

# A YEAR OF INVESTMENTS AND DELIVERY ON GUIDANCE

**Merck KGaA, Darmstadt, Germany FY 2018 results**

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# Agenda

- 01** Executive summary
- 02** Strategic review
- 03** Financial overview
- 04** Outlook and guidance



# 01 EXECUTIVE SUMMARY

## 2018 Highlights

### Operations

- ▶ Healthcare – Solid organic growth of 5.2% driven by resilient core business with 3% organic growth and significant contribution of €160 m from Mavenclad<sup>®</sup> and Bavencio<sup>®</sup>
- ▶ Life Science – Above-market sales performance across all businesses
- ▶ Performance Materials – Positive organic growth due to strong demand for Semiconductor Solutions and OLED offsetting Liquid Crystals decline

### Financials

- ▶ Full-year organic sales growth of +6.1%; full-year organic EBITDA pre decline of -1.6%
- ▶ Delivered on guidance
- ▶ Deleveraging target of <2x net debt to EBITDA pre achieved – 1.8x as of Dec. 31. 2018

## Guidance delivered

2018 guidance

2018 results

net sales

€14.4 – 14.8 bn

€14.8 bn



EBITDA pre

€3,700 – 3,900 m

€3,800 m



EPS pre

€5.00 – 5.30

€5.10



net financial debt /  
EBITDA pre

<2x

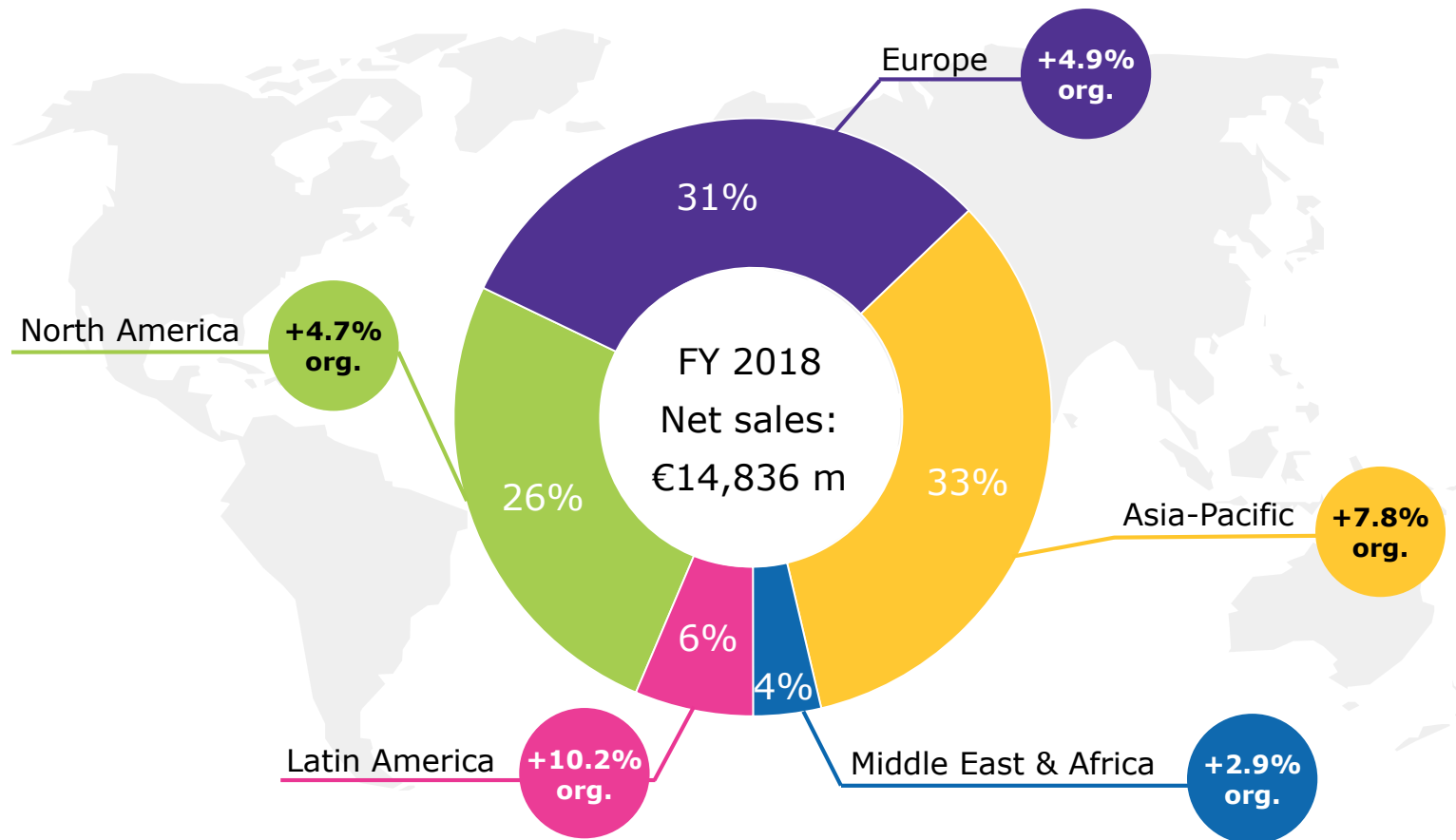
1.8x





# Organic growth in all regions

## Regional breakdown of net sales [€ m]

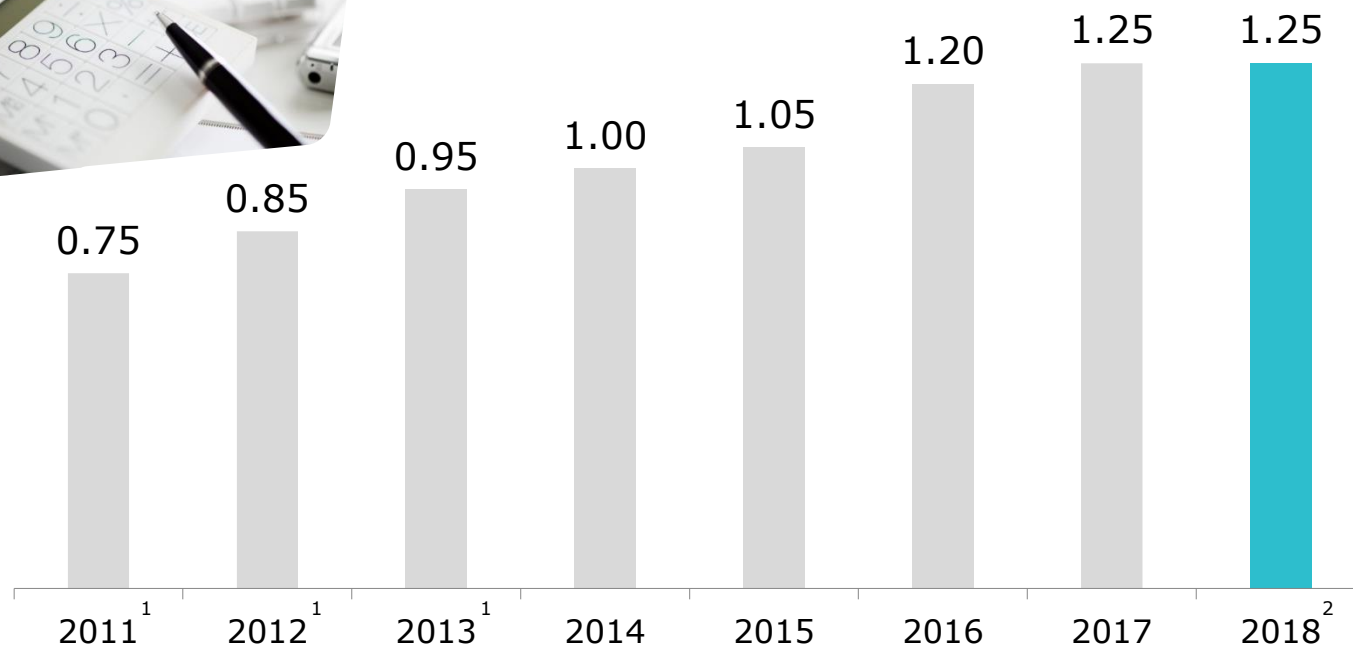


## Regional organic development

- Solid growth in Europe reflects ongoing strong demand in Life Science; Strong Mavenclad<sup>®</sup> ramp-up offsets Rebif<sup>®</sup> decline
- Solid growth in North America due to strong Life Science; Fertility and Bavencio<sup>®</sup> offsetting ongoing decline of Rebif<sup>®</sup>
- APAC shows strong growth fueled by double-digit growth of Life Science, Fertility and Glucophage<sup>®</sup>; Semiconductor Solutions and OLED more than offset LC decline
- Double-digit growth in LATAM reflects strong demand in Life Science and Healthcare's core business
- Middle East and Africa driven by ongoing solid demand for Fertility and Glucophage<sup>®</sup>

# Stable dividend amid lower EPS pre

## Dividend<sup>1</sup> development 2011-2018



## 2018 dividend

- Dividend of €1.25 per share proposed<sup>2</sup> for 2018
- Increase in payout ratio to 24.5% of EPS pre in 2018 vs. 20.3% in 2017<sup>3</sup>
- Dividend yield<sup>4</sup> of 1.4%

<sup>1</sup>Adjusted for share split, which has been effective since June 30, 2014; <sup>2</sup>Final decision is subject to Annual General Meeting approval;

<sup>3</sup>Calculated with 2017 EPS pre of € 6.16, while ex CH EPS pre € 5.92 posts 21.1% payout ratio; <sup>4</sup>Calculated with 2018 year-end share price of € 89.98 per share



