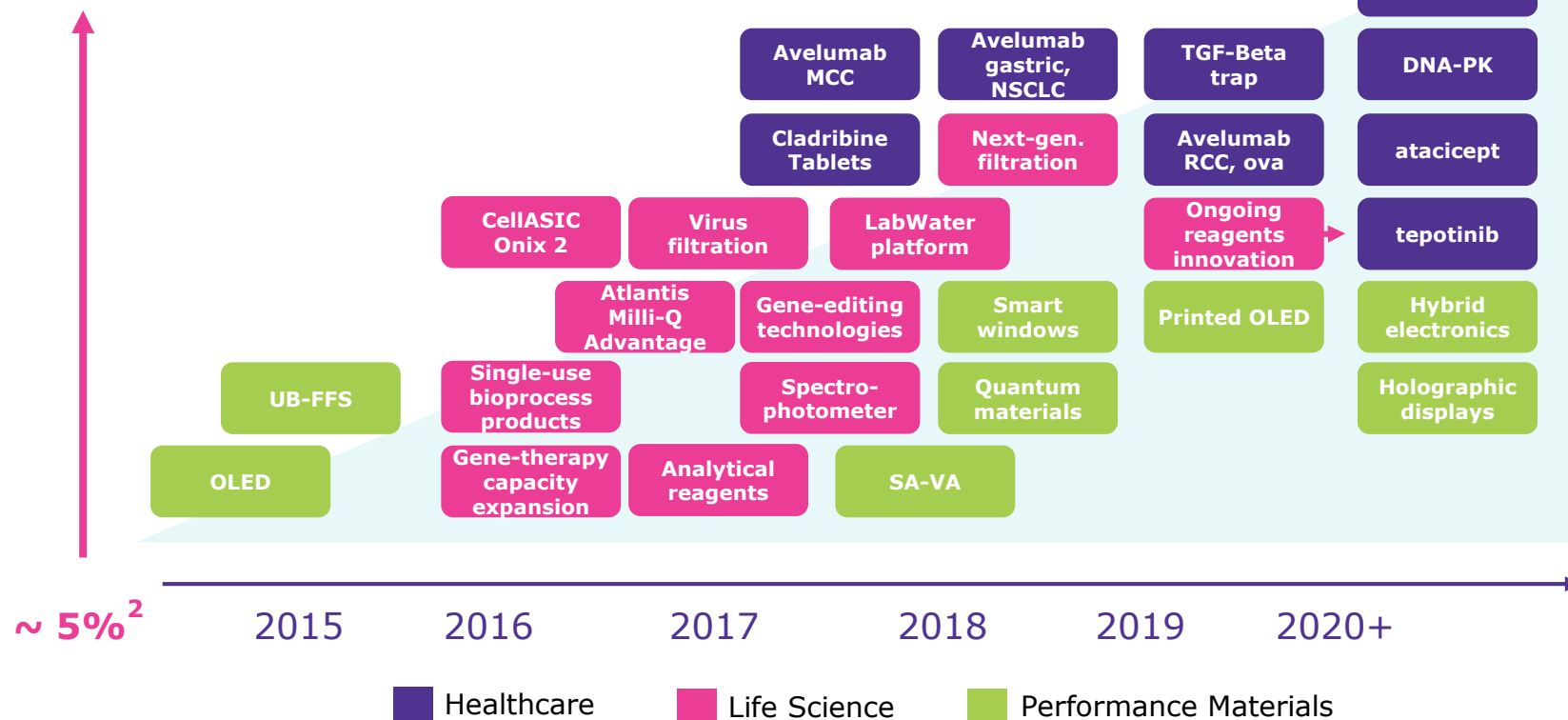
2016 dividend

- Dividend of €1.20 per share for 2016, reflecting 19.3% of EPS pre
- Dividend development in line with business performance and earnings progression
- Dividend yield² of 1.21%

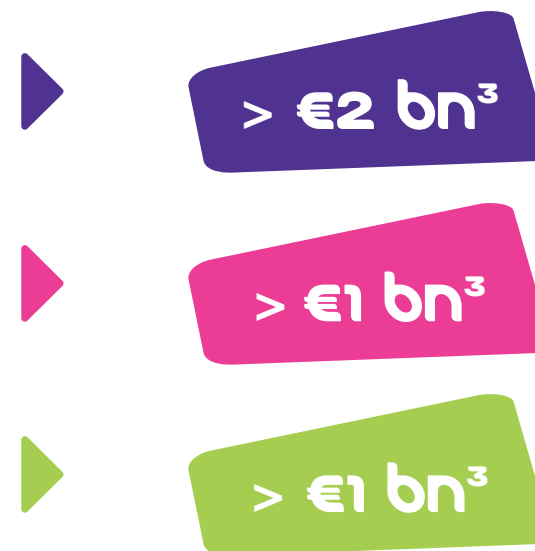
Our strong innovation capabilities will drive growth

New product launch cadence¹ by business sector

~ 20%²



New product sales³ potential 2022



Our rich pipeline will strongly drive sales

¹Illustration: timelines may change as product introductions are subject to customer adoption and implementation; pharma pipeline products are under clinical investigation and there is no guarantee any product will be approved in the sought-after indication; ²Share of total Group net sales from new products launched over the past 5 years, risk-adjusted; ³risk-adjusted



02

HEALTHCARE – FUNDING FOR SUCCESS

Healthcare

Healthcare is set to deliver on promising pipeline candidates

Deliver
on organic growth

Focus
on pipeline



At least stable existing business



Solid pipeline of oncology, immuno-oncology and immunology molecules



Transformation of R&D operating model ongoing



Competitive R&D funding in our focus areas



Cost discipline and efficient execution

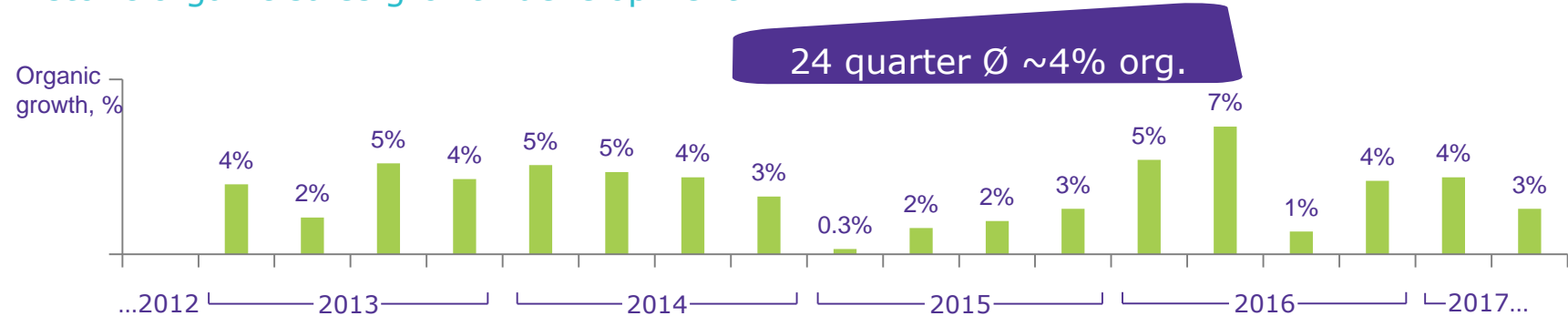


Healthcare

Operational excellence drives healthy growth of existing businesses

Organic growth
for 24
consecutive
quarters

Historic organic sales growth development



Commitment to
at least stable
organic sales
until 2018

Qualitative organic sales growth guidance per product/franchise until 2018

rebif®: Sales decline in line with interferon market

oncology: Stable sales

fertility: Mid single-digit growth

endocrinology: Low single-digit growth

general medicine: Mid to high single-digit growth

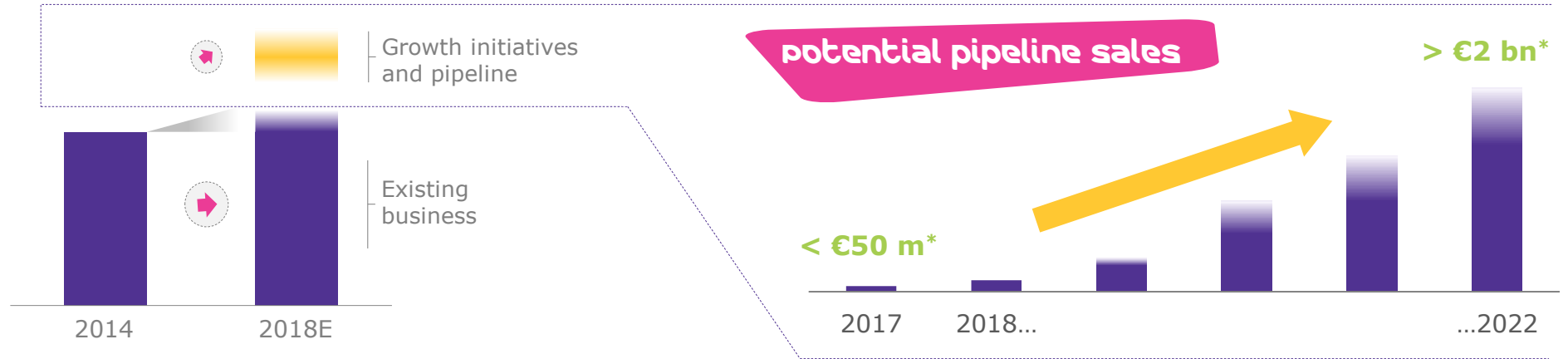
consumer health: Mid single-digit growth

