



# DRIVING FUTURE GROWTH

Merck KGaA, Darmstadt, Germany Q2 2017 results

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# Agenda

- 01** Executive summary
- 02** Financial overview
- 03** Deep dive: Performance Materials
- 04** Guidance



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## EXECUTIVE SUMMARY

## Highlights

### Operations

- ▶ Healthcare – sound core business and positive CHMP\* opinion for Mavenclad & Bavencio
- ▶ Life Science – solid growth dynamics against tough comps; Sigma integration on track
- ▶ Performance Materials – Liquid Crystal market share normalization increasingly visible

### Financials

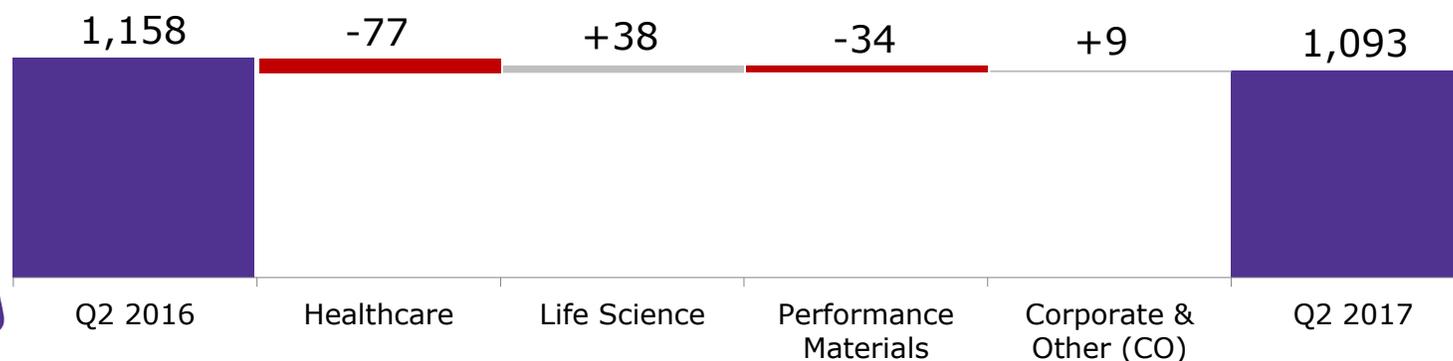
- ▶ Sales growth of 2.3%; EBITDA pre down 5.6% to €1,093 m
- ▶ Operating cash flow of €1.3bn in H1 2017 shows strong focus on cash generation
- ▶ FY 2017 guidance – net sales: €15.3 – 15.7 bn & EBITDA pre: €4,400 – 4,600 m

# 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%	<b>1.7%</b>
Life Science	4.2%	0.1%	0.3%	<b>4.6%</b>
Performance Materials	-3.2%	1.8%	0.0%	<b>-1.3%</b>
Group	2.3%	0.4%	-0.3%	<b>2.3%</b>

## Q2 YoY EBITDA pre contributors [€ m]

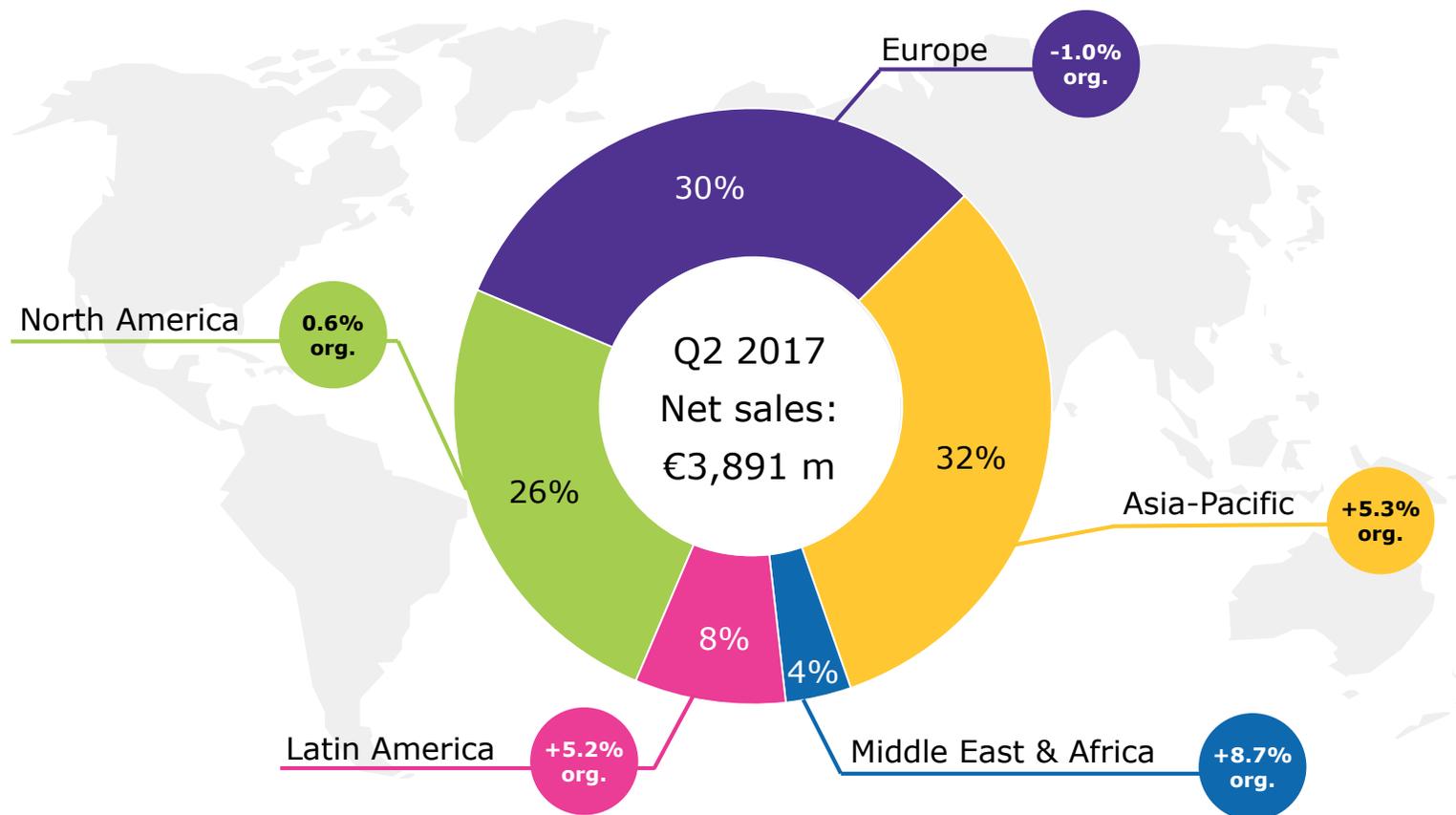


\*Integrated Circuit Materials  
Totals may not add up due to rounding

- 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
- 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  $\Delta$  vs. LY

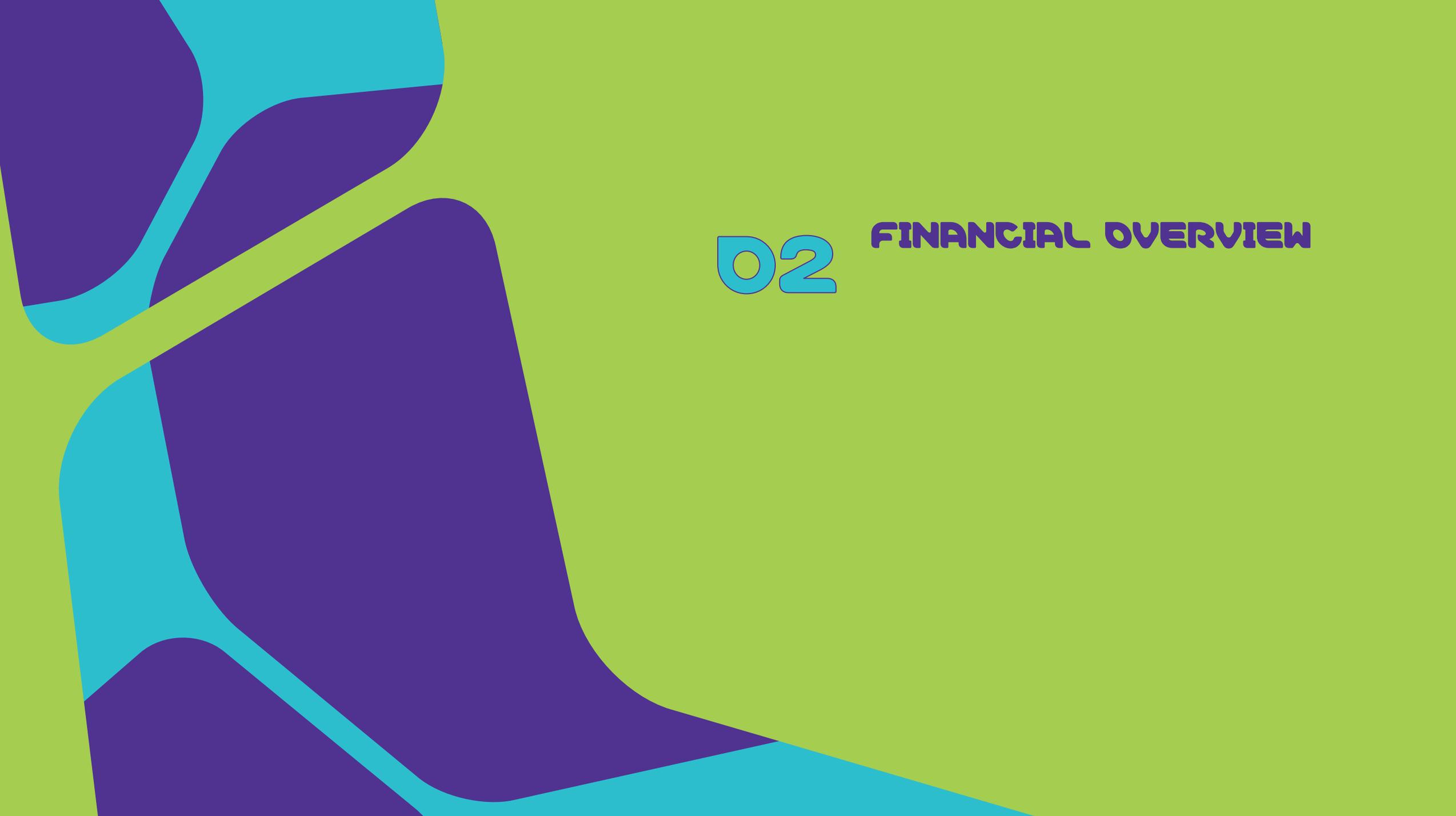
# Organic growth driven by APAC, LATAM and MEA