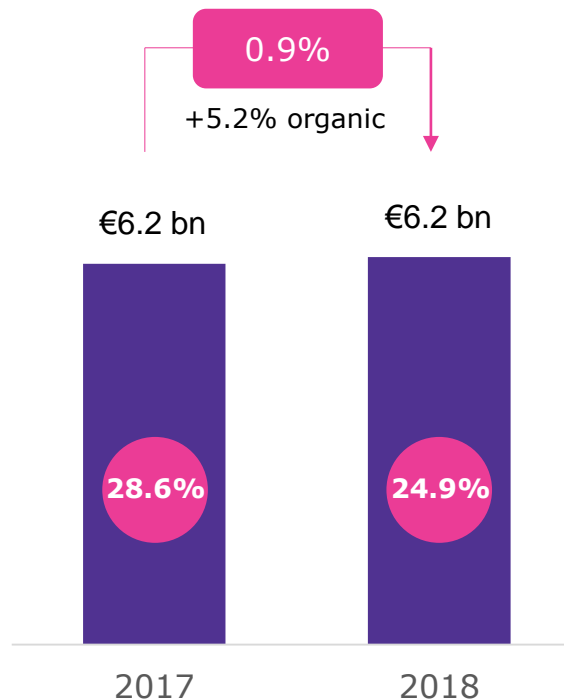
## 02 STRATEGIC REVIEW

# Healthcare – Solid organic growth of 5.2% with contribution of €160 m from Mavenclad<sup>®</sup> and Bavencio<sup>®</sup>

## Business performance

- Solid organic net sales growth with an average growth rate of 5.2%
- Strong Mavenclad<sup>®</sup> and Bavencio<sup>®</sup> performance (net sales FY2018: €160 m)
- EBITDA pre reflects significant FX headwinds, R&D investments and lower non-recurring income
- Merck KGaA, Darmstadt, Germany successfully divested Consumer Health for a cash purchase price of €3.4 bn
- Strategic partnership with GSK – M7824

## sales and EBITDA pre Margin



## Pipeline

- **Mavenclad:**
  - Mavenclad U.S. submission accepted (FDA feedback expected in H1 2019)
  - Approved in approx. 50 countries
- **Evobrutinib:**
  - Positive late-breaking Phase II data presented at ECTRIMS
- **M7824 (Bintrafusp alfa):**
  - Granted Orphan Drug Designation by FDA and EMA
- **Bavencio:**
  - FDA filing accepted and priority review granted for renal cell carcinoma
- **Tepotinib:**
  - Granted Sakigake status<sup>1</sup> in Japan

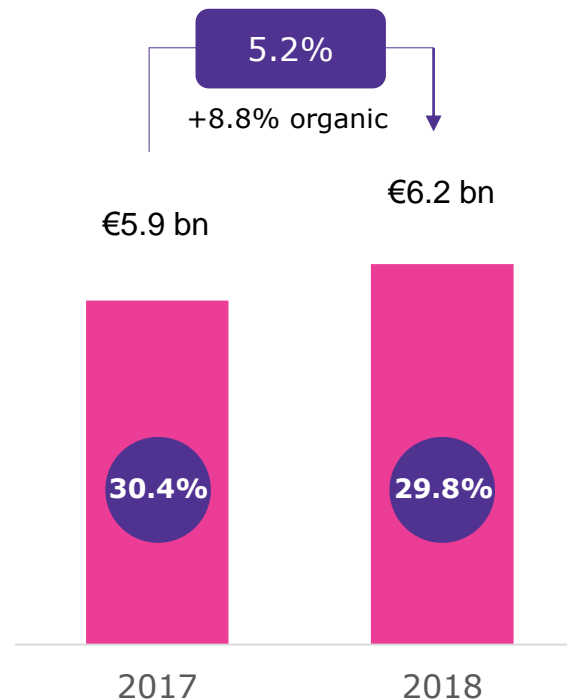
<sup>1</sup>SAKIGAKE designation is granted by the Japanese Ministry of Health, Labour and Welfare and can reduce a drug's review period down from 12 months to a target of 6 months.

# Life Science: Above-market performance during final year of incremental synergy realization

## Business performance

- Above-market growth in Life Science driven by strong organic development across all businesses
- Sigma integration successfully completed with full realization of synergies (~€280 m total)
- EBITDA pre reflects strong top-line growth, offset by investments in eCommerce, strategic initiatives and FX headwinds

## sales and EBITDA pre Margin



## Innovations

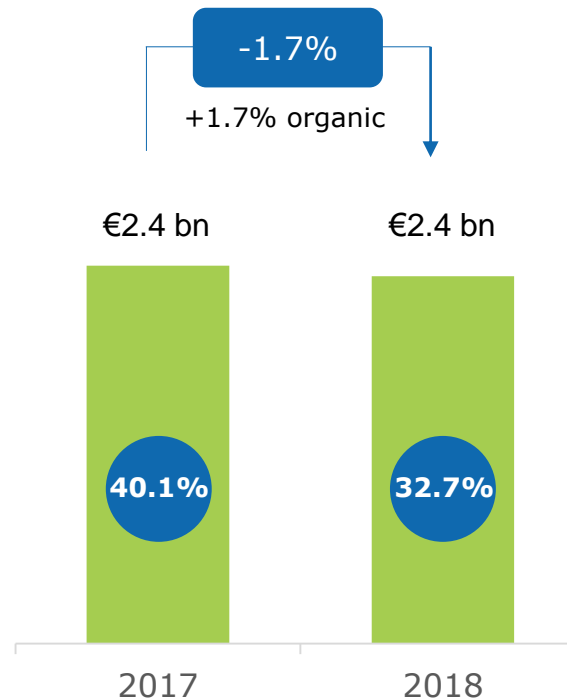
- New Lab water Milli-Q<sup>®</sup> IQ<sup>1</sup> water purification system offering ultrapure water supply within an integrated device ecosystem
- Merck KGaA, Darmstadt, Germany launches BioContinuum<sup>™</sup> platform for next-generation process improvements
- Viresolve<sup>®</sup> barrier capsule filters introduced to protect against bioreactor contamination
- Patent approval for CRISPR technology in China, Australia, South Korea, Israel and U.S.

# Performance Materials: New strategy defined and business successfully repositioned

## Business performance

- Semiconductor with strong momentum in 2018
- OLED with double-digit growth driven by increasing demand in China
- LC temporarily benefiting from panel ramp-up effect in China in H2 2018
- EBITDA pre driven by negative business mix, ongoing LC decline and FX headwinds

## sales and EBITDA pre Margin



## Structure

- Strategic recalibration in 2018 including a five-year transformation program – “Bright Future” – to drive long-term performance
- New R&D framework established to ensure higher R&D efficiency
- Inauguration of new OLED Technology Center in Shanghai and agreement on Innovation Hub in Guangzhou signed
- LC windows: Commercial launch of new solar shading product eyrise™ s350 at Glasstec 2018 with first sales



## 03 FINANCIAL OVERVIEW

# FY 2018 Financials: Overview

## Key figures

[€m]	FY 2017	FY 2018	Δ
Net sales	14,517	<b>14,836</b>	2.2%
EBITDA pre	4,246	<b>3,800</b>	-10.5%
Margin (in % of net sales)	29.3%	25.6%	
EPS pre	5.92	<b>5.10</b>	-13.9%
Operating cash flow	2,696	<b>2,219</b>	-17.7%

[€m]	Dec. 31, 2017	Dec. 31, 2018	Δ
Net financial debt	10,144	<b>6,701</b>	-33.9%
Working capital	3,387	<b>3,486</b>	2.9%
Employees <sup>2</sup>	52,941	<b>51,749</b>	-2.2%

## Comments

- EBITDA pre and margin reduction driven by FX effects, PM decline, investments in HC and LS, LTIP<sup>1</sup> costs and last year non-recurring income in HC
- Lower EPS pre in line with EBITDA pre decline
- Lower operating cash flow reflects declining profitability of PM as well as investments in Healthcare
- Reduced net financial debt reflects strong focus on deleveraging and proceeds from Consumer Health disposal
- Working capital increase driven by higher volume growth

<sup>1</sup>LTIP = Long Term Incentive Plan; <sup>2</sup>2017 employees number includes CH Headcount ~3.400; Totals may not add up due to rounding



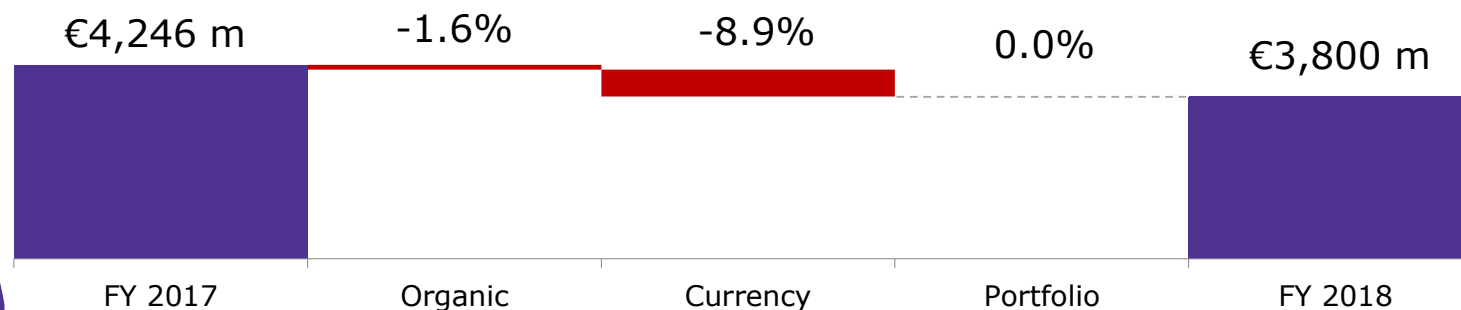
# All business segments drive organic growth overcompensating FX headwinds