Healthcare

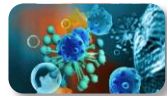
Well on track to deliver the pipeline

Deliver the pipeline

Increase R&D spending



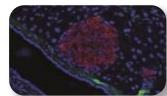
Key investments



Avelumab



BTK – inhibitor



TGF-beta trap

~€150 – 200 m higher R&D costs in 2017 vs. 2016

Main moving parts:

- Phase III progress of avelumab
- Dynamics of ramp-up for TGF-beta and BTK-i
- Regular prioritization in view of market dynamics

Healthcare

Increasing R&D productivity with focus on potentially transformative assets

phase I		phase II		phase III	registration
BTK-i (hematological tumors)	Avelumab (mono/combinations)	atacept (SLE)	Avelumab (MCC 1L)	Avelumab (mono/combinations)	Avelumab (MCC)
DNA-PKi / ATRi (solid tumors)	M7824/TGF-b trap (basket trial)	BTK-i (RA, SLE)	BTK-i (MS)	MSB11022* Biosimilar (chronic plaque psoriasis)	Cladribine-tablets (RMS)
	NHS-IL 12 (solid tumors)	sprifermin (OA)	tepotinib (HCC/NSCLC)		
<div></div> Oncology <div></div> Immuno-Oncology		<div></div> Immunology	<div></div> Biosimilars	<div></div> Neurology	

Avelumab

- 30 clinical programs ongoing (>6,200 patients in >15 tumor types)
- Nine phase III trials and various Phase I cohorts ongoing
- For MCC, decision by EMA expected in H2 2017

TGF-b trap

- Enrolling in phase Ib cohorts (14 indications); >600 patients enrolled
- Preliminary data for selected cohorts expected end of 2017

BTK inhibitor

- Three immunology phase IIb trials initiated (RA, SLE, MS)
- One phase I trial in Oncology ongoing (different molecule)

DDR-Program

- Transition of in licensed ATRi and DNA-PKi compounds ongoing

Cladribine Tablets

- Mavenclad approved in Europe
- Consultations with US authorities initiated

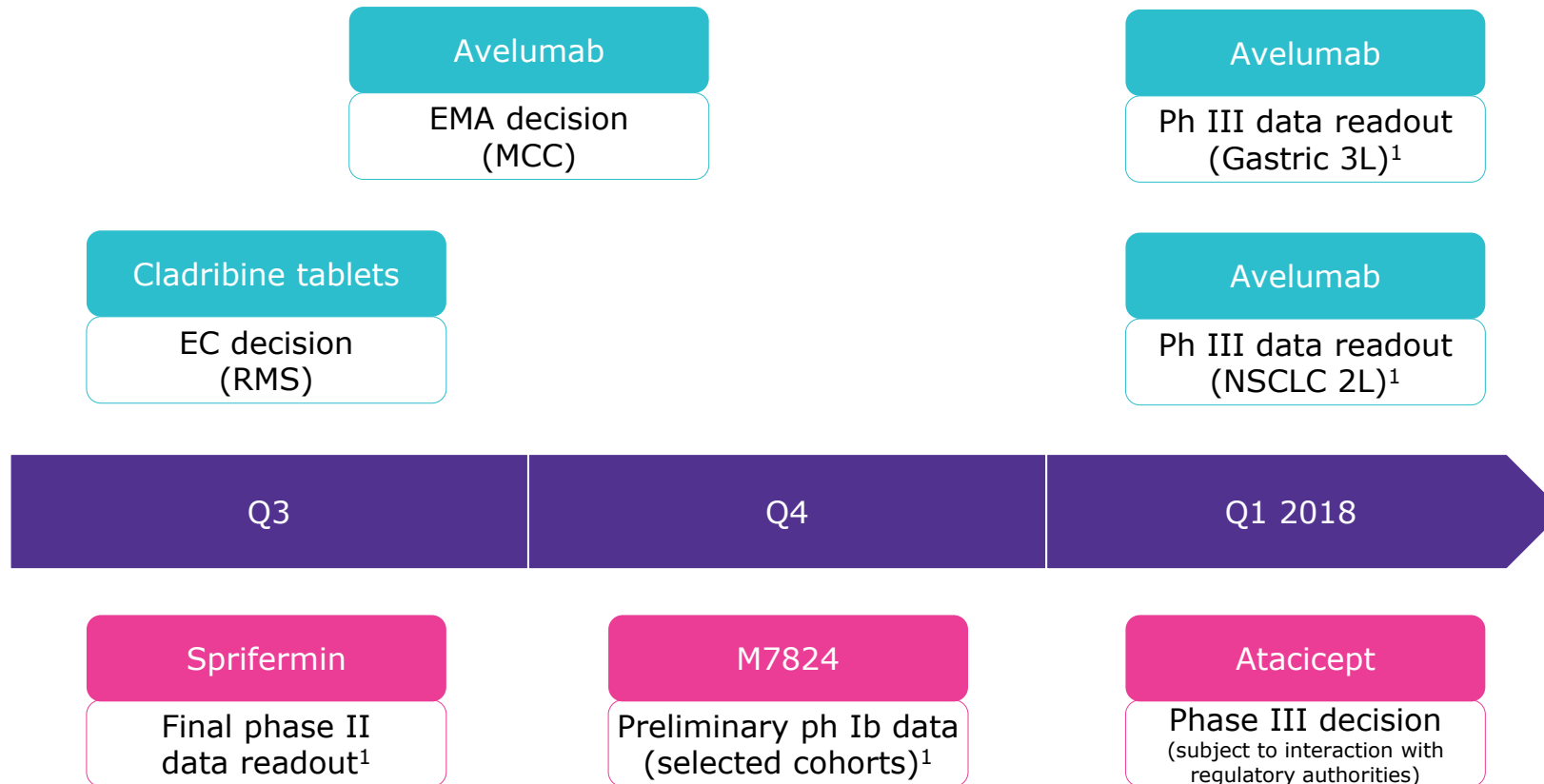
2017 Milestones:

- ✓ **Mavenclad approved in Europe**
- ✓ **Bavencio successfully launched in MCC & UC in US**
- **Expected EMA decision for avelumab in MCC (pos. CHMP)**
- **Sprifermin phase II final data read-out**

*On April 24, 2017 the divestment of Biosimilars business to Fresenius was announced, closing is expected in H2 2017, subject to regulatory approvals and other conditions

Outlook

2 potential launches, 4 pivotal catalysts and major value inflection points





03

**LIFE SCIENCE –
FOCUSING ON
PROFITABLE GROWTH**

Serving customers across the life science industry

RESEARCH



- Academic and government institutions
- Biopharma R&D
- Industry R&D

PROCESS



- Pharmaceutical companies
- Small biotech
- Contract manufacturing organizations

APPLIED



- Diagnostic manufacturers
- Clinical testing labs
- Food & Beverage manufacturers

We create sustainable value that is based on strong strategic levers



Wide, innovative portfolio

- A combined portfolio of +300,000 products
- Integrated offerings along the life science value chain
- Complete workflow solutions



Balanced geographic footprint

- Increased presence in North America
- Accelerating growth momentum in Asia
- Expanded geographic reach in 60+ countries