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



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## FINANCIAL OVERVIEW

## Q2 2017: Overview

### Key figures

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

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

# Reported figures reflect business performance and impairments

## Reported results

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

# 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	<b>-710</b>
Administration	-66	<b>-78</b>
Research and development	-378	<b>-389</b>
EBIT	298	<b>348</b>
EBITDA	558	<b>465</b>
EBITDA pre	557	<b>480</b>
Margin (in % of net sales)	31.8%	<b>26.9%</b>

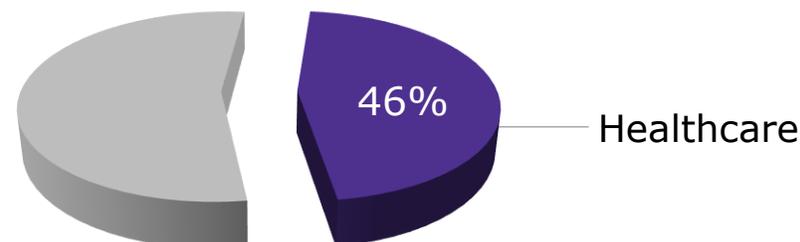
## Net sales bridge



## 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

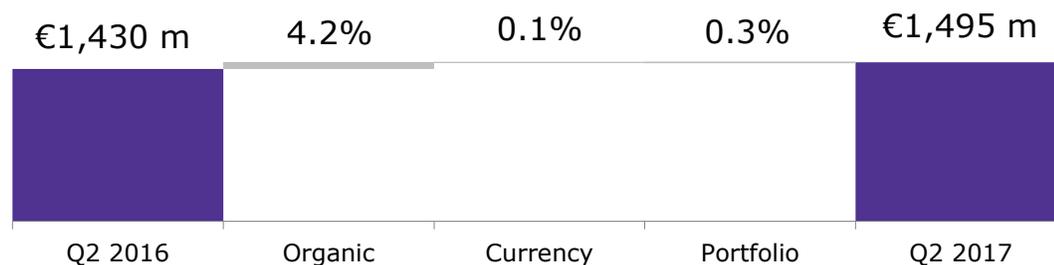


# Life Science: Solid organic growth and synergy realization drive EBITDA pre

## Life Science P&L

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

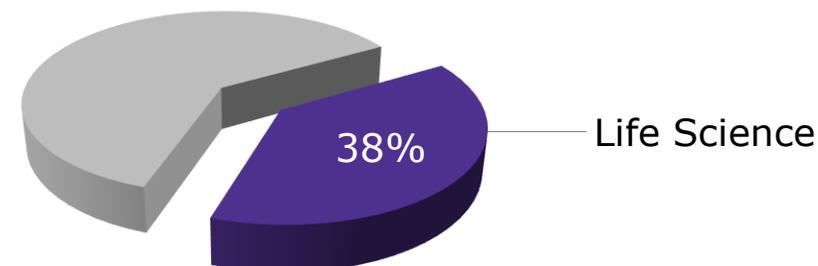
## Net sales bridge



## 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

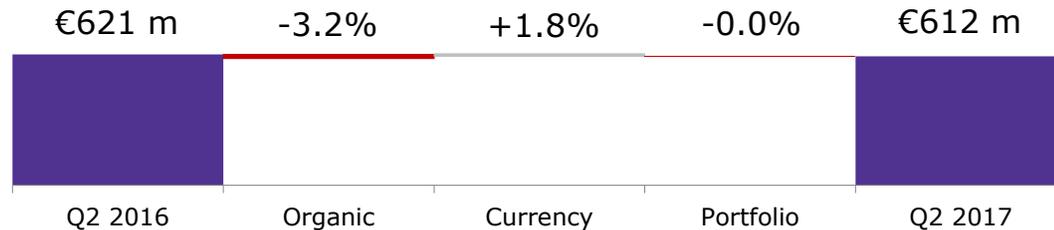


# Performance Materials: Ongoing LC market share normalization burdens profitability

## Performance Materials P&L

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

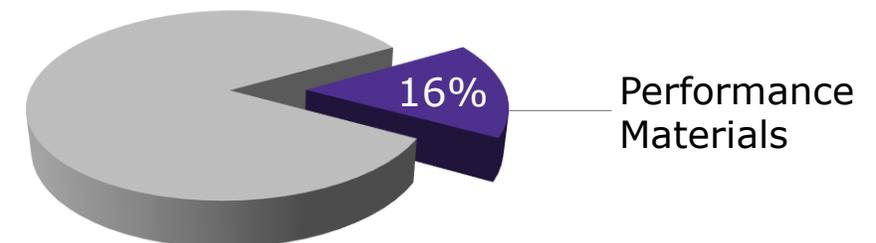
## Net sales bridge



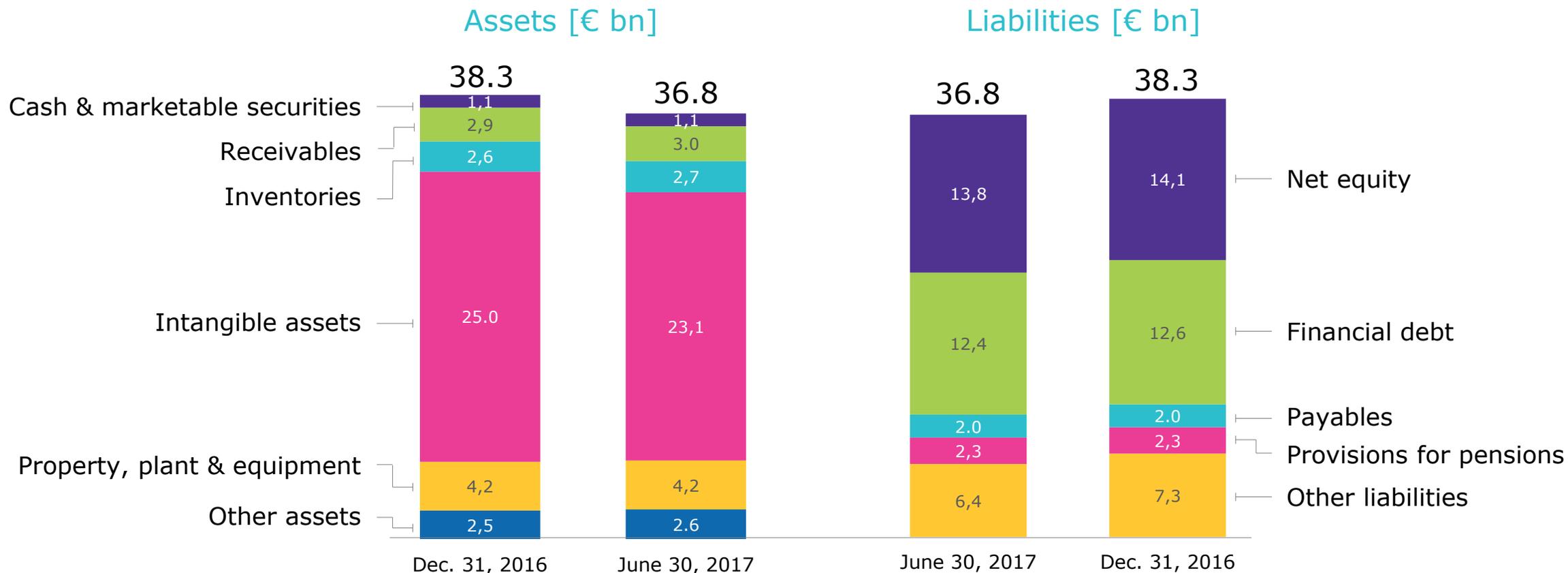
## Comments

- 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



## 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	<b>423</b>	109
D&A	519	<b>380</b>	-139
Changes in provisions	-67	<b>21</b>	88
Changes in other assets/liabilities	-397	<b>-333</b>	64
Other operating activities	-28	<b>-11</b>	17
Changes in working capital	-30	<b>40</b>	70
Operating cash flow	311	<b>520</b>	209
Investing cash flow	-114	<b>-302</b>	-188
thereof Capex on PPE	-125	<b>-172</b>	-47
Financing cash flow	-357	<b>-184</b>	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