## FY 2018 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	5.2%	-4.3%	0.0%	<b>0.9%</b>
Life Science	8.8%	-3.6%	0.0%	<b>5.2%</b>
Performance Materials	1.7%	-3.4%	0.0%	<b>-1.7%</b>
Group	6.1%	-3.9%	0.0%	<b>2.2%</b>

- Solid organic growth in Healthcare reflects increasing contribution of Mavenclad<sup>®</sup> and Bavencio<sup>®</sup> and solidly growing core business
- Life Science posts above-market growth driven by all business segments
- Growth in Performance Materials due to strong Semiconductor and OLED; LC down despite benefit from plant ramp-up projects in China

## FY 2018 YoY EBITDA pre



- Organic decline of EBITDA pre driven by LS strategic investments, PM business mix and Healthcare's LY non-recurring income
- Currency effects (~€380 m) mainly related to EUR/USD development, strong depreciation of LATAM currencies and negative hedging result from Q1 onwards

# Reported figures

## Reported results

[€m]	FY 2017	FY 2018	Δ
EBIT	2,423	<b>1,727</b>	-28.7%
Financial result	-294	<b>-266</b>	-9.6%
Profit before tax	2,129	<b>1,461</b>	-31.4%
Income tax	428	<b>-368</b>	n.m.
<i>Effective tax rate (%)</i>	<i>-20.1%</i>	<b>25.2%</b>	
Net income *	2,605	<b>3,374</b>	29.5%
EPS (€) *	5.99	<b>7.76</b>	29.5%

## Comments

- Lower EBIT reflects FX headwinds, negative business mix in PM; LY EBIT driven by non-recurring income in HC, Biosimilars disposal gain (~ €319 m) and write-up of Vevey site (~ €70 m)
- Improved financial result due to tax effects and deleveraging
- Profit before tax in line with EBIT decrease
- Last year effective tax rate reflects revaluation of deferred tax liabilities due to U.S. tax reform
- Effective tax rate within guidance range of ~24-26%
- Increased net income and EPS reflects Consumer Health disposal

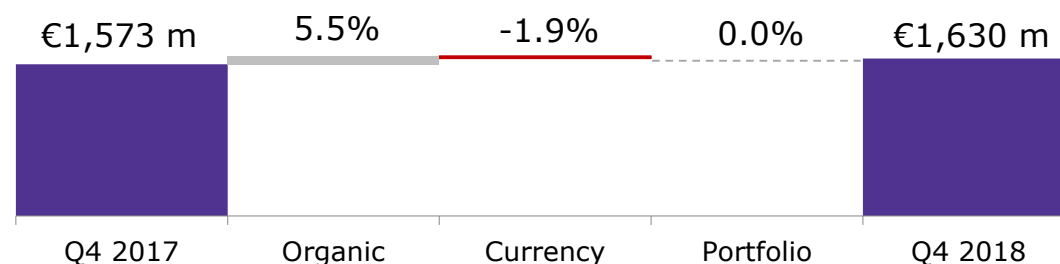
\*From continuing and discontinued operations; Totals may not add up due to rounding

# Healthcare: Profitability driven by active portfolio development and strong topline

## Healthcare P&L

[€m]	Q4 2017	Q4 2018
Net sales	1,573	<b>1,630</b>
Marketing and selling	-606	<b>-625</b>
Administration	-68	<b>-76</b>
Research and development	-434	<b>-492</b>
EBIT	70	<b>190</b>
EBITDA	300	<b>403</b>
EBITDA pre	339	<b>414</b>
Margin (in % of net sales)	21.6%	<b>25.4%</b>

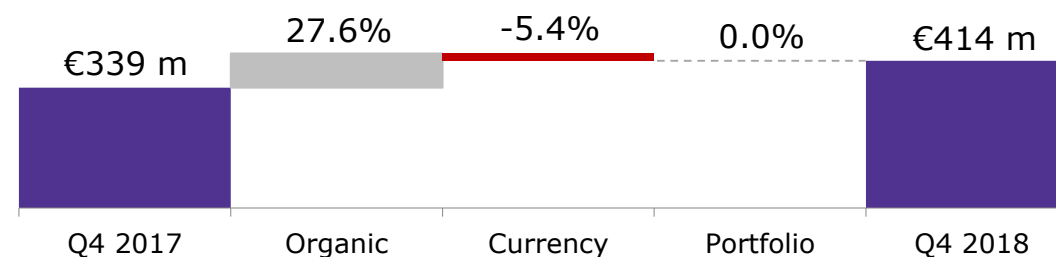
## Net sales bridge



## Comments

- Solid organic top-line due to double-digit growth of Fertility, Glucophage<sup>®</sup> and Concor<sup>®</sup>; Mavenclad<sup>®</sup> and Bavencio<sup>®</sup> strong
- Increasing contribution from Mavenclad<sup>®</sup> almost offsets ongoing decline of Rebif<sup>®</sup> from competition in U.S. and Europe
- Erbitux<sup>®</sup> with slight organic decrease reflecting ongoing competition and price pressure in major markets mitigated by volume growth in China
- Increased marketing and selling driven by launch preparation for potential Mavenclad<sup>®</sup> approval in U.S.
- R&D investments consistent with pipeline progress
- EBITDA pre reflects active portfolio development (~€110 m), strong top-line contribution partially offset by R&D and M&S investments as well as FX headwinds

## EBITDA pre bridge

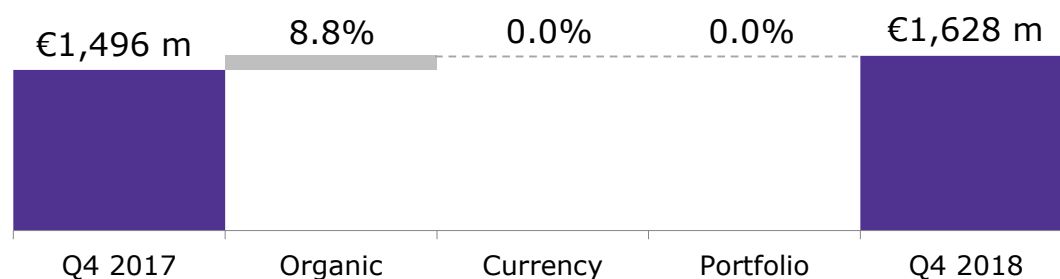


# Life Science: Strong organic growth while strategic initiatives weigh on profitability

## Life Science P&L

[€m]	Q4 2017	Q4 2018
Net sales	1,496	<b>1,628</b>
Marketing and selling	-431	<b>-473</b>
Administration	-66	<b>-83</b>
Research and development	-52	<b>-70</b>
EBIT	156	<b>232</b>
EBITDA	338	<b>422</b>
EBITDA pre	461	<b>474</b>
Margin (in % of net sales)	30.8%	<b>29.1%</b>

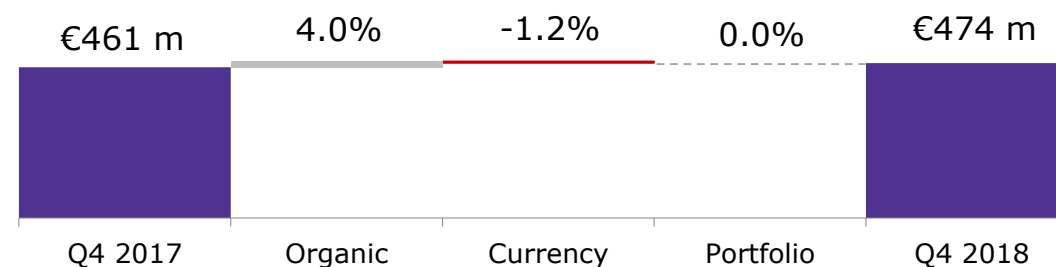
## Net sales bridge



## Comments

- Double-digit growth in Process Solutions due to ongoing strong demand across all businesses, especially for filtration and single-use
- Applied Solutions posts solid growth reflecting continued strong momentum across the portfolio, mainly analytics and gene editing
- Research Solutions with moderate organic growth – continuing positive demand trends across all businesses and regions
- M&S increase driven by strong topline growth and strategic investments
- Investments in eCommerce and strategic initiatives as well as higher LTIP<sup>1</sup> provisions weigh on EBITDA pre

## EBITDA pre bridge



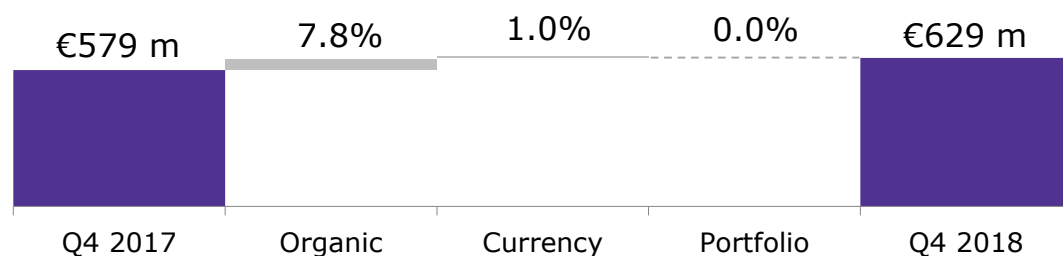
Totals may not add up due to rounding;  
<sup>1</sup>LTIP = Long Term Incentive Plan

# Performance Materials: Organic growth driven by LCD capacity ramp-up projects in China while profitability trends towards 30%