Industry-leading capabilities

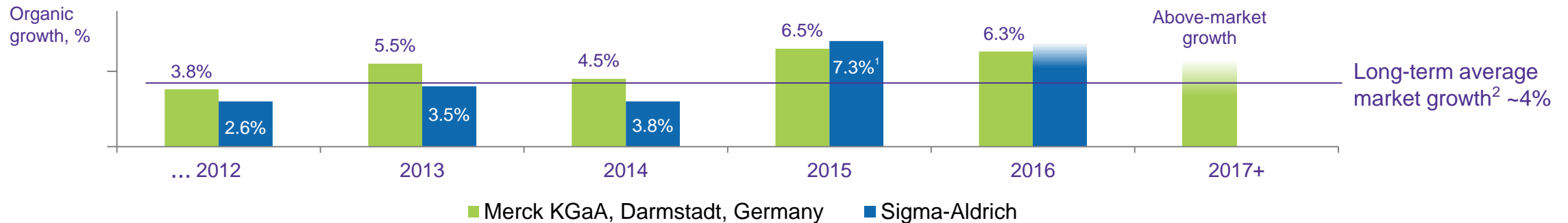
- Outstanding supply chain management (ability to deal with complexity)
- Simple e-commerce platform (customer interface with global coverage)
- Expertise to manage regulatory barriers

Our capabilities are the foundation for future topline growth in Life Science

Life Science

Above-market growth to be enhanced by top-line synergies

Merck KGaA, Darmstadt, Germany and Sigma-Aldrich organic growth rates versus market growth



Sources of market outperformance

1

Portfolio composition

- Exposure to biopharma
- Highest share of consumables
- Broad product offering

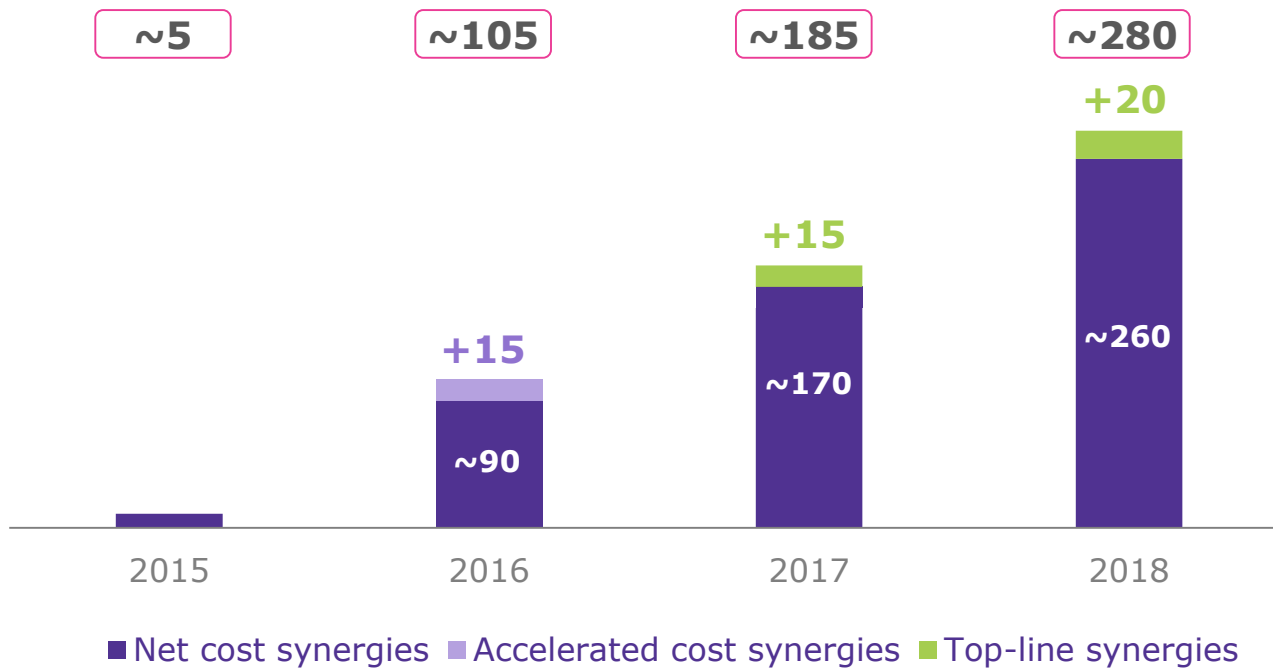
2

Top-line synergies

- Best in class eCommerce
- Excellent service capabilities
- Global reach

Synergy upgrade driven by fast 2016 execution and top-line synergies

EBITDA pre impact of synergy ramp-up [€ m]



Synergy upgrade of ~10% confirms strong integration capabilities

Sources

Cost synergy status (for 2016)

- **faster** implementation of synergy measures in all areas
- **2016** total cost synergies of **~€105 M**
- Integration costs remain unchanged at ~€400 m

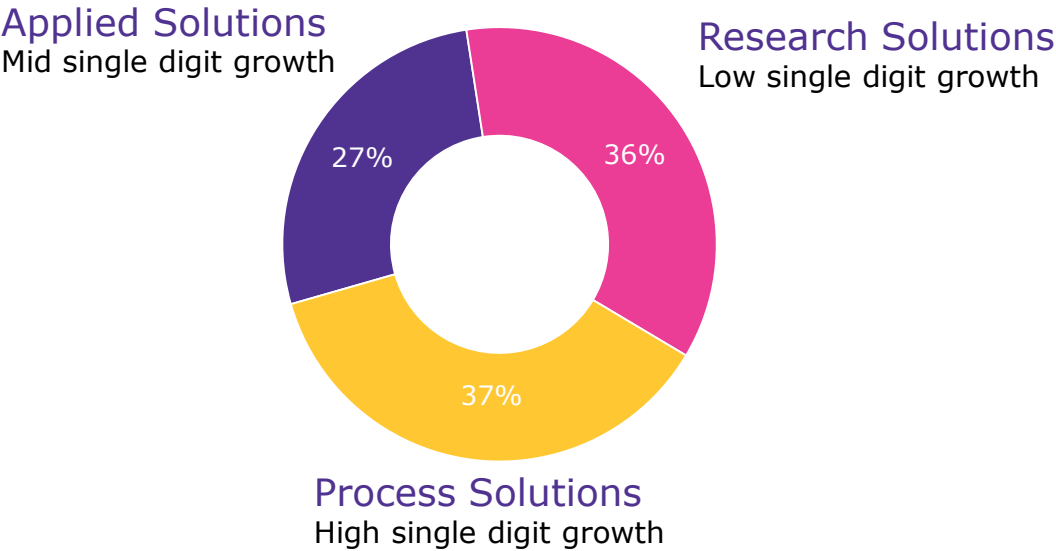
Top-line synergies (from 2017)

- Strong eCommerce and **IT capabilities** applied to Merck KGaA, Darmstadt, Germany's products
- Extensive **portfolio** and **customer** complementarity in Process and Applied Solutions
- Leverage **regional** Merck KGaA, Darmstadt, Germany – Asia and Sigma – North America footprint
- Expecting **~50-100 bps** in additional **sales growth** with average EBITDA pre margin