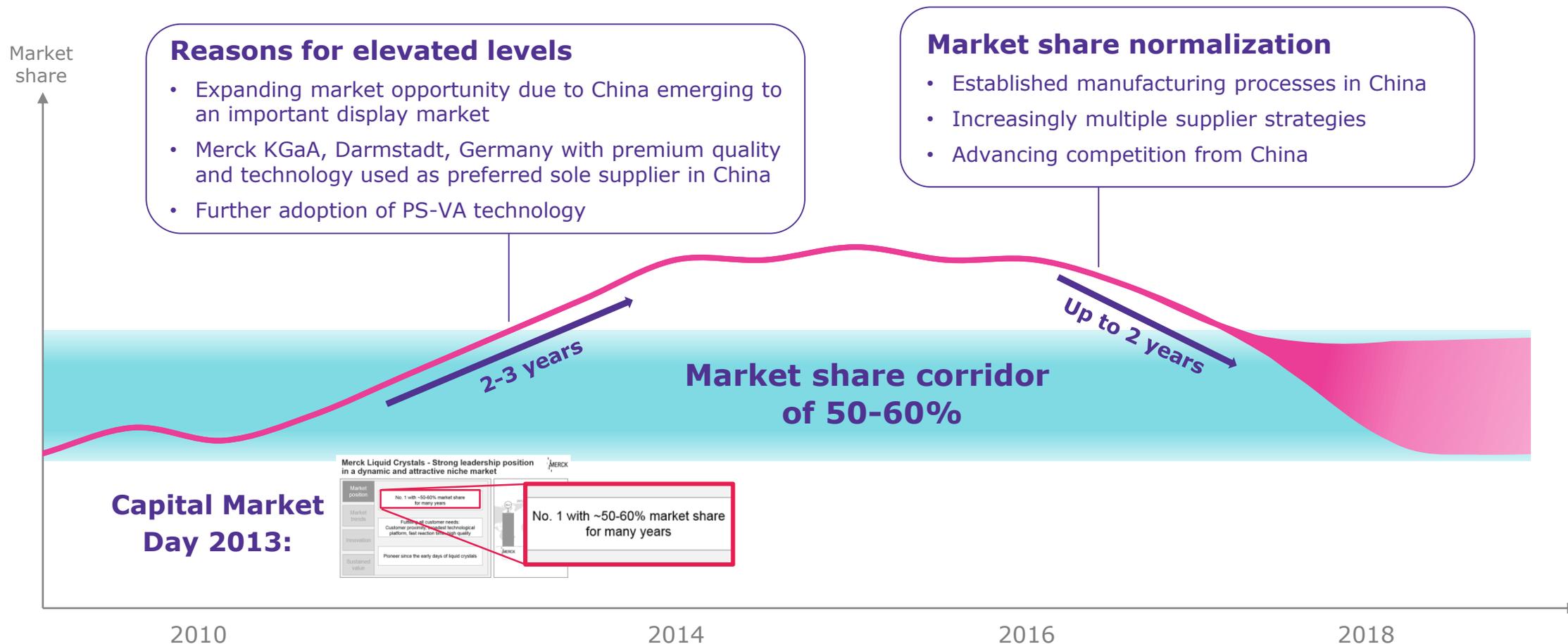


03

**DEEP DIVE:  
PERFORMANCE  
MATERIALS**

# Market shares are returning to normal levels

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



## Market share normalization 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

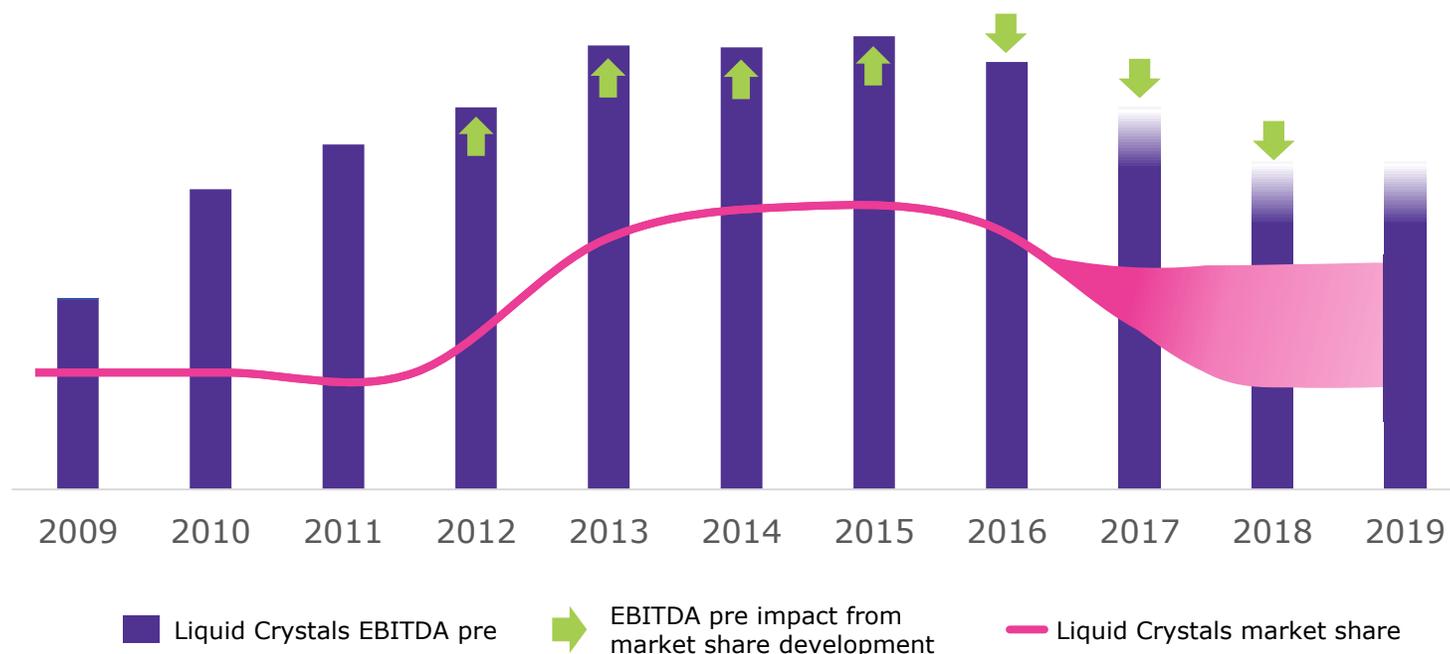
### profitability :

- 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

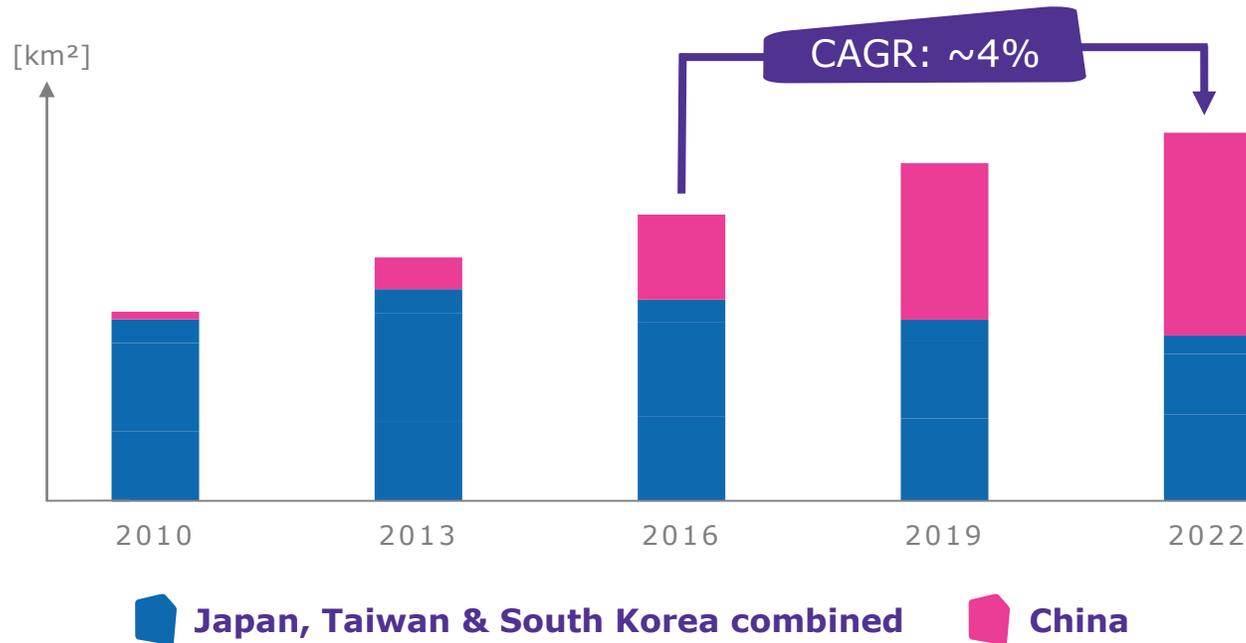
Liquid Crystals: Organic EBITDA pre and market share illustration