## Performance Materials P&L

[€m]	Q4 2017	Q4 2018
Net sales	579	<b>629</b>
Marketing and selling	-61	<b>-72</b>
Administration	-18	<b>-26</b>
Research and development	-52	<b>-59</b>
EBIT	136	<b>98</b>
EBITDA	213	<b>183</b>
EBITDA pre	228	<b>191</b>
Margin (in % of net sales)	39.4%	<b>30.3%</b>

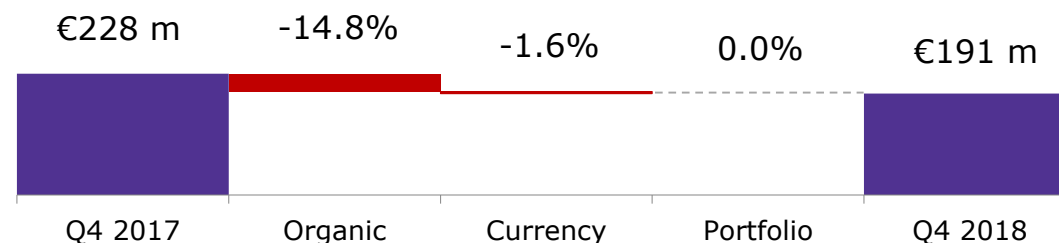
## Net sales bridge



## Comments

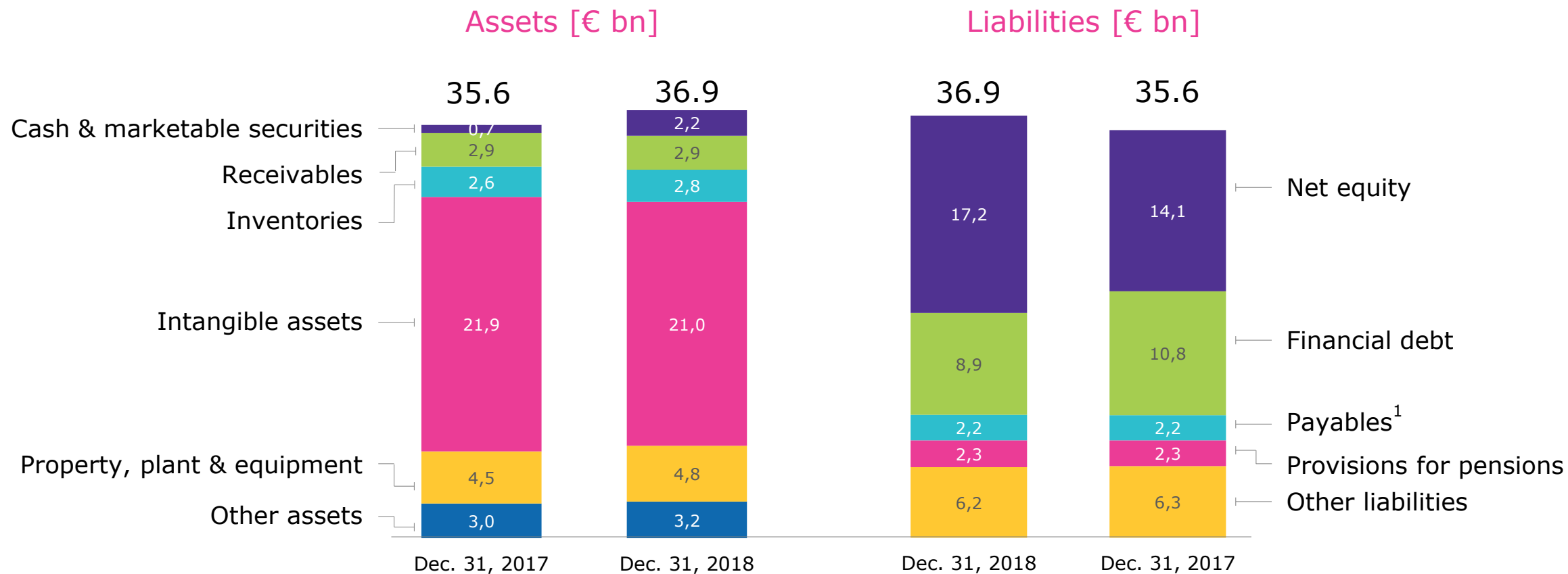
- Strong organic growth of PM due to continuing strong demand for Semiconductor Solutions & OLED; Ongoing but temporary ramp-up of new panel plant projects in China supporting Liquid Crystals
- Semiconductor Solutions with above-market growth driven by strong demand for dielectrics and lithography materials, especially in APAC
- Surface Solutions softer driven by slowdown of automotive end market
- Marketing and selling in line with strong top-line growth
- Higher R&D due to projects in Semiconductor Solutions and OLED application lab in China
- Profitability driven by negative business mix, ongoing Liquid Crystals decline and LTIP<sup>1</sup> provisions

## EBITDA pre bridge



Totals may not add up due to rounding;  
<sup>1</sup>LTIP = Long Term Incentive Plan

# Balance sheet – strong progress in deleveraging



- Increase in cash from Consumer Health disposal
- Decrease in intangible assets due to D&A (~-€1.2 bn) and divestments (~-€0.3 bn) mitigated by FX (~+€0.7 bn)

- Increase in equity reflects Consumer Health disposal gain (equity ratio of 46.7%)
- Cash proceeds partly used for further deleveraging

<sup>1</sup>Includes refund liabilities;  
Totals may not add up due to rounding

# Cash flow statement

## Q4 2018 – cash flow statement

[€m]	Q4 2017	Q4 2018	Δ
Profit after tax	1,015	<b>2,458</b>	1,443
D&A	511	<b>508</b>	-3
Changes in provisions	81	<b>80</b>	-1
Changes in other assets/liabilities	-1,155	<b>184</b>	1,339
Other operating activities	1	<b>-2,727</b>	-2,728
Changes in net working capital	189	<b>238</b>	50
Operating cash flow	642	<b>741</b>	99
Investing cash flow	-353	<b>2,822</b>	3,175
thereof Capex on PPE	-350	<b>-299</b>	51
Financing cash flow	-551	<b>-2,240</b>	-1,689

## Cash flow drivers

- Profit after tax driven by disposal gain (+ €2.2 bn) from Consumer Health, which is neutralized in other operating activities
- Changes in other assets/liabilities reflects last year neutralizing of non-cash relevant U.S. tax gain
- Changes in net working capital driven by trade accounts receivables in HC & LS
- Higher investing cash flow from Consumer Health disposal
- Financing cash flow reflects repayment of bank loans and commercial paper



## 04 OUTLOOK AND GUIDANCE



# Group

## Qualitative full-year 2019 guidance

### **Net sales:**

Moderate organic growth  
Slight FX headwinds of -1% to -2% YoY

### **EBITDA pre:**

Strong organic % YoY increase in the low teens\*  
Moderate FX headwinds of -3% to -4% YoY

# Group

## Key earnings drivers to remember for 2019



### EBITDA<sup>1</sup>-supporting factors

- Strong sales contribution from Mavenclad® ramp-up and Bavencio®; first sales contribution from Mavenclad® U.S. with potential FDA approval expected in Q2 2019
- Ongoing strength at Life Science with organic net sales growth slightly above market
- Successful partnering of M7824 with ~€100 m of deferred income from upfront payment recognized as other operating income
- Income from milestones and management of pipeline (part of operating business in Healthcare)
- Lower expected license payments for Erbitux®
- High level of cost consciousness and prioritization
- Adoption of IFRS 16 contributes ~€130 m<sup>2</sup> to organic EBITDA growth YoY



### EBITDA<sup>1</sup>-reducing factors

- Slight absolute increase in R&D costs budgeted for Healthcare but decrease as % of sales (actual development will be subject to clinical data outcome of priority projects and prioritization decisions)
- Healthcare underlying margins negatively impacted by product mix
- Performance Materials sales and earnings reaching trough due to expected decline in Liquid Crystals
- Negative FX impact from unfavorable currency development in Emerging markets; EUR/USD of 1.15-1.20 neutral versus 2018

# Group

## 2019 business sector guidance



### Healthcare

#### Net sales

- Moderate organic growth
- Base business at least stable organically
- Strong contributions from launches
- Includes expected Mavencad US approval

#### EBITDA pre

- Strong % YoY increase in the low to mid twenties
- Driven by new launches, partnering and active pipeline management
- Strong adverse FX impact



### Life Science

#### Net sales

- Organic growth slightly above ~4% p.a. medium-term market growth
- All businesses contributing; Process Solutions remains main growth driver

#### EBITDA pre

- Strong, up to double-digit organic growth driven by sales growth and margin progression
- Moderate negative FX impact



### Performance Materials

#### Net sales

- Moderate organic decline
- Liquid Crystals temporarily benefiting from capacity ramp-up in China

#### EBITDA pre

- Organic % YoY decline in the high single digits to low teens
- Ongoing price decline in LC cannot be offset by higher volumes
- FX about stable YoY