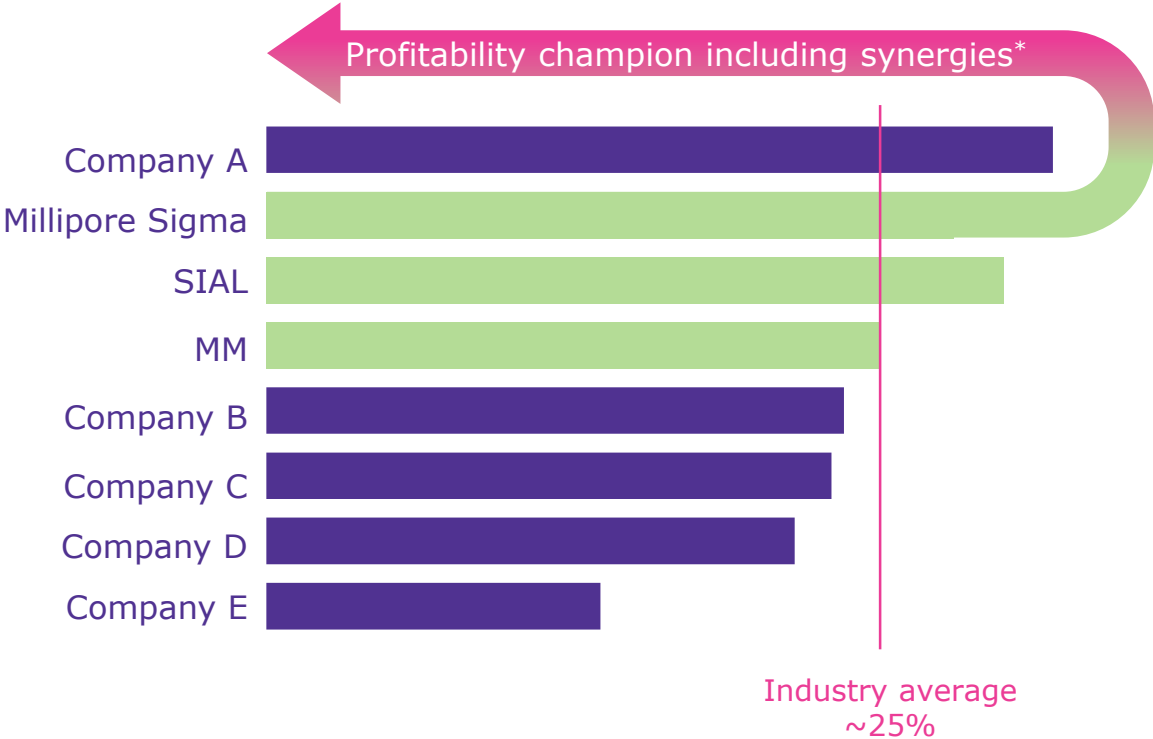
Life Science

We aim to be the profitability champion of the sector

Sales breakdown as of FY 2016



Above industry margin levels



Life Science is well set for sustainable growth and profitability

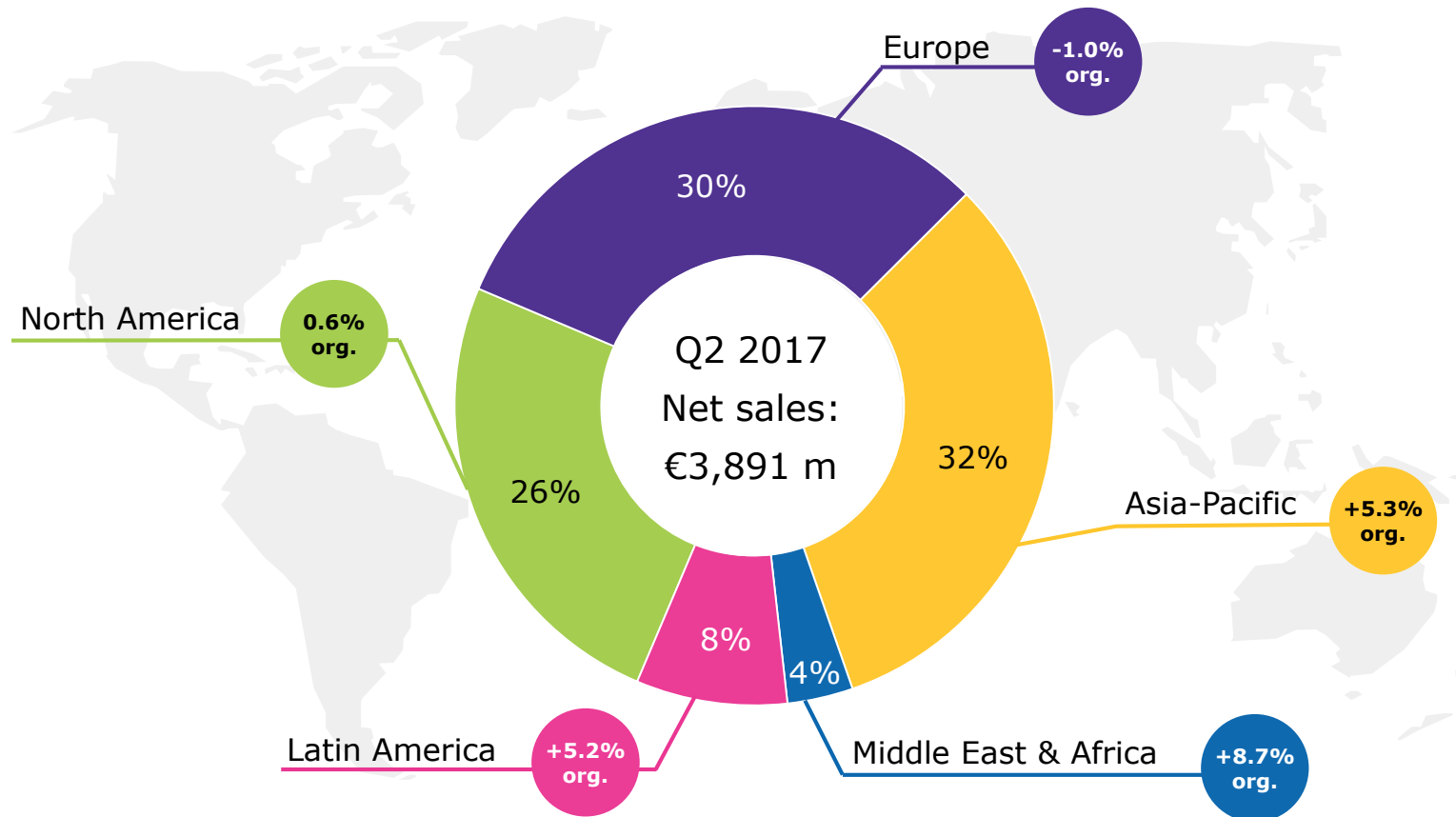


04

FINANCIAL OVERVIEW

Organic growth driven by APAC, LATAM and MEA

Regional breakdown of net sales [€ m]



Regional organic development

- Slight decline in Europe reflects competition for Rebif, Erbitux and Gonal-f, mitigated by solid demand in Life Science
- Slight growth in North America from Life Science and Rebif pricing offset tough Gonal-f comparables
- Solid growth in APAC supported by Gluco-phage repatriation and strong Life Science demand in China, outweighing LC softness
- Strong performance in LATAM and MEA across all major businesses

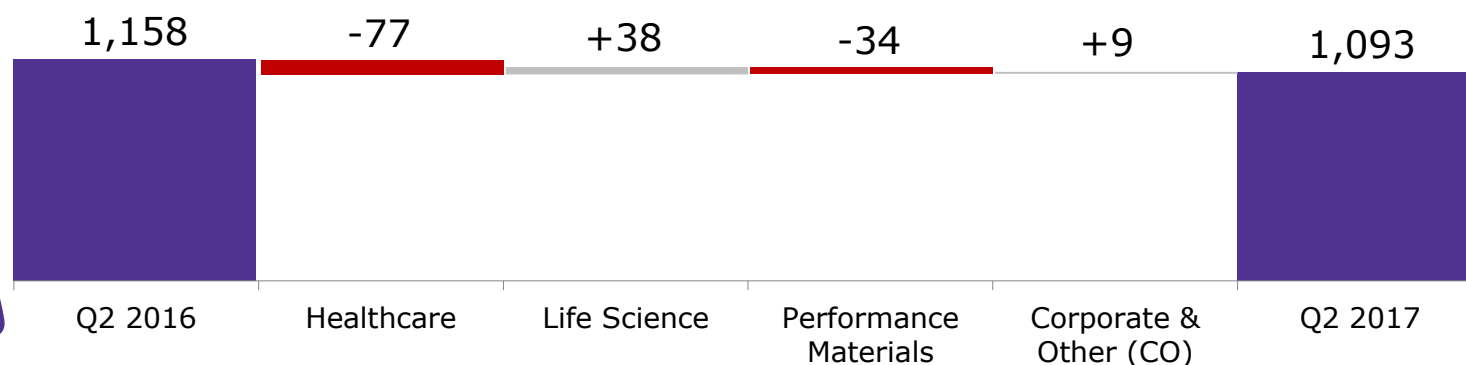
Investments in Healthcare and softness in Liquid Crystals burden EBITDA pre

Q2 2017 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	2.6%	0.1%	-1.0%	1.7%
Life Science	4.2%	0.1%	0.3%	4.6%
Performance Materials	-3.2%	1.8%	0.0%	-1.3%
Group	2.3%	0.4%	-0.3%	2.3%

- Healthcare reflects strong growth in General Medicine, especially Glucophage in China and resilience of portfolio
- Solid growth in Life Science driven by all business segments
- Organic growth of ICM*, Pigments and OLED is outweighed by ongoing market share normalization in Liquid Crystals

Q2 YoY EBITDA pre contributors [€ m]



- Healthcare reflects investments in marketing & selling and R&D as well as negative product mix effects
- Life Science driven by organic growth and synergy realization
- Performance Materials lower due to unfavorable business mix & usual price declines
- CO contains positive FX hedging Δ vs. LY

*Integrated Circuit Materials
Totals may not add up due to rounding

Q2 2017: Overview

Key figures

[€m]	Q2 2016	Q2 2017	Δ
Net sales	3,805	3,891	2.3%
EBITDA pre	1,158	1,093	-5.6%
Margin (in % of net sales)	30.4%	28.1%	
EPS pre	1.55	1.54	-0.6%
Operating cash flow	311	520	67.1%

[€m]	Dec. 31, 2016	June 30, 2017	Δ
Net financial debt	11,513	11,248	-2.3%
Working capital	3,486	3,775	8.3%
Employees	50,414	52,233	3.6%