**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 [km<sup>2</sup>]\*



## 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

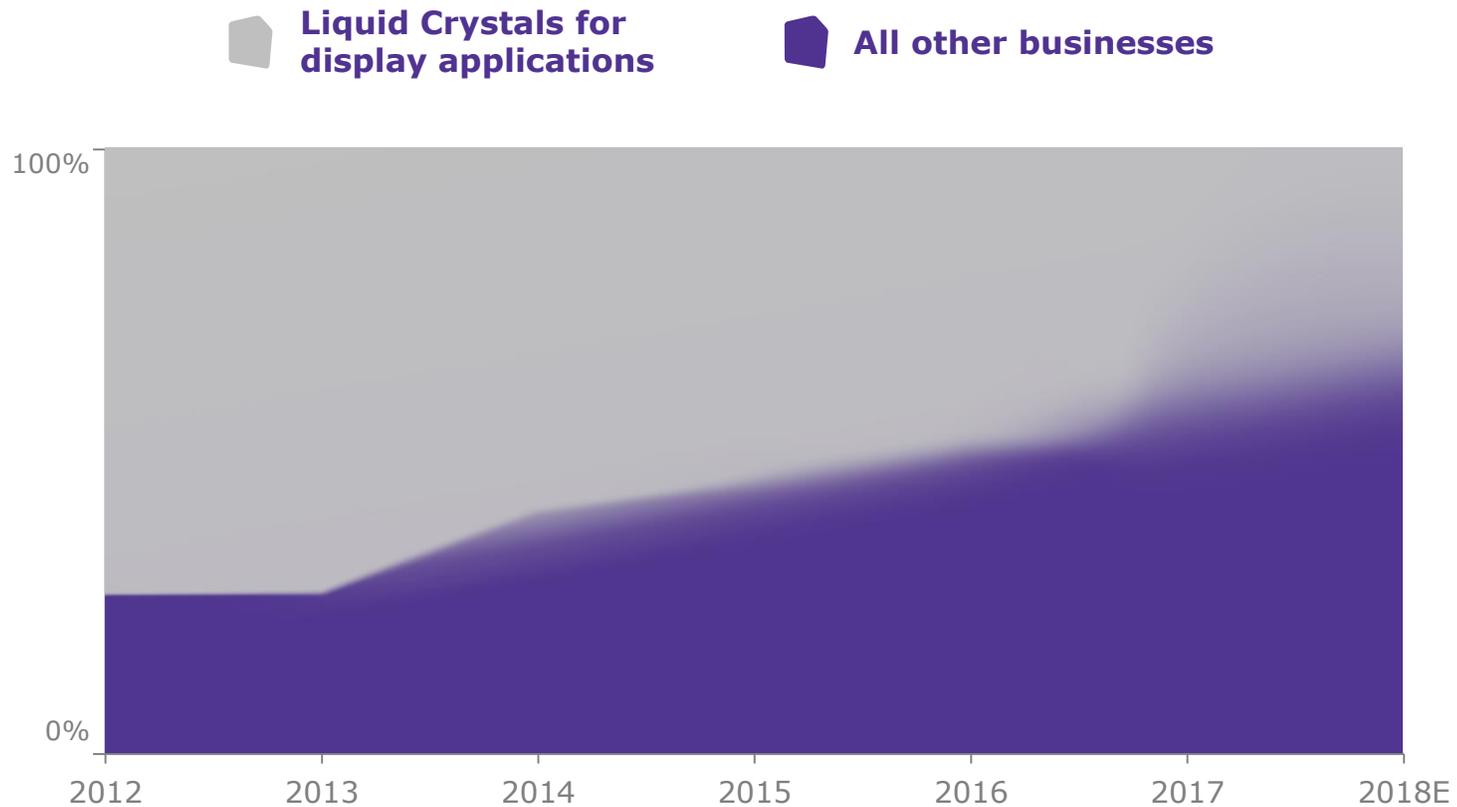
## Leverage Company's competitive advantage

- *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**

# Four-pillar-strategy drives Performance Materials to a higher level of diversification

Sales share of Liquid Crystals for displays versus all other businesses

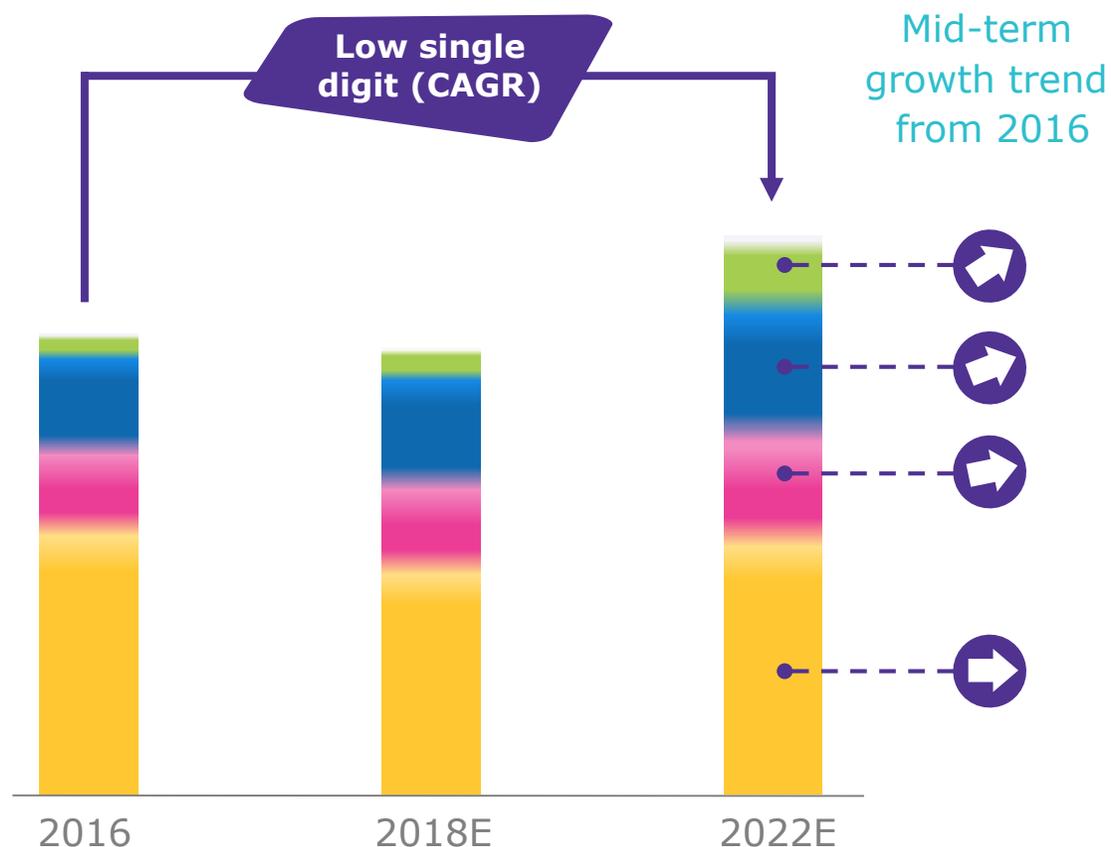


## Diversification of Performance Materials increased due to

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

# Performance Materials 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)

## Executive summary



**Liquid Crystals market shares are returning to historically normal levels**



**Chinese display market will increase importance**



**Profitability will reflect shifting business composition, but will remain industry-leading**



**Performance Materials is set up to create value and generate growth in the future**





04

**GUIDANCE**

## 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 ◀



## 2017 business sector guidance



### Net sales

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

### EBITDA pre

~ €1,900 – 2,000 m



### 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



### 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



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## **APPENDIX**

# Additional financial guidance 2017

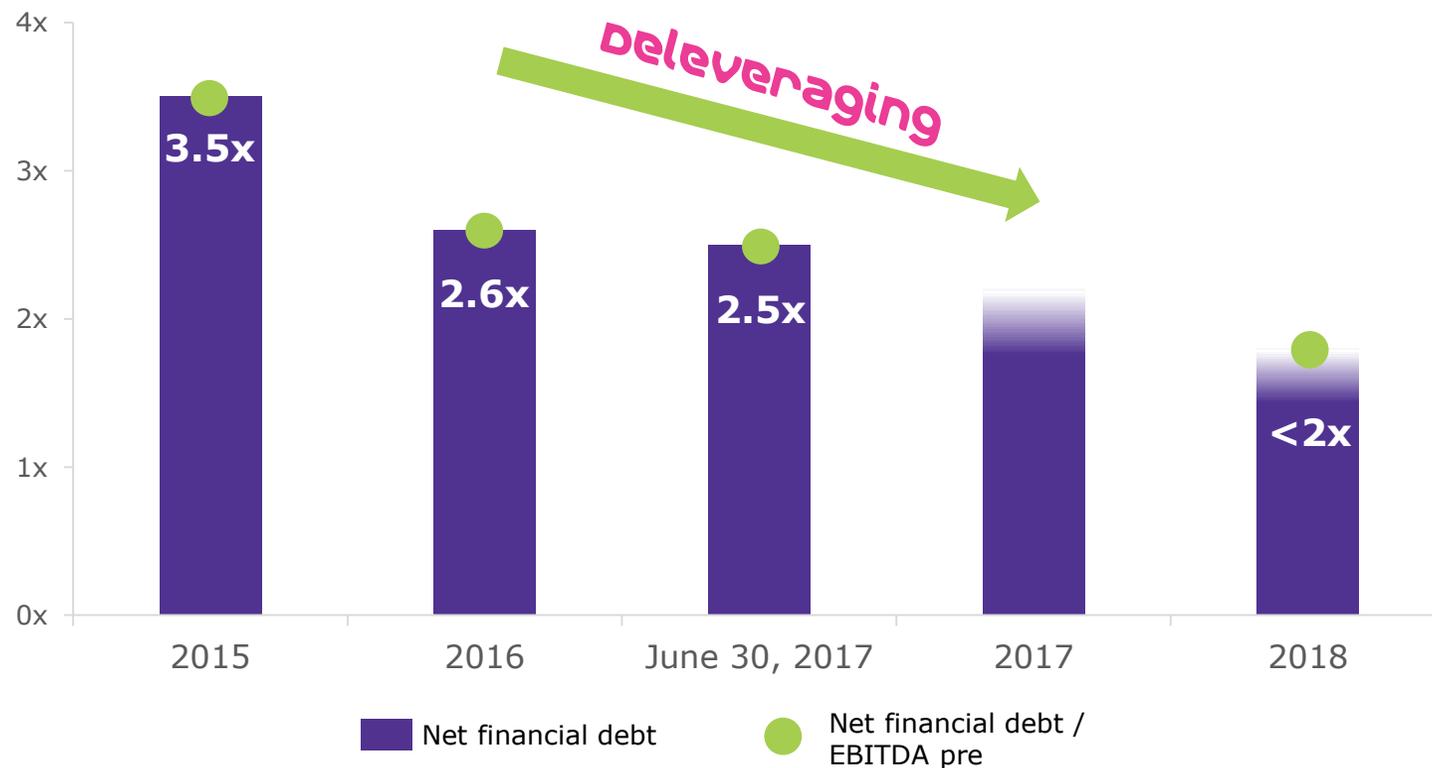
## Further financial details

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	<b>2017 hedge ratio ~60% at EUR/USD ~ 1.11 to 1.13</b>
2017 Ø EUR/USD assumption	~ 1.09 – 1.13