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## APPENDIX

# Additional financial guidance 2019

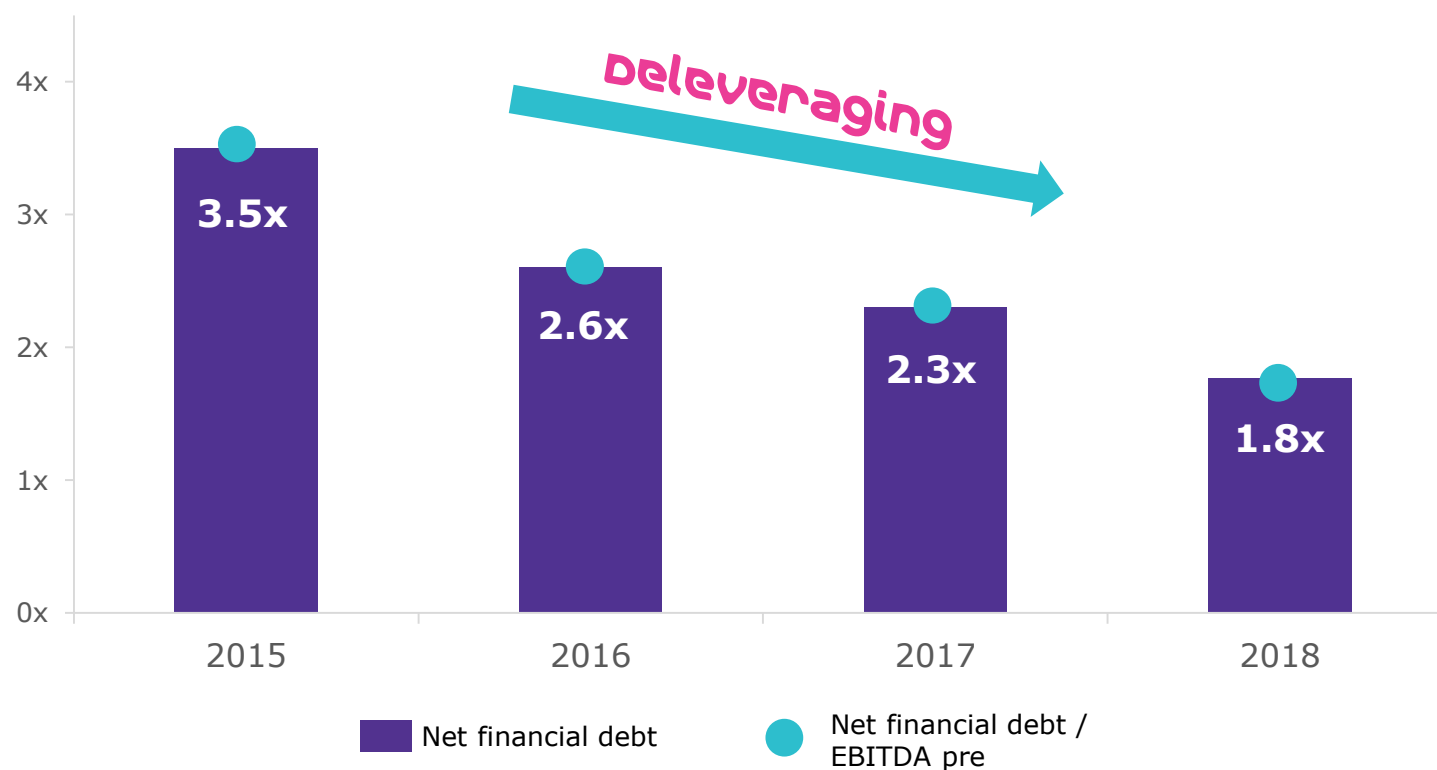
## Further financial details

Corporate & Other EBITDA pre	~ -€360 – -400 m
Interest result	~ -€220 – -240 m
Effective tax rate	~ 24% to 26%
Capex on PPE	~ €1.1 bn – 1.2 bn
Hedging/USD assumption	<b>FY 2019 hedge ratio ~60% at EUR/USD ~1.20</b>
2019 Ø EUR/USD assumption	~ 1.15 – 1.20

# Strong focus on cash generation to ensure swift deleveraging

## Net financial debt<sup>1</sup> and leverage development

[Net financial debt/  
EBITDA pre]

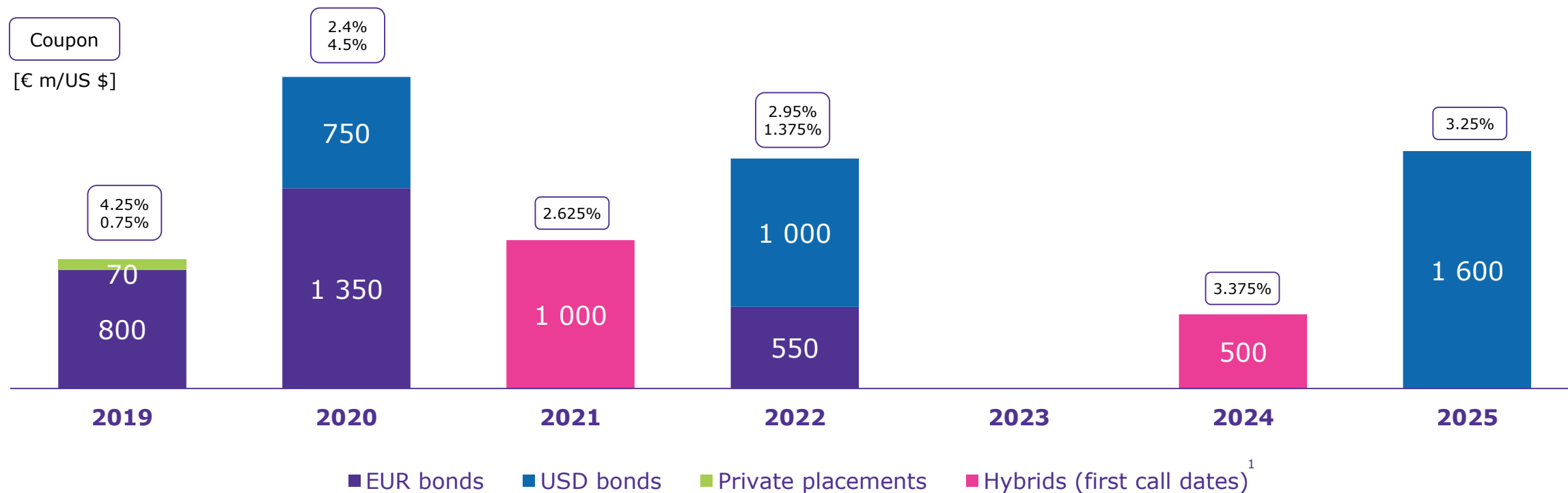


## Focus on deleveraging in 2018

- Commitment to swift deleveraging to ensure a strong investment grade credit rating and financial flexibility
- Consumer Health disposal contributed to achieve targeted net debt / EBITDA pre ratio of <2x

# Well-balanced maturity profile reflects Sigma-Aldrich financing transactions

Maturity profile as of Dec. 31, 2018



Financing structure enables flexible and swift deleveraging

<sup>1</sup>No decision on call rights taken yet



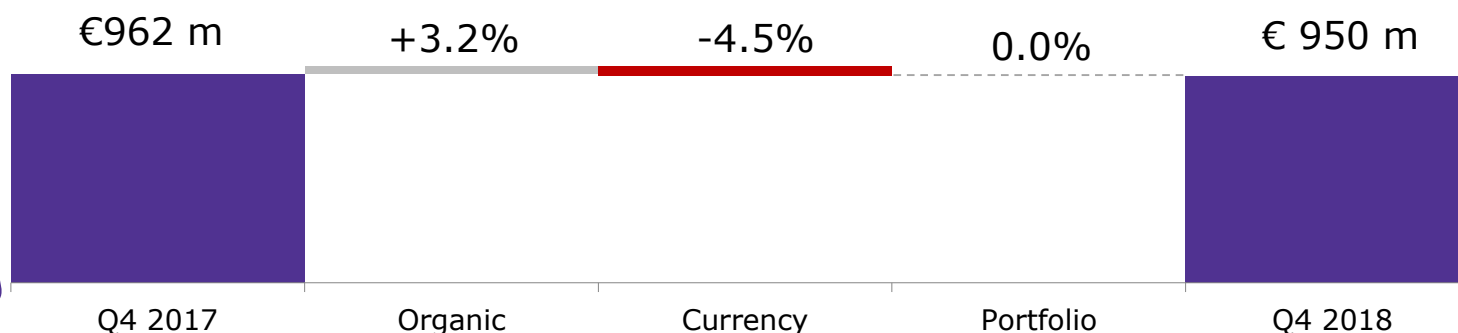
## Organic growth driven by Life Science and Healthcare

### Q4 2018 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	5.5%	-1.9%	0.0%	<b>3.6%</b>
Life Science	8.8%	0.0%	0.0%	<b>8.8%</b>
Performance Materials	7.8%	1.0%	0.0%	<b>8.8%</b>
Group	7.2%	-0.7%	0.0%	<b>6.6%</b>

- Healthcare driven by strong demand for Glucophage<sup>®</sup>, Concor<sup>®</sup> and Fertility; Bavencio<sup>®</sup> offset Erbitux<sup>®</sup> decline; Rebif<sup>®</sup> decline partially mitigated by Mavenclad<sup>®</sup>
- Life Science with above-market growth driven by all business segments across all major regions
- Strong growth in Performance Materials due to continued strong demand for Semiconductor and OLED; Liquid Crystals benefiting from capacity ramp-up projects in China

### Q4 YoY EBITDA pre



- Organic growth of EBITDA pre driven by HC non-recurring income and LS performance, mitigated by PM business mix and higher LTIP<sup>1</sup> provisions
- Currency effects (~€45 m) mainly relate to negative hedging result and ARS<sup>2</sup> development

Totals may not add up due to rounding;  
<sup>1</sup>LTIP = Long-term incentive plan; <sup>2</sup>ARS = Argentine peso

## Q4 2018: Overview

### Key figures

[€m]	Q4 2017	Q4 2018	Δ
Net sales	3,648	<b>3,888</b>	6.6%
EBITDA pre	962	<b>950</b>	-1.3%
Margin (in % of net sales)	26.4%	24.4%	
EPS pre	1.25	<b>1.22</b>	-2.4%
Operating cash flow	642	<b>741</b>	15.4%