Comments

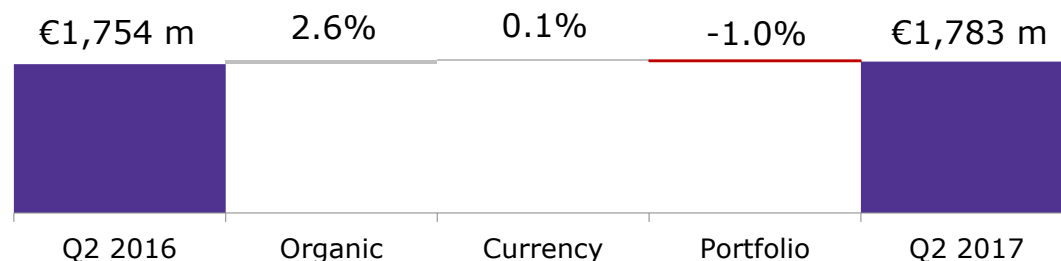
- EBITDA pre & margin reduction reflect investments in Healthcare and ongoing LC market share normalization
- EPS pre stable despite EBITDA pre decrease due to improved financial result
- Strong increase in operating cash flow driven by lower tax payments
- Net financial debt reflects strong operating cash flow amid dividend payment
- Working capital reflects increased receivables mainly due to Glucophage repatriation
- Higher headcount due to investments in growth markets and takeover of temporary workers

Healthcare: Investments in future growth weigh on profitability

Healthcare P&L

[€m]	Q2 2016	Q2 2017
Net sales	1,754	1,783
Marketing and selling	-643	-710
Administration	-66	-78
Research and development	-378	-389
EBIT	298	348
EBITDA	558	465
EBITDA pre	557	480
Margin (in % of net sales)	31.8%	26.9%

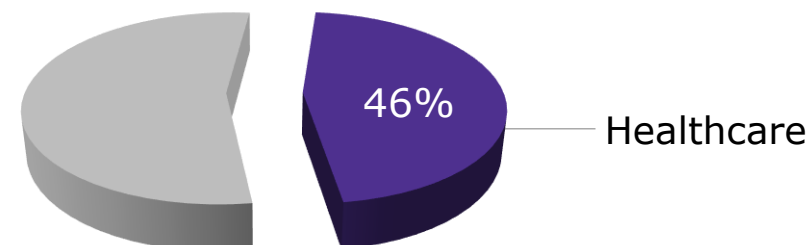
Net sales bridge



Comments

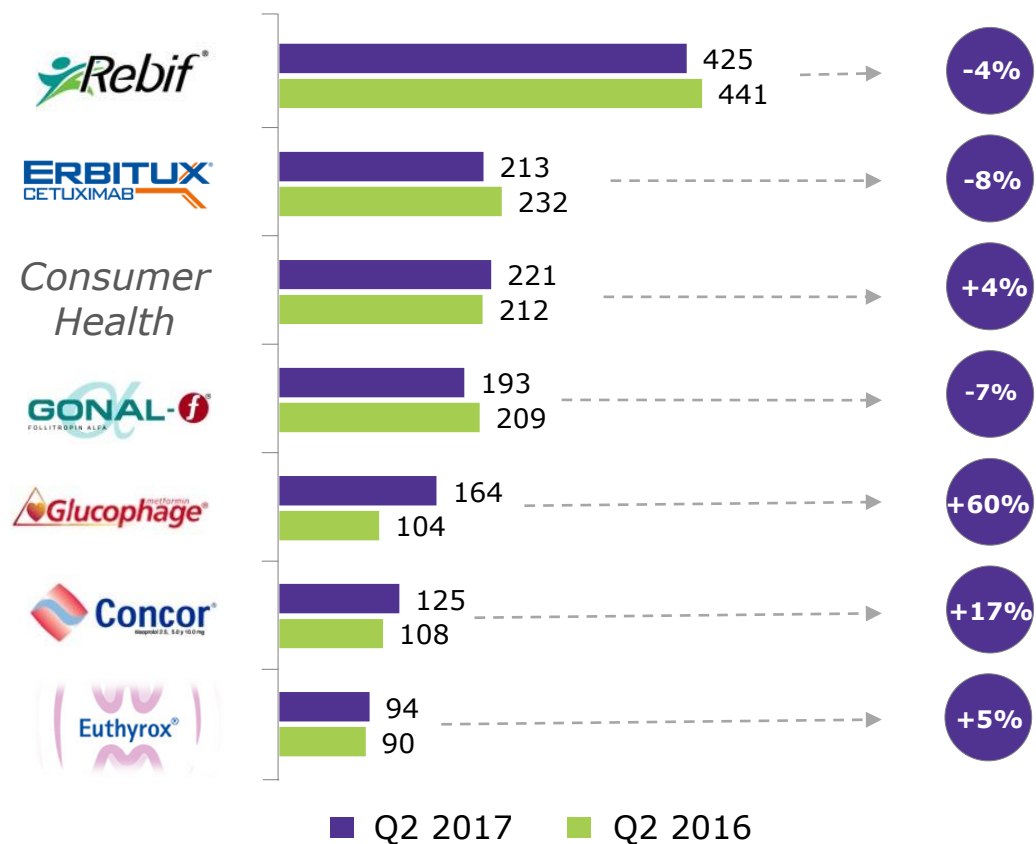
- Rebif organically lower as competition in U.S. & E.U. as well as tender phasing in Russia outweigh pricing and positive inventory effect in the U.S.
- Organic decline of Erbitux due to competitive and price pressure in EU outpaces growth in China & LATAM, but also facing strong base LY
- Fertility slightly lower, mainly due to Gonal-f with record quarter LY
- Marketing & selling reflects pre-launch investments for Bavencio and Mavenclad and Glucophage in China after full repatriation
- R&D investment picking up, expected further ramp-up in H2
- EBITDA pre reflects higher investments and negative mix effects exceeding income from milestone payment for Bavencio

Q2 2017 share of group net sales

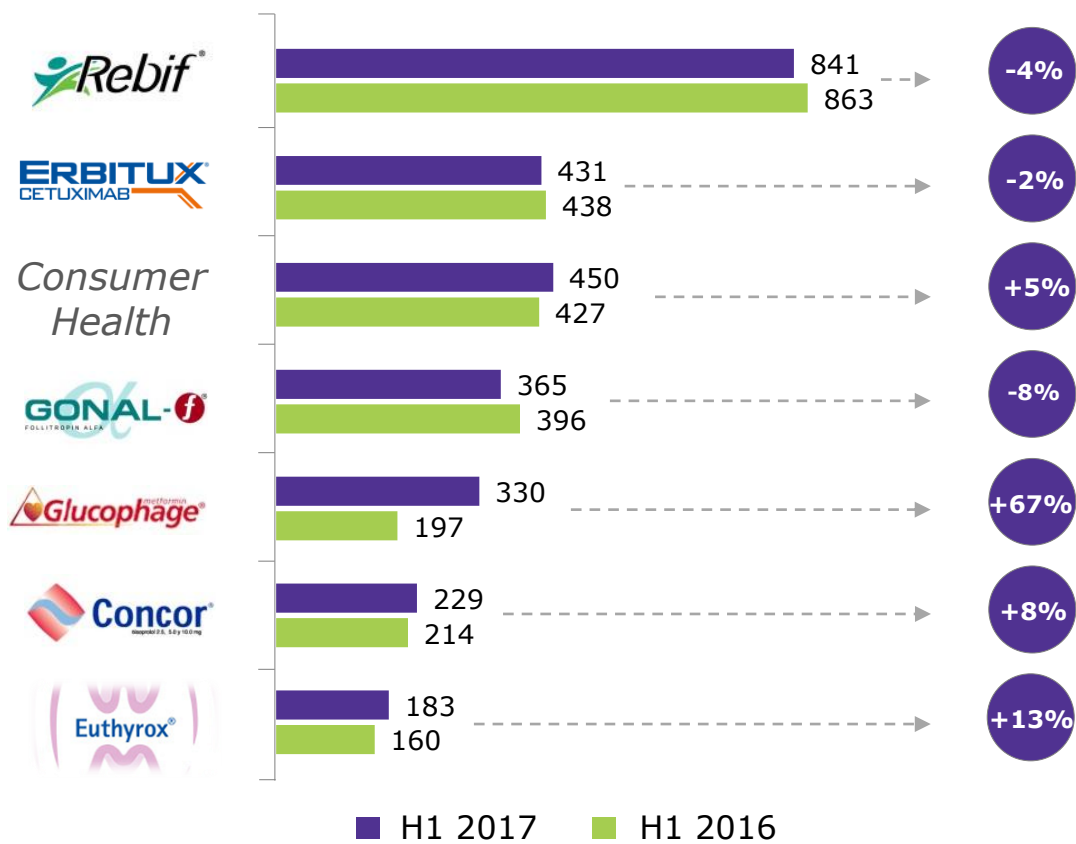


Healthcare organic growth by franchise/product

Q2 2017 organic sales growth [%]
by key product [€ m]