# Strong focus on cash generation to ensure swift deleveraging

## Net financial debt\* and leverage development

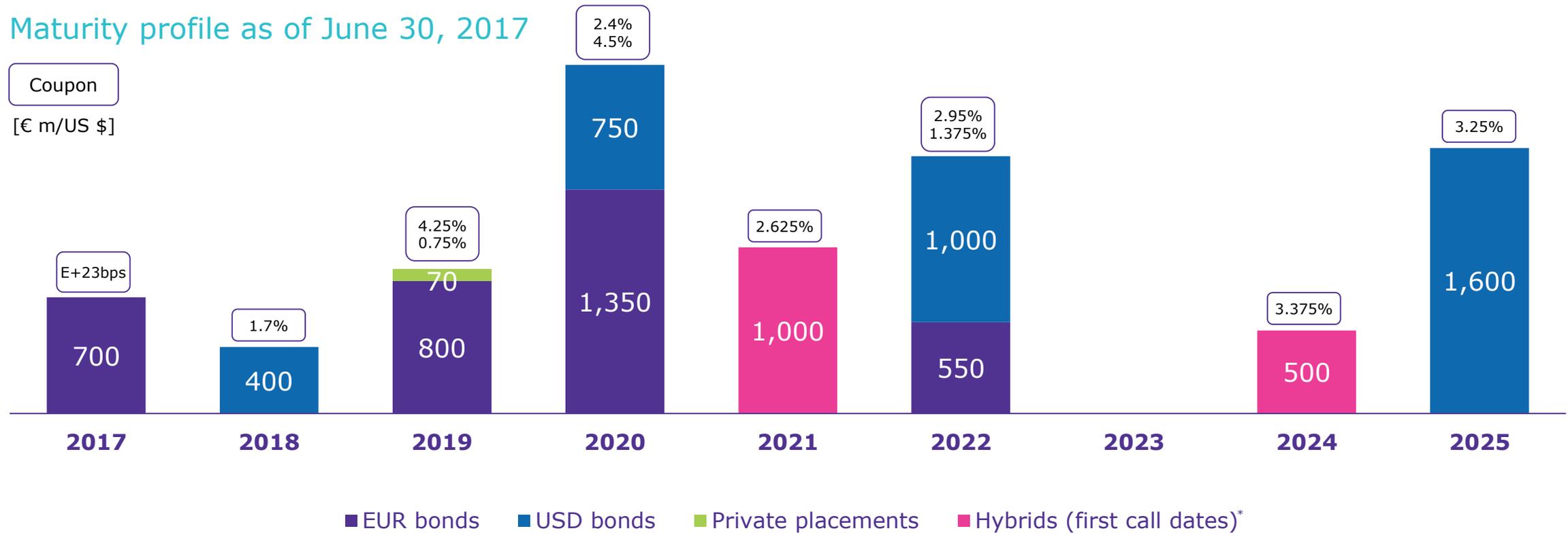
[Net financial debt/  
EBITDA pre]



## 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)

# Well-balanced maturity profile reflects capital market transactions related to Sigma-Aldrich



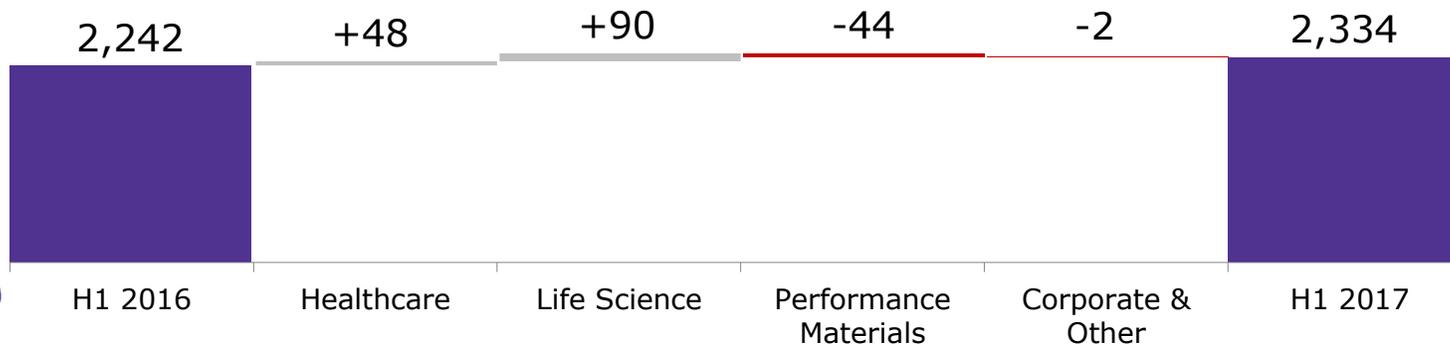
Financing structure enables flexible and swift deleveraging

# Life Science and Healthcare drive growth and profitability

## H1 2017 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	3.5%	1.0%	-1.0%	<b>3.5%</b>
Life Science	3.7%	1.2%	0.3%	<b>5.3%</b>
Performance Materials	-2.0%	3.2%	0.0%	<b>1.1%</b>
Group	2.7%	1.5%	-0.3%	<b>3.8%</b>

## H1 YoY EBITDA pre contributors [€ m]



- Healthcare reflects strong growth in General Medicine, especially Glucophage in China
- Organic performance in Life Science driven by all business units
- Performance Materials organically lower as market share normalization in LC outweighs growth of other businesses
- HC benefits from organic growth, approval milestones and royalty swap (~€100 m) outweighing higher M&S and R&D costs
- Life Science driven by organic growth and ongoing synergy realization
- Performance Materials burdened by negative business mix & usual price declines
- Corporate EBITDA pre contains hedging and investments in corporate initiatives

# H1 2017: Overview

## Key figures

[€m]	H1 2016	H1 2017	Δ
Net sales	7,470	7,752	3.8%
EBITDA pre	2,242	<b>2,334</b>	4.1%
<i>Margin (in % of net sales)</i>	30.0%	30.1%	
EPS pre	3.09	<b>3.34</b>	8.1%
Operating cash flow	663	<b>1,297</b>	95.5%

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

## Comments

- EBITDA pre increase driven by royalty income swap, synergies and organic performance
- EPS pre increases due to higher EBITDA pre and improved financial result
- Strong increase in operating cash flow mainly driven by high tax burden LY
- Net financial debt reflects operating cash flow versus 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

## Reported figures reflect solid business performance amid exceptionals

### Reported results

[€m]	H1 2016	H1 2017	Δ
EBIT	1,399	<b>1,382</b>	-1.2%
Financial result	-190	<b>-142</b>	-25.3%
Profit before tax	1,209	<b>1,241</b>	2.6%
Income tax	-302	<b>-295</b>	-2.5%
<i>Effective tax rate (%)</i>	<i>25.0%</i>	<b><i>23.7%</i></b>	
Net income	903	<b>943</b>	4.4%
EPS (€)	2.08	<b>2.17</b>	4.3%

### Comments

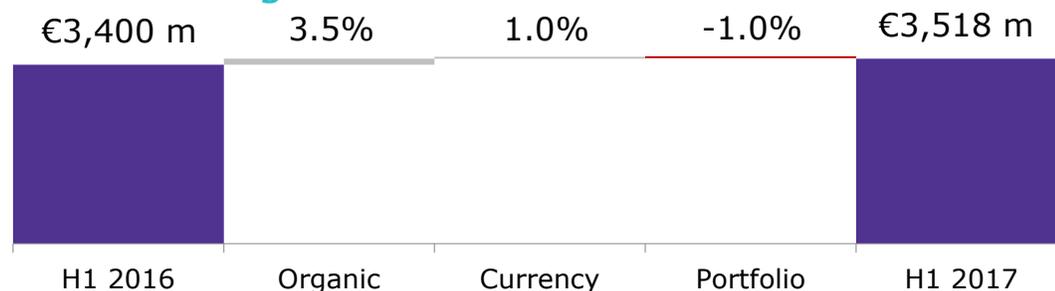
- EBIT reflects increased EBITDA pre and lower integration costs; LY included Kuvan disposal gain
- Improved financial result reflects deleveraging; LY negatively impacted by LTIP\* effect
- Effective tax rate within guidance range of ~23% to 25%

# Healthcare: Royalty swap and milestone payments drive profitability

## Healthcare P&L

[€m]	H1 2016	H1 2017
Net sales	3,400	<b>3,518</b>
Marketing and selling	-1,256	<b>-1,367</b>
Administration	-137	<b>-154</b>
Research and development	-756	<b>-765</b>
EBIT	939	<b>794</b>
EBITDA	1,387	<b>1,095</b>
EBITDA pre	1,065	<b>1,113</b>
Margin (in % of net sales)	31.3%	<b>31.6%</b>