[€m]	Dec. 31, 2017	Dec. 31, 2018	Δ
Net financial debt	10,144	<b>6,701</b>	-33.9%
Working capital	3,387	<b>3,486</b>	2.9%
Employees	52,941	<b>51,749</b>	-2.2%

### Comments

- EBITDA pre margin reduction reflects FX headwinds, negative business mix in PM, higher LTIP<sup>1</sup> and hedging costs
- Lower EPS pre in line with EBITDA pre decline
- Higher operating cash flow reflects improved working capital management
- Working capital driven by strong volume growth

Totals may not add up due to rounding;  
<sup>1</sup>LTIP = Long Term Incentive Plan

# Reported figures

## Reported results

[€m]	Q4 2017	Q4 2018	Δ
EBIT	240	<b>341</b>	42.0%
Financial result	-94	<b>-84</b>	-10.5%
Profit before tax	146	<b>257</b>	76.0%
Income tax	886	<b>-64</b>	n.m.
<i>Effective tax rate (%)</i>	<i>n.m.</i>	<b>25.0%</b>	
Net income <sup>*</sup>	1,012	<b>2,446</b>	141.7%
EPS (€) <sup>*</sup>	2.33	<b>5.63</b>	141.6%

## Comments

- Higher EBIT due to increased gross profit of LS and HC and non-recurring income in HC
- Profit before tax in line driven by EBIT increase and improved financial result
- Effective tax rate within guidance range of ~24-26%
- Increased net income and EPS reflects Consumer Health disposal gain

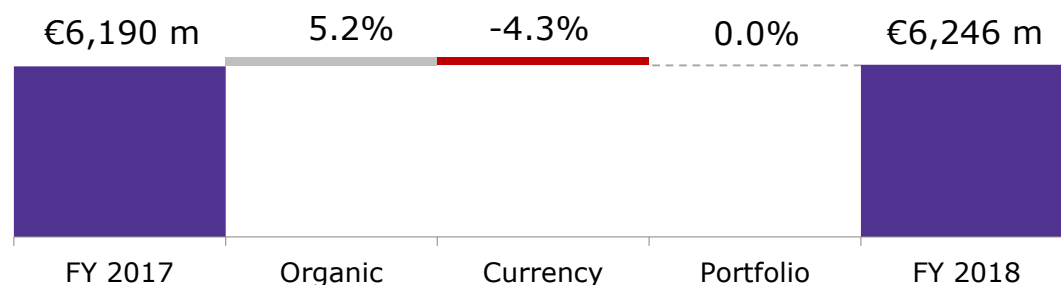
<sup>\*</sup>From continuing and discontinued operations;  
Totals may not add up due to rounding

# Healthcare: Solid organic sales growth while profitability declines amid FX headwinds and last year non-recurring income

## Healthcare P&L

[€m]	FY 2017	FY 2018
Net sales	6,190	<b>6,246</b>
Marketing and selling	-2,373	<b>-2,339</b>
Administration	-271	<b>-301</b>
Research and development	-1,600	<b>-1,686</b>
EBIT	1,337	<b>731</b>
EBITDA	2,028	<b>1,492</b>
EBITDA pre	1,773	<b>1,556</b>
Margin (in % of net sales)	28.6%	<b>24.9%</b>

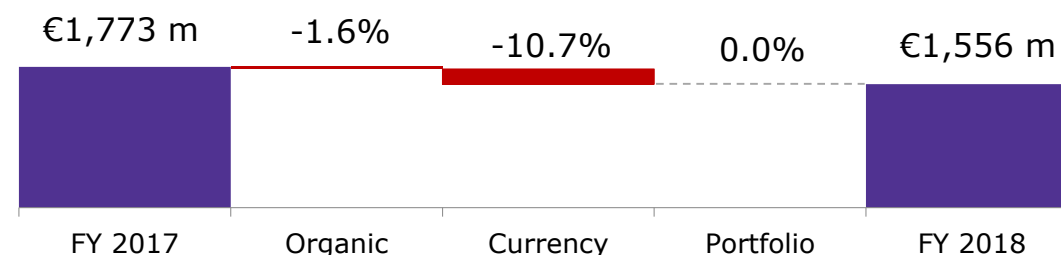
## Net sales bridge



## Comments

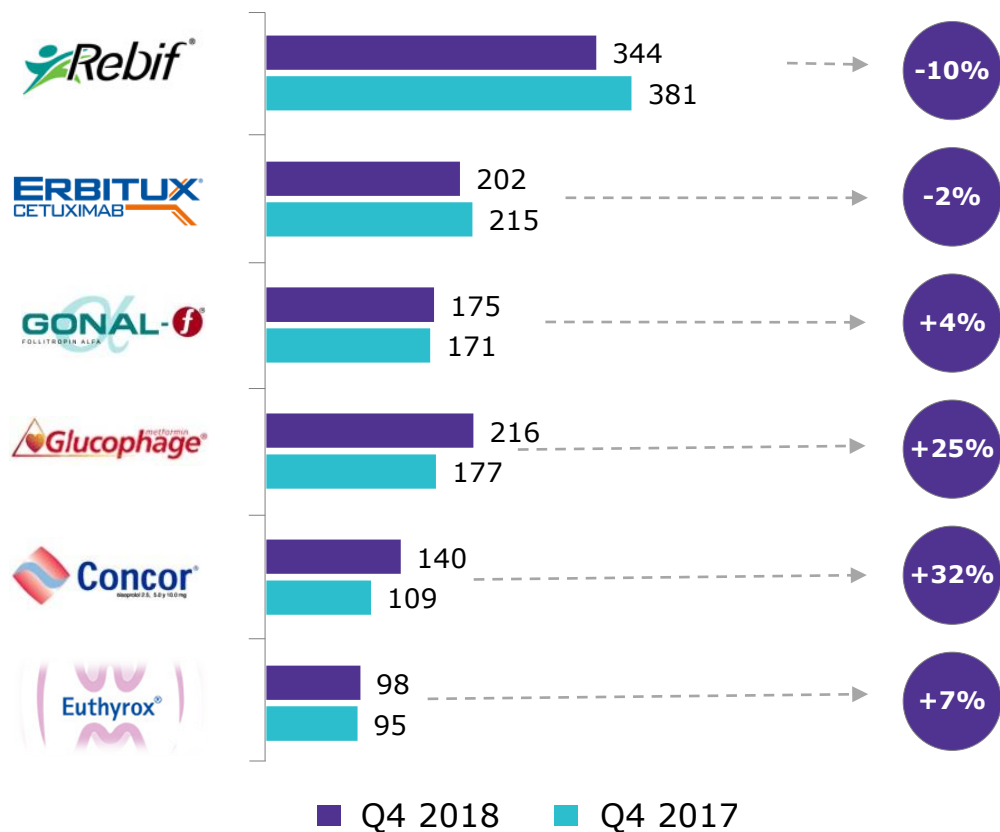
- Organic growth supported by strong General Medicine and Fertility; Launches of Mavenclad<sup>®</sup> and Bavencio<sup>®</sup> on track
- Ongoing decline of Rebif<sup>®</sup> due to growing competition in U.S. & EU despite stable market shares in Interferons market in North America, partially offset by Mavenclad<sup>®</sup>
- Flat Erbitux<sup>®</sup> driven by strong growth in LatAm amid ongoing competition and price pressure in major markets
- Lower Marketing & Selling mainly due to favorable FX; higher M&S for Mavenclad<sup>®</sup> and Bavencio<sup>®</sup> offset by lower investment in mature products (especially Rebif<sup>®</sup> and Erbitux<sup>®</sup>)
- R&D costs increased due to investments in progressing pipeline
- Profitability reflects significant FX headwinds, unfavorable product mix and R&D investments mitigated by Peg-Pal milestone (~€50 m) and portfolio activities (~€130 m); Last year included Bavencio<sup>®</sup> Milestone payments and royalty income swap (~€240 m)

## EBITDA pre bridge

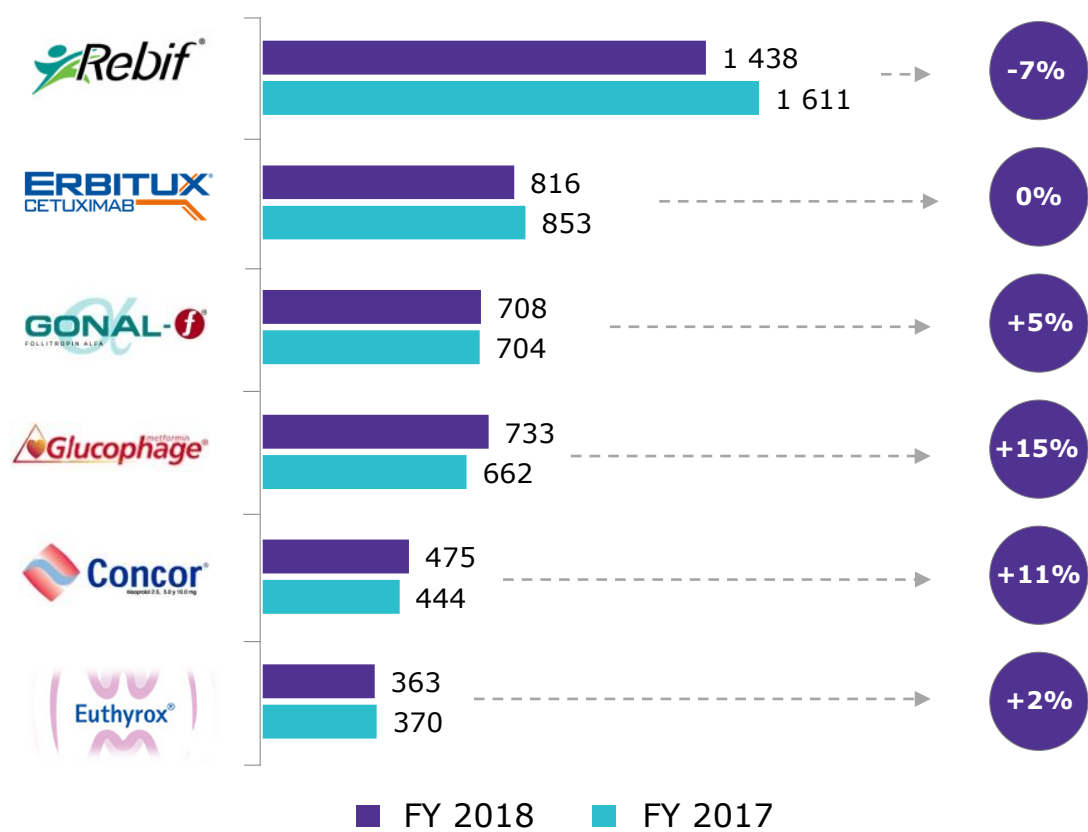


# Healthcare organic growth by franchise/product

Q4 2018 organic sales growth [%]  
by key product [€ m]