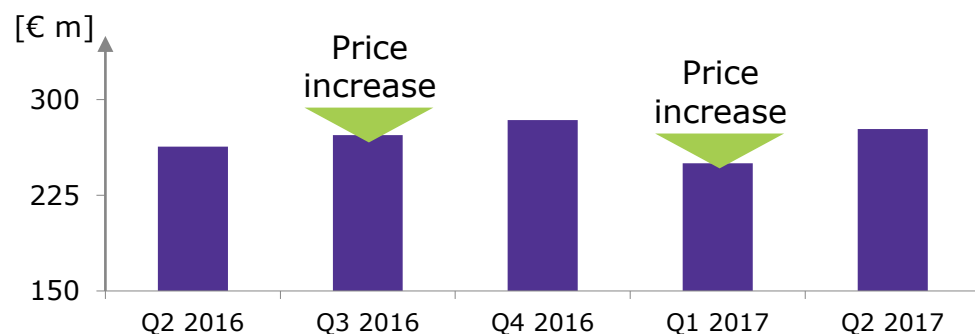
H1 2017 organic sales growth [%]
by key product [€ m]



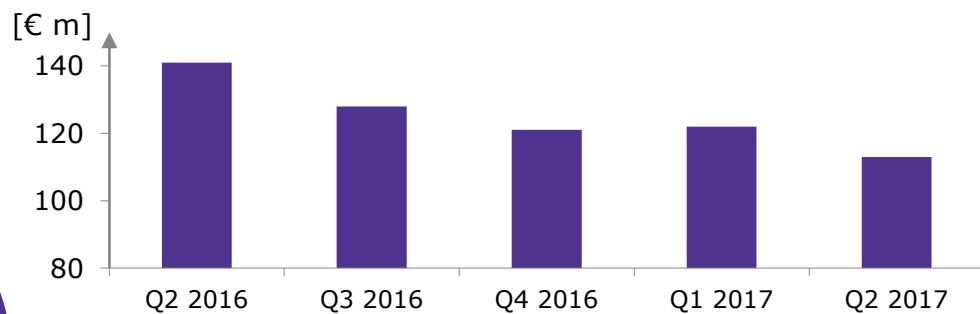
Rebif: Relief in the U.S. – competitive ramp-up in Europe ongoing

Rebif sales evolution

North America



Europe



Q2 drivers

4.4% org.

- Price
- Volume
- FX

Q2 drivers

-18.7% org.

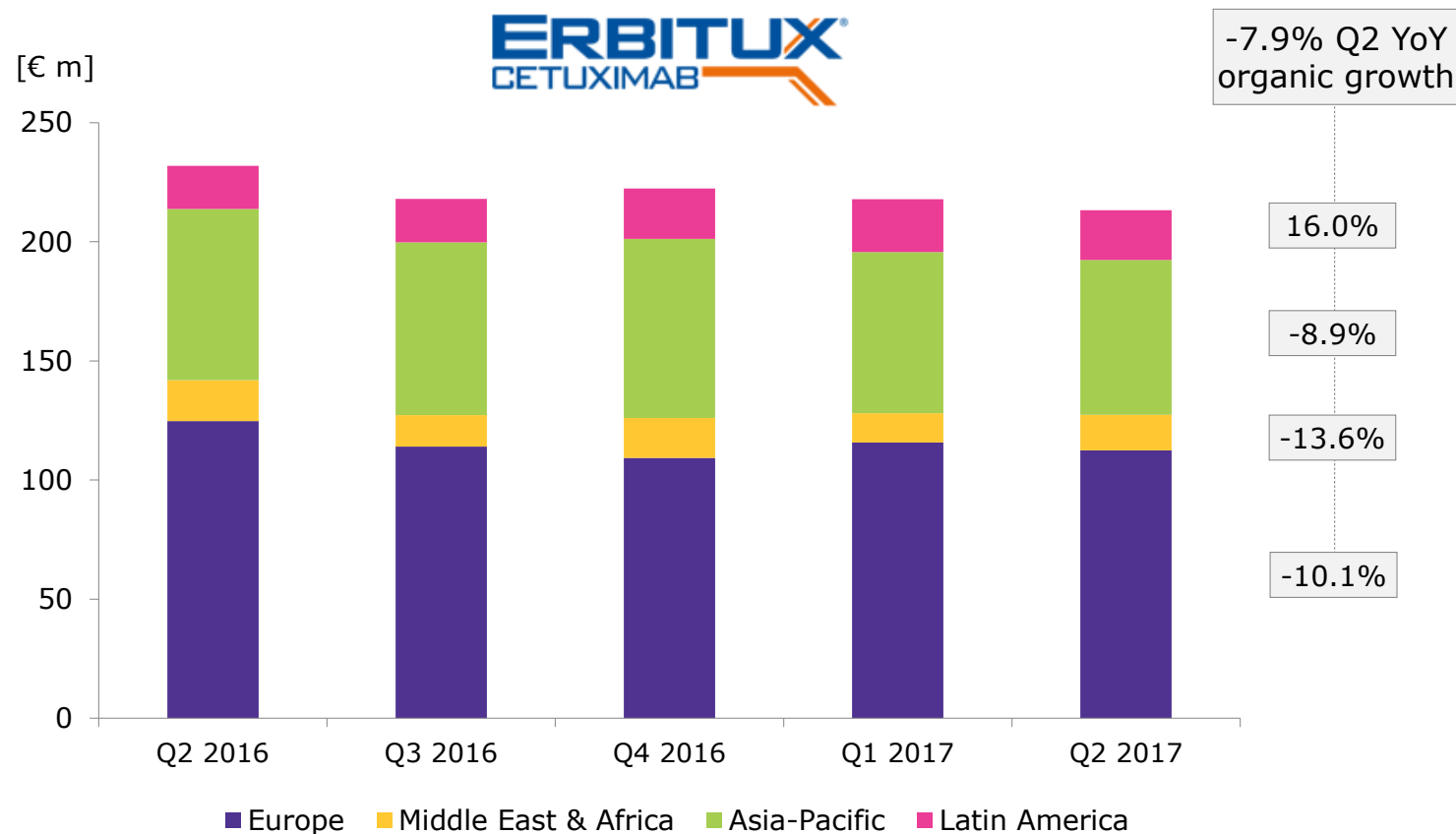
- Price
- Volume

Q2 2017 Rebif performance

- Rebif sales of €425 m in Q2 2017 reflect organic decline, while FX is almost neutral
- U.S. price increases and wholesaler inventory stocking outweigh competition-driven U.S. volume erosion
- Market shares within interferons stable due to high retention rates and known long-term track record
- Phased market entry of orals in Europe as well as tender phasing in Russia cause ongoing organic decline

Erbitux: A challenging market environment

Erbitux sales by region



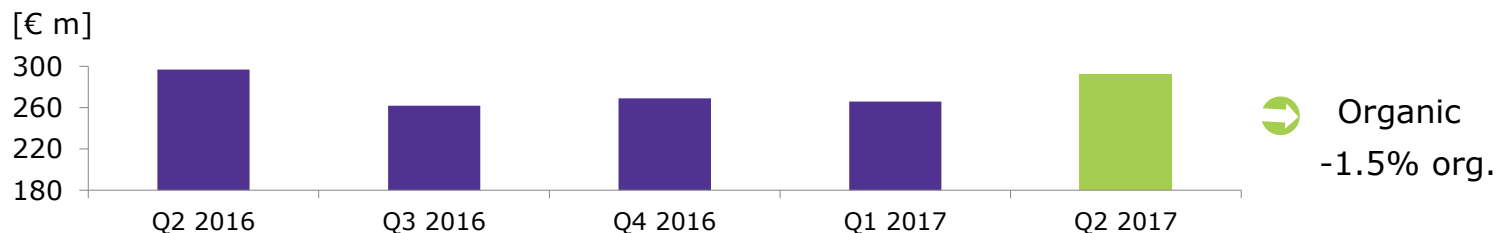
Q2 2017 Erbitux performance

- Sales decline organically to €213 m comparing to strong base LY
- Europe impacted by competition, price reductions and shrinking market size due to increasing immuno-oncology trials
- APAC lower as healthy organic growth in China is more than offset by inventory destocking in Japan
- LATAM strong, while MEA affected by tender phasing from Q1 2017