## Net sales bridge

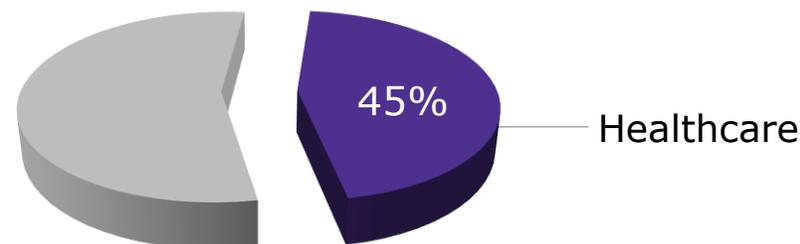


\*Productive Development Partnership  
Totals may not add up due to rounding

## Comments

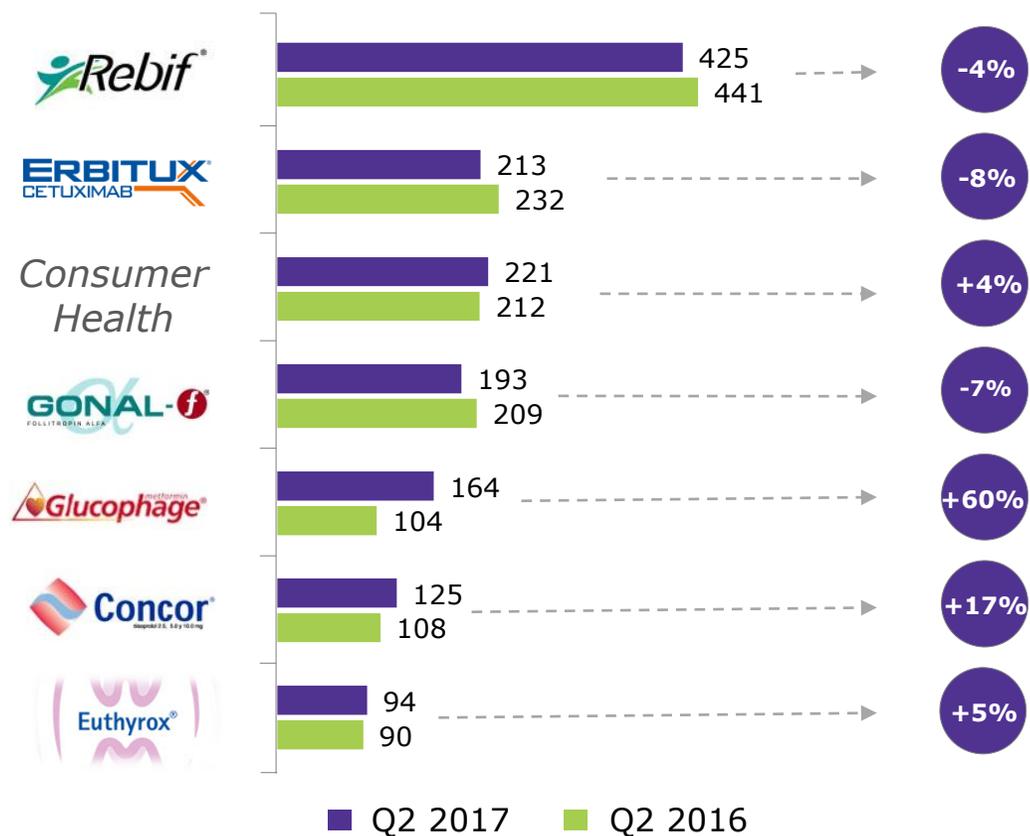
- Rebif still impacted by competition in U.S. & EU, while U.S. pricing and Q2 inventory stocking as well as PDP\* in Brazil support performance
- Erbitux shows slight organic decline - volume increase in growth markets outweighed by competition and price reductions in Europe
- Marketing & selling reflects investments for launches and costs for Glucophage repatriation in China
- R&D spend slightly higher, expected ramp-up in H2
- EBIT reflects Kuvan disposal gain of €324 m in Q1 2016
- Profitability benefits from royalty swap, Bavencio approval milestones and organic performance outweighing investments in M&S and R&D

## H1 2017 share of group net sales

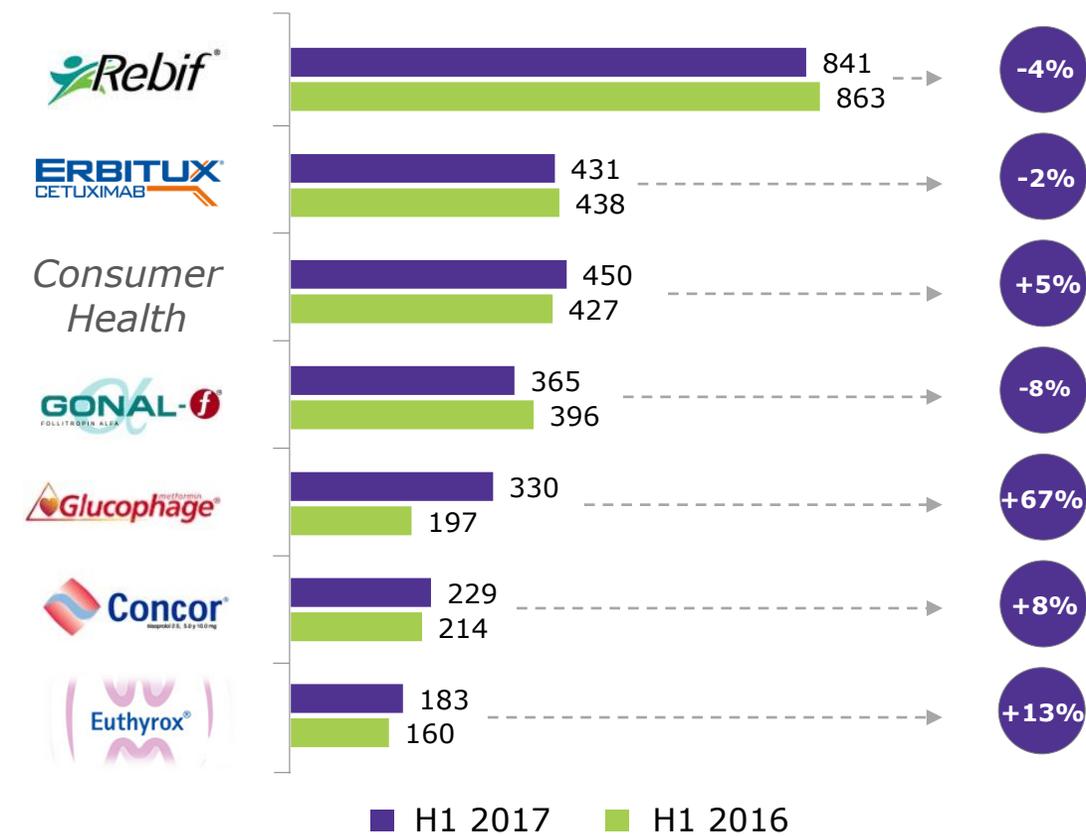


# Healthcare organic growth by franchise/product

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



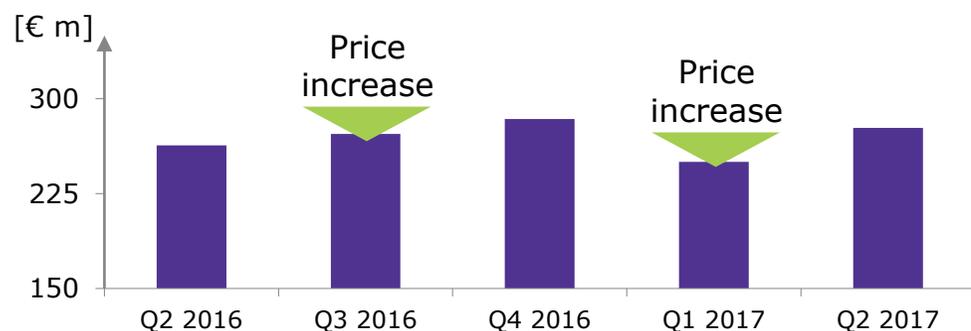
H1 2017 organic sales growth [%]  
by key product [€ m]



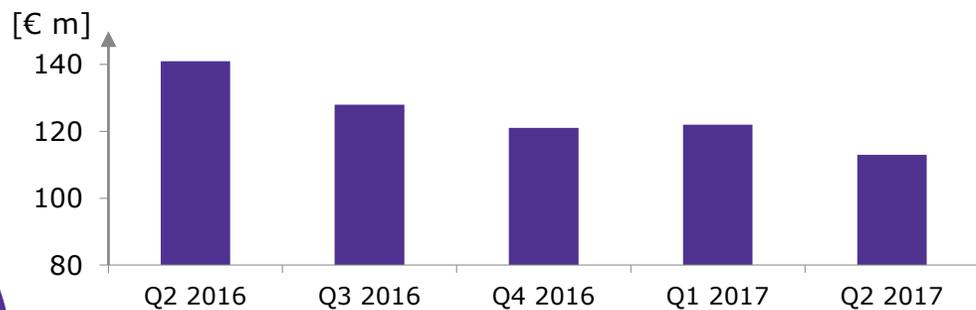
# Rebif: Relief in the U.S. – competitive ramp-up in Europe ongoing

## Rebif sales evolution

### North America



### Europe



### Q2 drivers

4.4% org.

- Price
- Volume
- FX

### Q2 drivers

-18.7% org.