FY 2018 organic sales growth [%]  
by key product [€ m]

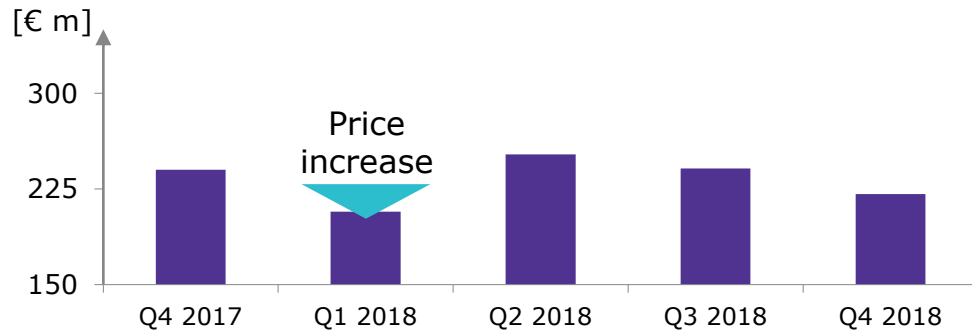


Totals may not add up due to rounding

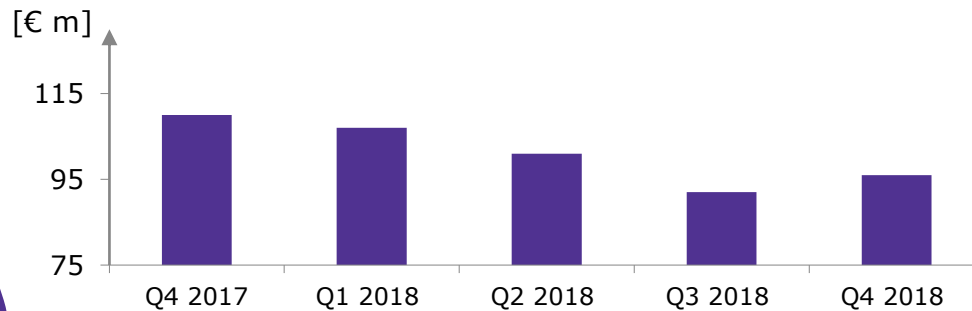
# Rebif<sup>®</sup> : Ongoing decline in line with interferon market

## Rebif<sup>®</sup> sales evolution

### North America



### Europe



### Q4 drivers

-11.3% org.

- ➔ Price
- ➔ Volume
- ➔ FX

## Q4 2018 Rebif<sup>®</sup> performance

- Rebif<sup>®</sup> sales of €344 m in Q4 2018 reflect organic decline of -10.3% amid stable FX effect of 0.6%
- U.S. and European volume declines mainly due to competition from orals
- Market shares within interferons stable due to high retention rates and known long-term track record

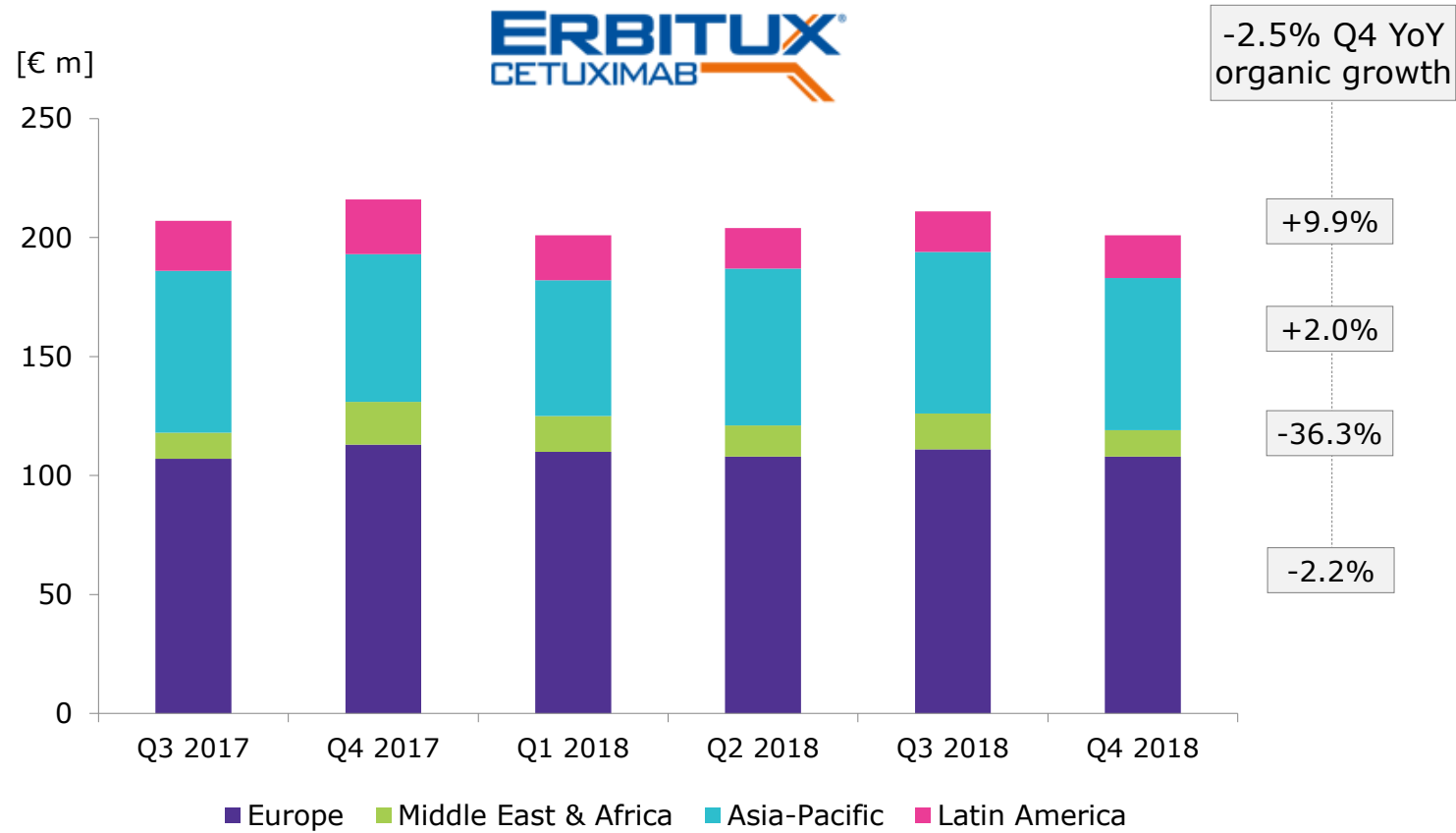
### Q4 drivers

-12.1% org.

- ➔ Price
- ➔ Volume
- ➔ FX

# Erbitux<sup>®</sup>: A challenging market environment

## Erbitux<sup>®</sup> sales by region



## Q4 2018 Erbitux<sup>®</sup> performance

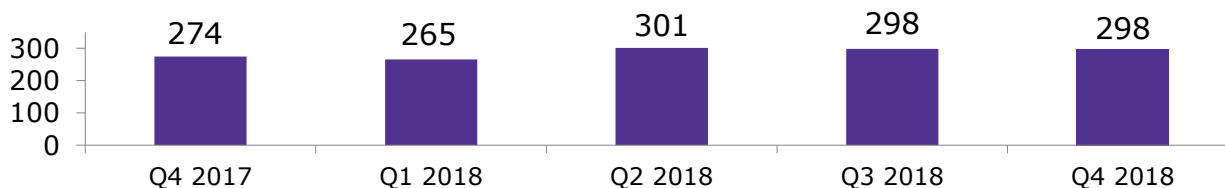
- Absolute sales decrease to €202 m, due to organic low single-digit decline and FX headwinds
- Organic decline in Europe driven by ongoing competition, price reductions and shrinking market size due to immuno-oncology trials
- MEA reflects tender phasing due to import permit
- APAC with organic growth mainly driven by strong demand in China

# Double-digit organic growth of Fertility and General Medicine

## Sales evolution

### Fertility

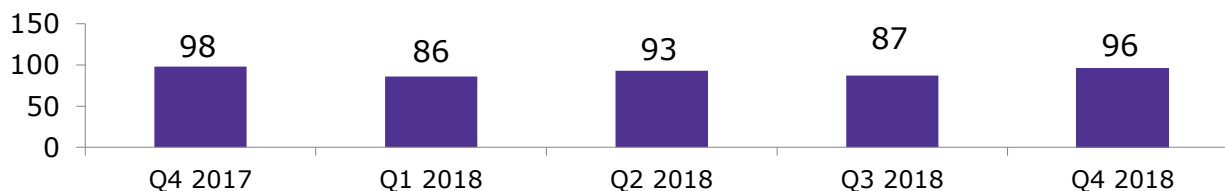
[€ m]



Organic  
+10.7% org.