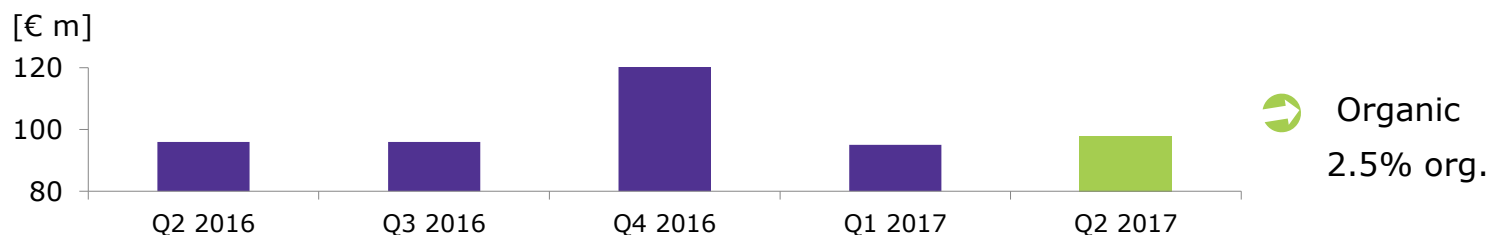
Strong organic growth of General Medicine driven by all major products

Sales evolution

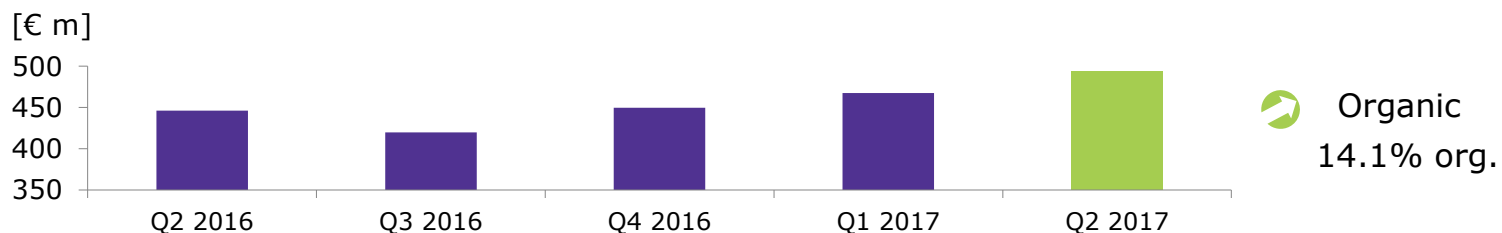
Fertility



Endocrinology



General Medicine*



Q2 2017 organic drivers

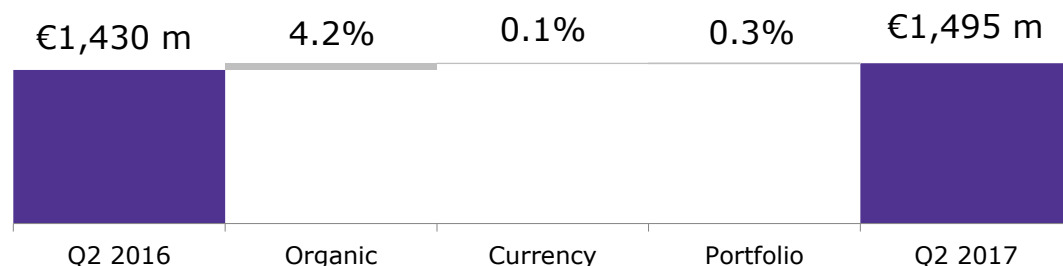
- Fertility slightly lower, mainly due to Gonal-f facing high base LY and ongoing competition from biosimilars in Europe
- LY Gonal-f benefited from favorable competitive situation in the U.S.
- Rest of Fertility portfolio continues to perform well across most regions
- Endocrinology growth supported by release of accruals for rebates in U.S.
- General Medicine benefits from Glucophage repatriation in China
- Concor with strong volume increase especially in growth markets

Life Science: Solid organic growth and synergy realization drive EBITDA pre

Life Science P&L

[€m]	Q2 2016	Q2 2017
Net sales	1,430	1,495
Marketing and selling	-413	-443
Administration	-58	-65
Research and development	-65	-67
EBIT	166	221
EBITDA	343	411
EBITDA pre	417	454
Margin (in % of net sales)	29.1%	30.4%

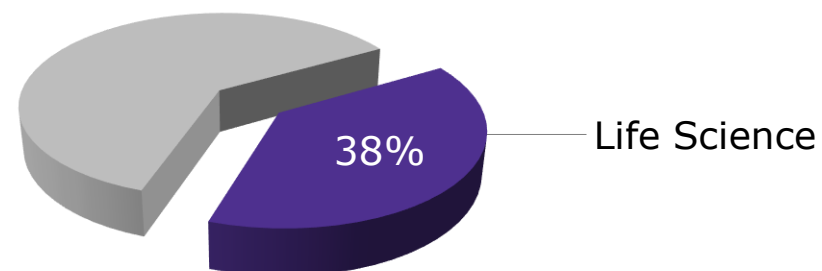
Net sales bridge



Comments

- Growth of Process Solutions picks up due to ongoing strength in single-use, service activities and improved small molecule business
- Applied Solutions shows moderate organic growth, driven by bio-monitoring products for pharma & pick up of Lab Water
- Research Solutions benefits from strong demand in China, U.S. slightly improving while Europe remains soft
- Q2 2016 EBIT affected by inventory step-up for Sigma-Aldrich
- Profitability reflects organic growth and synergies

Q2 2017 share of group net sales

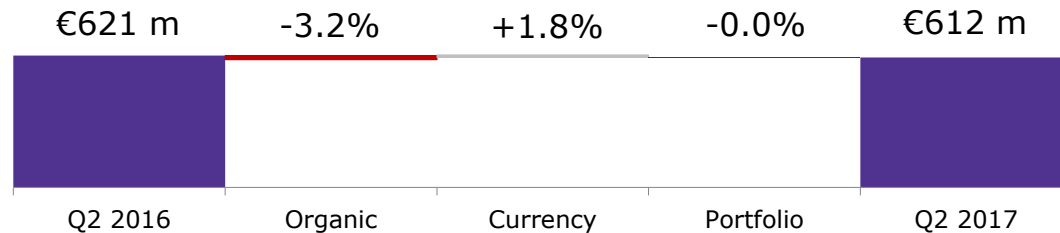


Performance Materials: Ongoing LC market share normalization burdens profitability

Performance Materials P&L

[€m]	Q2 2016	Q2 2017
Net sales	621	612
Marketing and selling	-59	-64
Administration	-14	-19
Research and development	-53	-59
EBIT	193	167
EBITDA	267	231
EBITDA pre	273	239
Margin (in % of net sales)	44.1%	39.1%

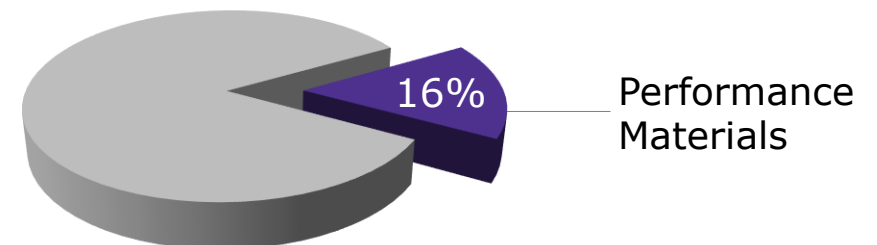
Net sales bridge



Comments

- Organic growth of Integrated Circuit Materials, Pigments and OLED not fully offsetting Liquid Crystal market share normalization
- LC volume development temporarily below usual price reductions
- OLED continues to grow on industry capacity expansion & investments
- Strong growth in ICM mainly driven by demand for dielectric materials (AZ) and deposition materials (SAFC from Sigma)
- Growth of Pigments due to solid demand for decorative pigments, while LYs demand for insect repellents sets tough comps for active cosmetics
- Profitability reflects negative business mix, typical LC price reductions as well as higher R&D for future growth projects