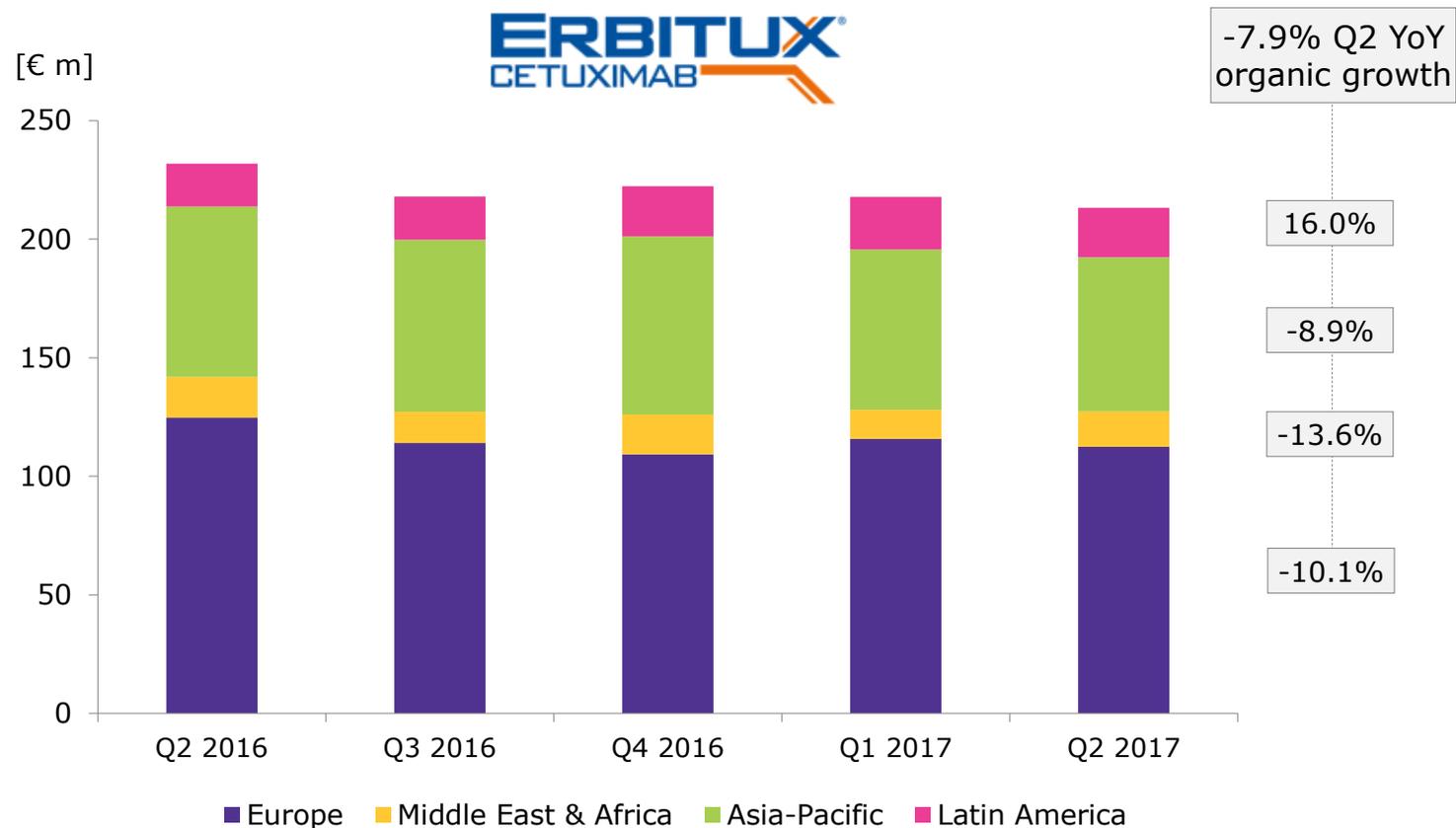
- Price
- Volume

## Q2 2017 Rebif performance

- Rebif sales of €425m 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



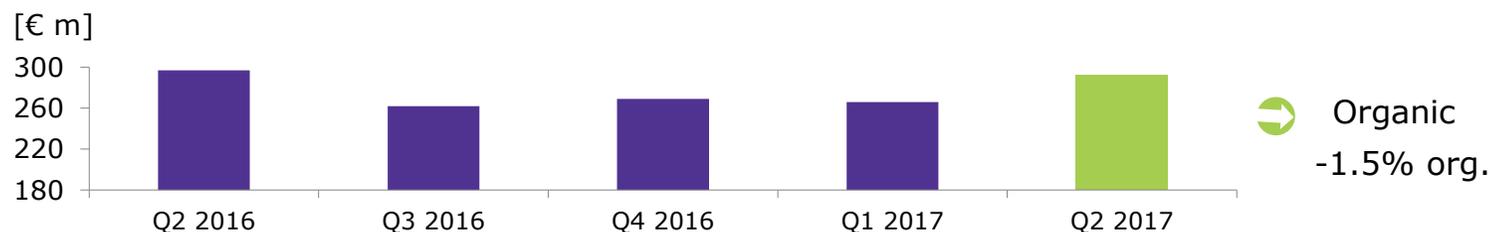
## Q2 2017 Erbitux performance

- 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

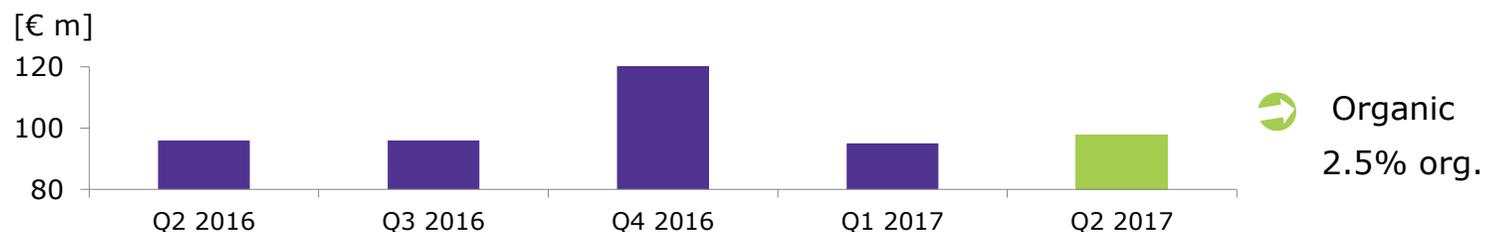
# Strong organic growth of General Medicine driven by all major products

## Sales evolution

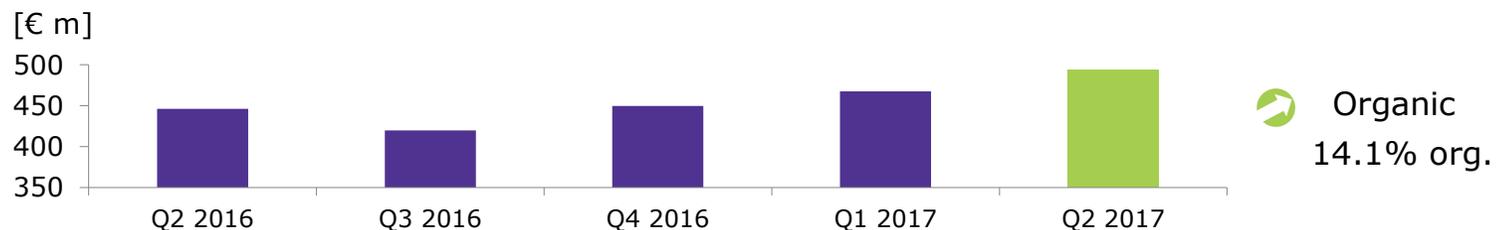
### Fertility



### 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

# Clinical pipeline

## Phase I

**M2698 – p70S6K & Akt inhibitor**  
Solid tumors

**M3814 – DNA-PK inhibitor**  
Solid tumors

**M9831 (VX-984) – DNA-PK inhibitor**  
Solid tumors

**M6620 (VX-970) – ATR inhibitor**  
Solid tumors

**M4344 (VX-803) – ATR inhibitor**  
Solid tumors

**M7583 – BTK inhibitor**  
Hematological malignancies

**Avelumab – Anti-PD-L1 mAb**  
Solid tumors

**Avelumab – Anti-PD-L1 mAb**  
Hematological malignancies

**M9241 (NHS-IL12)<sup>6</sup>**  
**Cancer immunotherapy**  
Solid tumors

**M7824 - anti-PD-L1/TGF-beta trap**  
Solid tumors

**M1095<sup>8</sup> (ALX-0761)**  
**Anti-IL-17 A/F nanobody**  
Psoriasis

## Phase II

**Tepotinib**  
**c-Met kinase inhibitor**  
Non-small cell lung cancer

**Tepotinib**  
**c-Met kinase inhibitor**  
Hepatocellular cancer

**Avelumab – Anti-PD-L1 mAb**  
Merkel cell carcinoma 1L<sup>1</sup>

**Sprifermin**  
**Fibroblast growth factor 18**  
Osteoarthritis

**Atacicept**  
**Anti-Blys/anti-APRIL fusion protein**  
Systemic lupus erythematosus

**Atacicept**  
**Anti-Blys/anti-APRIL fusion protein**  
IgA nephropathy

**Abituzumab**  
**anti-CD 51 mAb**  
Systemic sclerosis with interstitial lung disease

**Evobrutinib**  
**BTK inhibitor**  
Rheumatoid arthritis

**Evobrutinib**  
**BTK inhibitor**  
Systemic lupus erythematosus

**Evobrutinib**  
**BTK inhibitor**  
Multiple sclerosis

## Phase III

**Avelumab – Anti-PD-L1 mAb**  
Non-small cell lung cancer 1L<sup>1</sup>

**Avelumab – Anti-PD-L1 mAb**  
Non-small cell lung cancer 2L<sup>2</sup>

**Avelumab – Anti-PD-L1 mAb**  
Gastric cancer 1L<sup>1M</sup>

**Avelumab – Anti-PD-L1 mAb**  
Gastric cancer 3L<sup>3</sup>

**Avelumab – Anti-PD-L1 mAb**  
Urothelial cancer 1L<sup>1M</sup>

**Avelumab – Anti-PD-L1 mAb**  
Ovarian cancer platinum resistant/refractory

**Avelumab – Anti-PD-L1 mAb**  
Ovarian cancer 1L<sup>1</sup>

**Avelumab - Anti-PD-L1 mAb**  
Renal cell cancer 1L<sup>1</sup>

**Avelumab - Anti-PD-L1 mAb**  
Locally advanced head and neck cancer

**MSB11022<sup>7</sup>**  
**Proposed biosimilar of Adalimumab**  
Chronic plaque psoriasis

## Registration

**Cladribine<sup>4</sup> Tablets –**  
**Lymphocyte targeting agent**  
Relapsing-remitting multiple sclerosis

**Avelumab<sup>5</sup> – Anti-PD-L1 mAb**  
Merkel cell carcinoma

- Neurology
- Oncology
- Immunology
- Immuno-Oncology
- Biosimilars

Pipeline as of July 28<sup>th</sup>, 2017

Pipeline products are under clinical investigation and have not been proven to be safe and effective. There is no guarantee any product will be approved in the sought-after indication.

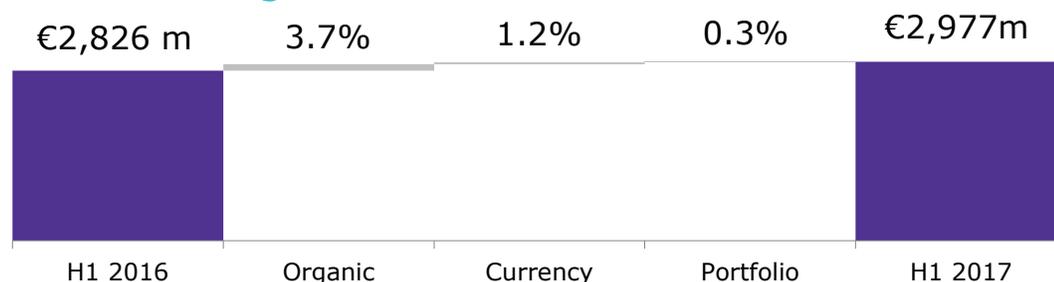
<sup>1</sup> 1st line treatment; <sup>1M</sup> First Line maintenance treatment; <sup>2</sup> 2nd line treatment; <sup>3</sup> 3rd line treatment; <sup>4</sup> European Medicines Agency (EMA) accepted Marketing Authorization Application (MAA) from Merck KGaA, Darmstadt, Germany in July 2016; <sup>5</sup> EMA accepted MMA from Merck KGaA, Darmstadt, Germany in July 2016 and on March 23, 2017, the US FDA has approved avelumab for the treatment of adults and pediatric patients 12 years and older; <sup>6</sup> Sponsored by the National Cancer Institute (USA); <sup>7</sup> On April 24, 2017 Merck KGaA, Darmstadt, Germany announced the divestment of its Biosimilars business to Fresenius, closing is expected in H2 2017, subject to regulatory approvals and other conditions; <sup>8</sup> As announced on March 30, 2017 in a agreement with Avillion, anti-IL-17 A/F nanobody will be developed by Avillion for plaque psoriasis and commercialized by Merck KGaA, Darmstadt, Germany

# Life Science: Ongoing synergy realization drives margin progression

## Life Science P&L

[€m]	H1 2016	H1 2017
Net sales	2,826	<b>2,977</b>
Marketing and selling	-833	<b>-891</b>
Administration	-121	<b>-135</b>
Research and development	-126	<b>-129</b>
EBIT	271	<b>457</b>
EBITDA	627	<b>841</b>
EBITDA pre	810	<b>900</b>
Margin (in % of net sales)	28.6%	<b>30.2%</b>

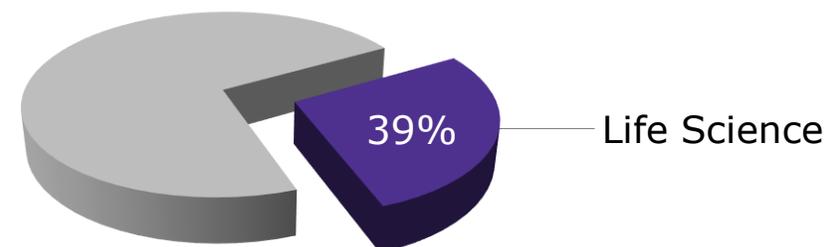
## Net sales bridge



## Comments

- Process Solutions benefits from robust demand for single-use, services & virus removal, against tough comps & soft start at some larger accounts
- Applied Solutions shows solid organic growth, fueled by robust demand for food & beverage and analytical testing as well as lab water platform
- Research Solutions posts slight organic growth driven by China across portfolio and offsetting soft academia market in the U.S. and Europe
- Marketing & selling increase in line with sales progression
- H1 2016 EBIT affected by inventory step-up for Sigma-Aldrich
- Profitability reflects ongoing synergy realization and organic growth

## H1 2017 share of group net sales

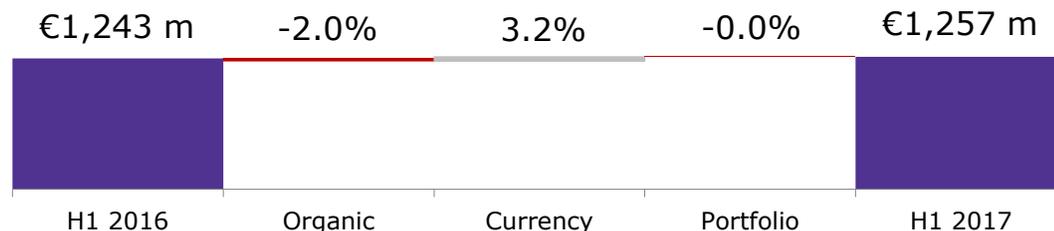


# Performance Materials: Liquid Crystals sales decline burdens profitability

## Performance Materials P&L

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

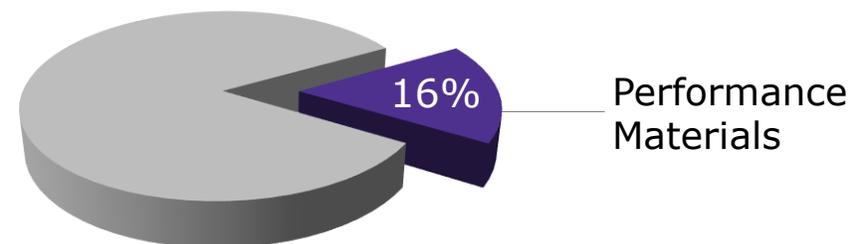
## Net sales bridge



## 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



# Healthy operating cash flow reflects royalty swap and tax effects

## H1 2016 – cash flow statement

[€m]	H1 2016	H1 2017	Δ
Profit after tax	907	<b>946</b>	39
D&A	952	<b>828</b>	-124
Changes in provisions	-46	<b>72</b>	118
Changes in other assets/liabilities	-431	<b>-200</b>	231
Other operating activities	-422	<b>-22</b>	400
Changes in working capital	-296	<b>-328</b>	-34
Operating cash flow	663	<b>1,297</b>	634
Investing cash flow	170	<b>-704</b>	-874
thereof Capex on PPE	-285	<b>-372</b>	-87
Financing cash flow	-930	<b>-474</b>	456

## Cash flow drivers

- LY profit after tax includes gain from Kuvan disposal, which is neutralized in other operating activities
- D&A reduction reflects write-up of Vevey site (~ -€70 m) and Xalkori impairment (~ €70 m) LY
- Changes in other assets/liabilities driven by positive tax effects
- Investing cash flow contains Vertex and F-star licensing deals as well as increased Capex; LY included Kuvan disposal
- Financing cash flow reflects repayment of USD250 m bond in Q1 2017; 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

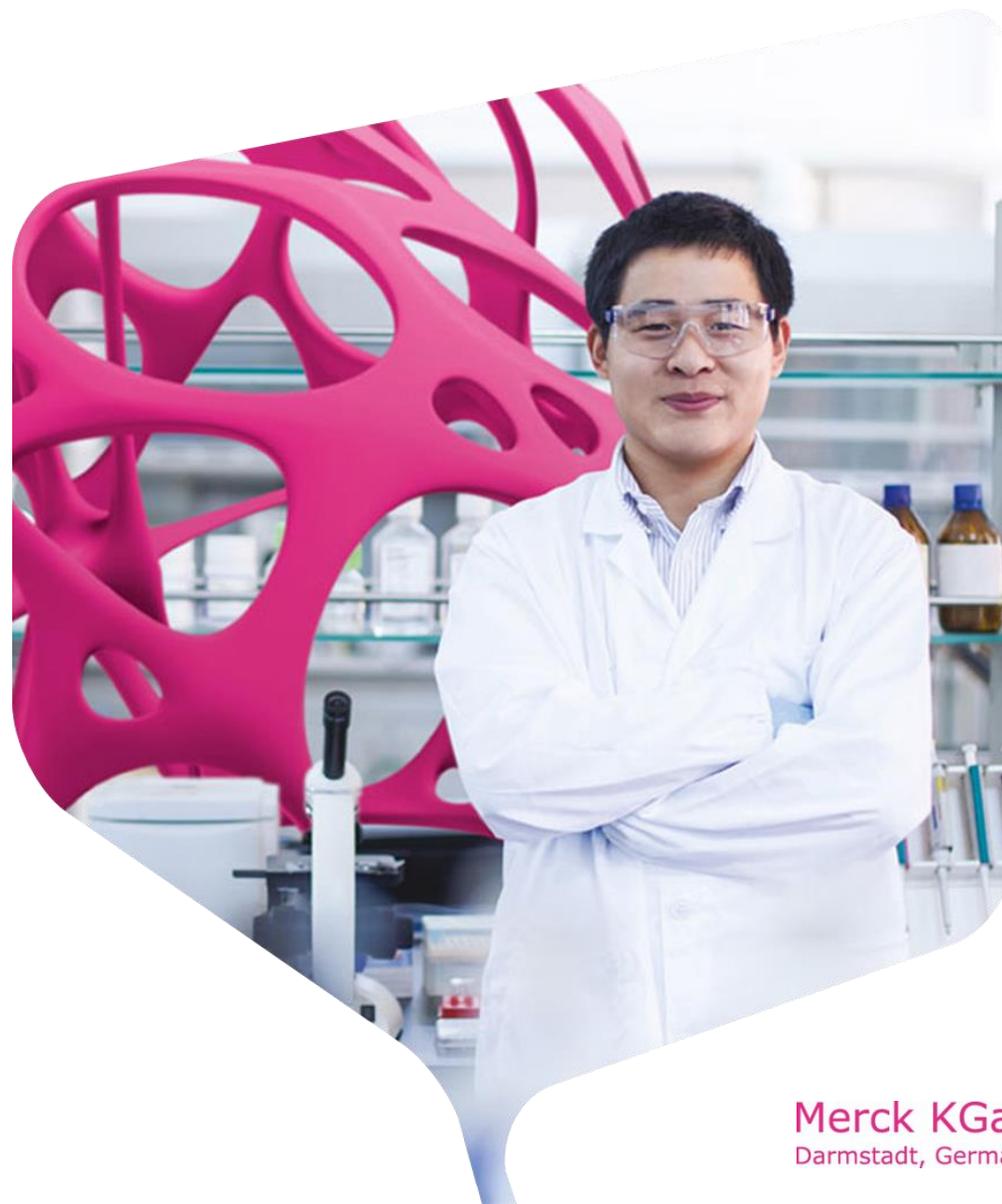
# Exceptionals in H1 2017

## Exceptionals in EBIT

[€m]	H1 2016		H1 2017	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	-251	71	-49	-67
Life Science	183	0	62	3
Performance Materials	13	0	23	7
Corporate & Other	17	0	31	0
Total	-38	71	66	-57

## 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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