Q2 2017 share of group net sales



Reported figures reflect business performance and impairments

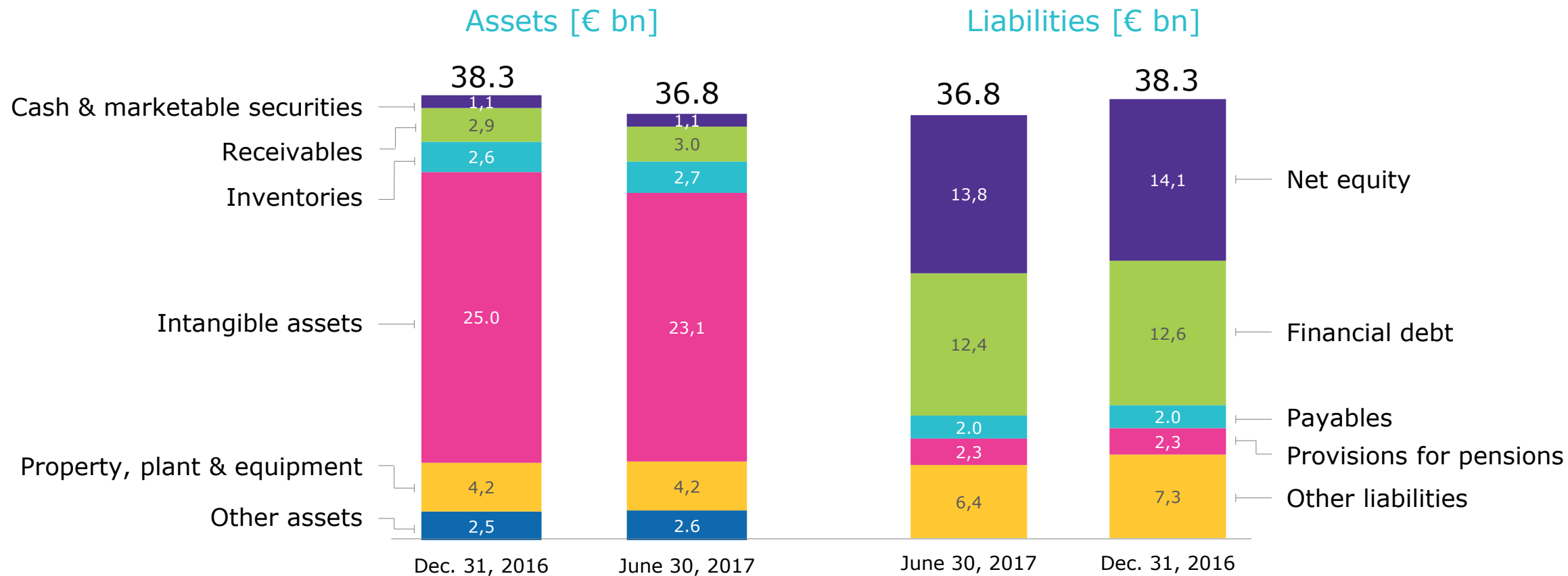
Reported results

[€m]	Q2 2016	Q2 2017	Δ
EBIT	550	628	14.0%
Financial result	-121	-71	-41.5%
Profit before tax	429	557	29.7%
Income tax	-115	-134	16.4%
<i>Effective tax rate (%)</i>	26.7%	24.0%	
Net income	312	421	35.1%
EPS (€)	0.72	0.97	34.7%

Comments

- EBIT higher despite lower EBITDA pre due to write-up of Vevey site (~ -€70 m) and Xalkori impairment (~ €70 m) LY
- Financial result LY contained significant adverse effects from LTIP*
- Effective tax rate within guidance range of ~23-25%; LY impacted by Xalkori impairment

Balance sheet – deleveraging in progress after Sigma acquisition



- Total assets decrease, while equity ratio increases to 37.4%
- Reduction in intangible assets reflects D&A (-€0.6 bn) and FX (-€1.5 bn)
- Lower net equity reflects negative FX mitigated by H1 profit
- Other liabilities decrease driven by profit transfer to E. Merck KG, Darmstadt, Germany as well as bonus payments

Healthy operating cash flow supported by lower tax payments

Q2 2017 – cash flow statement

[€m]	Q2 2016	Q2 2017	Δ
Profit after tax	314	423	109
D&A	519	380	-139
Changes in provisions	-67	21	88
Changes in other assets/liabilities	-397	-333	64
Other operating activities	-28	-11	17
Changes in working capital	-30	40	70
Operating cash flow	311	520	209
Investing cash flow	-114	-302	-188
thereof Capex on PPE	-125	-172	-47
Financing cash flow	-357	-184	173

Cash flow drivers

- D&A reduction reflects write up of Vevey site (~ -€70 m) and Xalkori impairment (~ €70 m) LY
- Changes in other assets/liabilities driven by lower tax payments
- Investing cash flow contains higher Capex & payments for F-star cooperation
- Capex mainly driven by investments in Healthcare and Sigma integration
- Financing cash flow reflects dividend payment, LY with higher redemption of debt

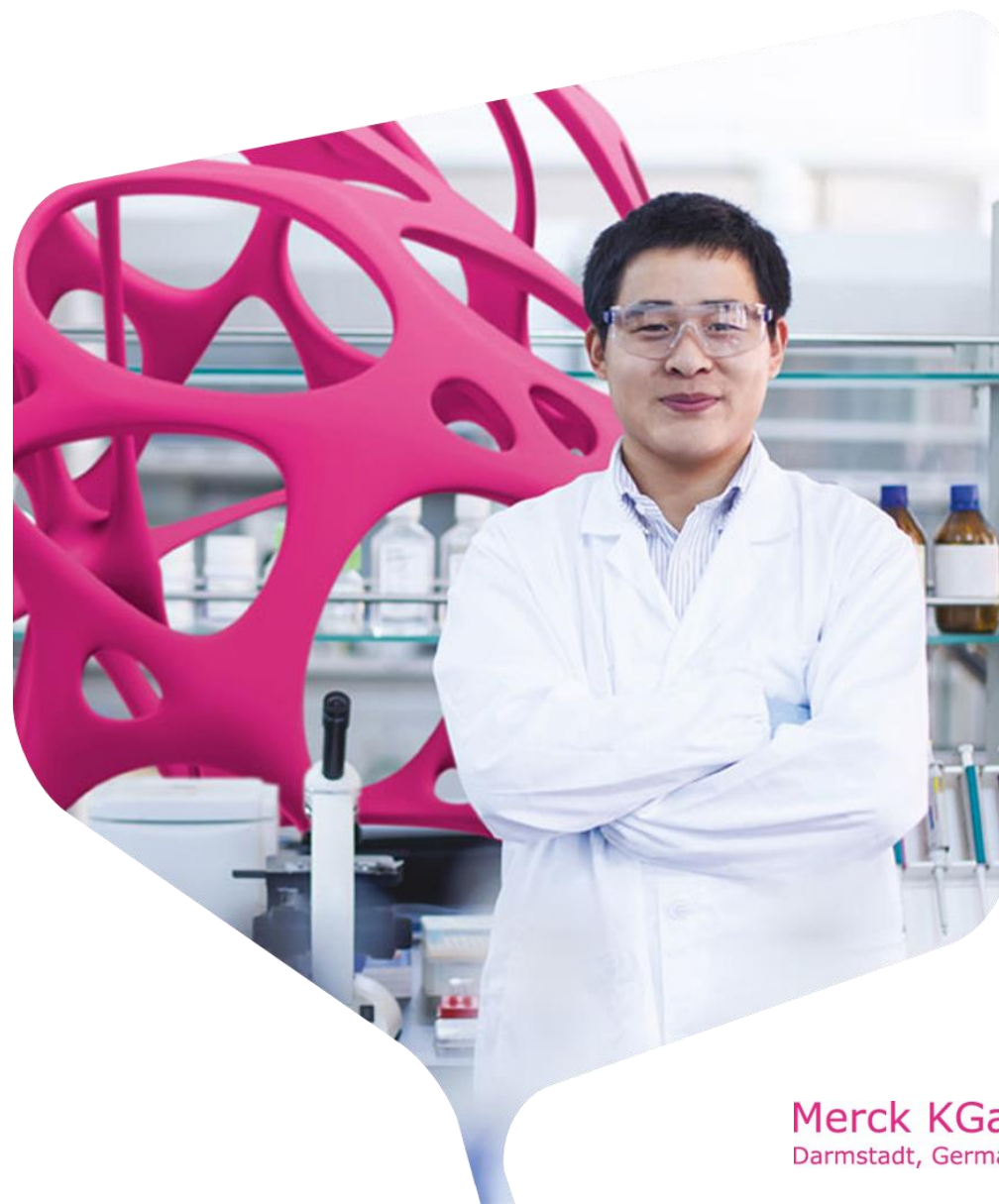
Exceptionals in Q2 2017

Exceptionals in EBIT

[€m]	Q2 2016		Q2 2017	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	70	71	-53	-68
Life Science	74	0	46	3
Performance Materials	7	0	16	7
Corporate & Other	10	0	16	-3
Total	160	71	25	-61

Financial calendar

Date	Event
November 9, 2017	Q3 2017 Earnings release
March 8, 2018	Q4 2017 Earnings release
April 27, 2018	Annual General Meeting
May 15, 2018	Q1 2018 Earnings release



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