### Endocrinology

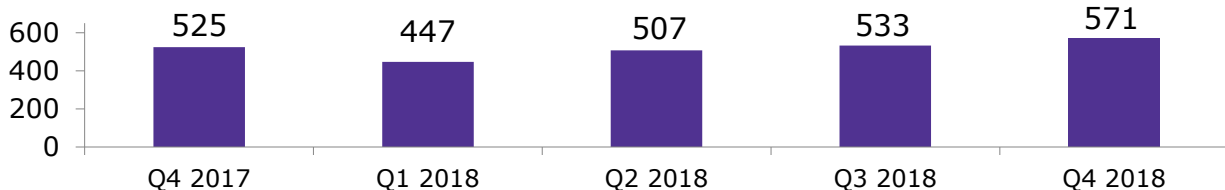
[€ m]



Organic  
+1.4% org.

### General Medicine\*

[€ m]



Organic  
+13.0% org.

## Q4 2018 organic drivers

- Fertility posts double-digit growth driven by growth across all regions, mainly APAC and North America
- Gonal-f<sup>®</sup> solid organic growth, supported by increasing demand in North America amid competitive pressure in Europe
- Remaining portfolio shows ongoing strong demand, especially in China and Europe
- Endocrinology posts slight organic growth due to strong LATAM and moderate growth in Europe, mitigated by lower demand in the U.S.
- General Medicine sees double-digit growth of Glucophage<sup>®</sup> and Concor<sup>®</sup> (China & MEA)

\*includes CardioMetabolic Care & General Medicine and Others



# Healthcare Strategy

## The Healthcare Pipeline continues to deliver

February 12, 2019

### Phase I

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

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

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

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

**M3541**  
**ATM inhibitor**  
Solid tumors

**M8891**  
**MetAP2 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)**  
**Cancer immunotherapy**  
Solid tumors

**bintrafusp alfa (M7824)**  
**TGFbeta trap/anti-PD-L1**  
Solid tumors

**M6495**  
**anti-ADAMTS-5 nanobody**  
Osteoarthritis

**M5049**  
**Immune receptor inhibitor**  
Immunology

**M5717**  
**PeEF2 inhibitor**  
Malaria

### Phase II

**tepotinib**  
**MET kinase inhibitor**  
Non-small cell lung cancer

**tepotinib**  
**MET kinase inhibitor**  
Hepatocellular cancer

**avelumab**  
**anti-PD-L1 mAb**  
Merkel cell cancer 1L<sup>1</sup>

**avelumab**  
**anti-PD-L1 mAb**  
Solid tumors<sup>2</sup>

**avelumab**  
**anti-PD-L1 mAb**  
Non-small cell lung cancer<sup>2</sup>

**avelumab**  
**anti-PD-L1 mAb**  
Urothelial cancer<sup>2</sup>

**abrituzumab<sup>3</sup>**  
**pan-av integrin inhibiting mAb**  
Colorectal cancer 1L<sup>1</sup>

**bintrafusp alfa (M7824)**  
**TGFbeta trap/anti-PD-L1**  
Non-small cell lung cancer 1L<sup>1</sup>

**sprifermin**  
**fibroblast growth factor 18**  
Osteoarthritis

**atacept**  
**anti-BlyS/APRIL fusion protein**  
Systemic lupus erythematosus

**atacept**  
**anti-BlyS/APRIL fusion protein**  
IgA nephropathy

**evobrutinib**  
**BTK inhibitor**  
Rheumatoid arthritis

**evobrutinib**  
**BTK inhibitor**  
Systemic lupus erythematosus

**M1095 (ALX-0761)<sup>4</sup>**  
**anti-IL-17 A/F nanobody**  
Psoriasis

**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**  
Gastric cancer 1L-M<sup>1M</sup>

**avelumab - anti-PD-L1 mAb**  
Ovarian cancer 1L<sup>1,5</sup>

**avelumab - anti-PD-L1 mAb**  
Urothelial cancer 1L-M<sup>1M</sup>

**avelumab - anti-PD-L1 mAb**  
Locally advanced head and neck cancer

### Registration

**avelumab**  
**anti-PD-L1 mAb**  
Renal cell cancer 1L<sup>1,6</sup>

**cladribine tablets**  
**lymphocyte-targeting agent**  
Relapsing multiple sclerosis<sup>7</sup>

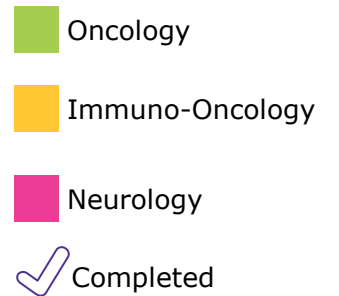
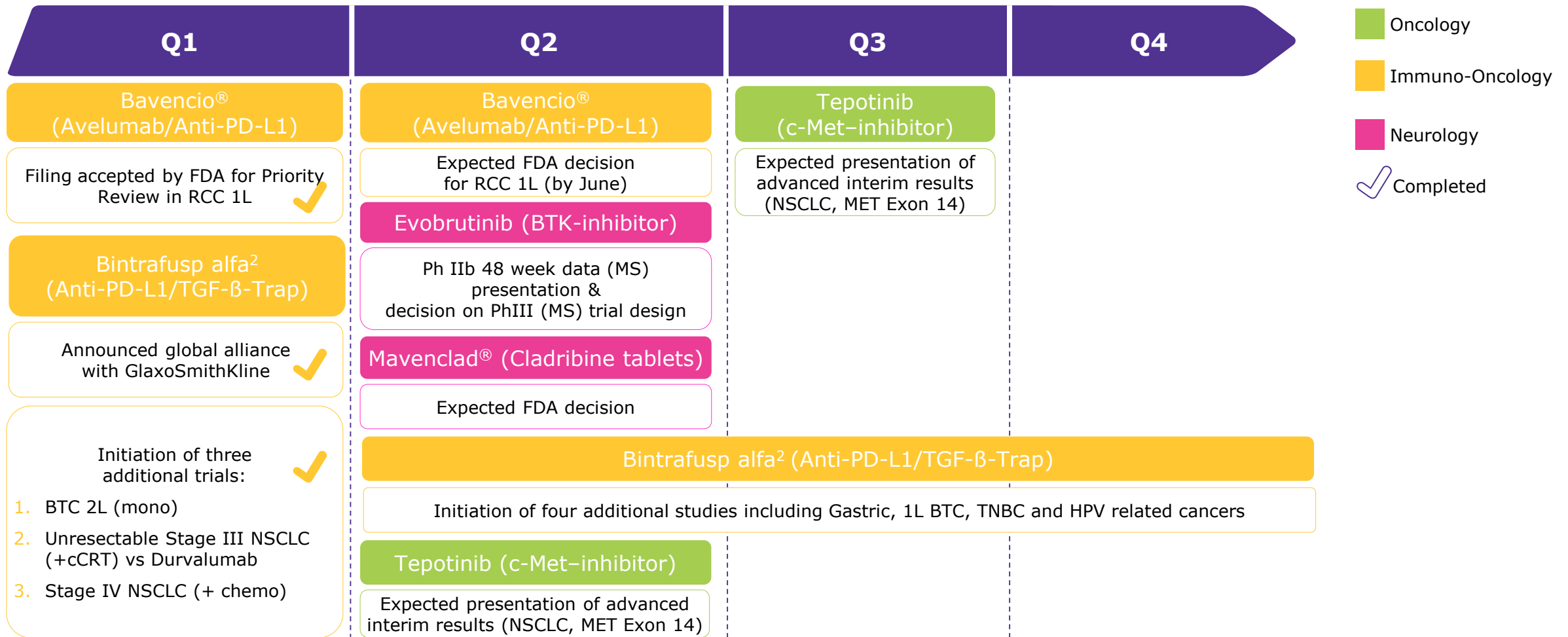
- Oncology
- Immuno-Oncology
- Immunology
- Neurology
- Global Health

<sup>1</sup> First-line treatment; <sup>1M</sup> First-line maintenance treatment; <sup>2</sup> Avelumab combination studies with talazoparib, axitinib, ALK inhibitors, chemotherapy, or novel immunotherapies. <sup>3</sup> As announced on May 2 2018, in an agreement with SFJ Pharmaceuticals Group, abrituzumab will be developed by SFJ for colorectal cancer through Phase II/III clinical trials. <sup>4</sup> As announced on March 30 2017, in an agreement with Avillion, anti-IL-17 A/F nanobody will be developed by Avillion for plaque psoriasis and commercialized by Merck KGaA, Darmstadt, Germany. <sup>5</sup> Avelumab in combination with talazoparib. <sup>6</sup> As announced on February 11 2019, the US Food and Drug Administration (FDA) has accepted for Priority Review the supplemental Biologics License Application (sBLA) for avelumab in combination with axitinib for patients with advanced renal cell carcinoma; <sup>7</sup> As announced on July 30 2018, the US FDA has accepted the resubmission of the New Drug Application (NDA) for cladribine tablets.

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.

# Recent & upcoming catalysts

## 2019 - A year of continued pipeline development<sup>1</sup>



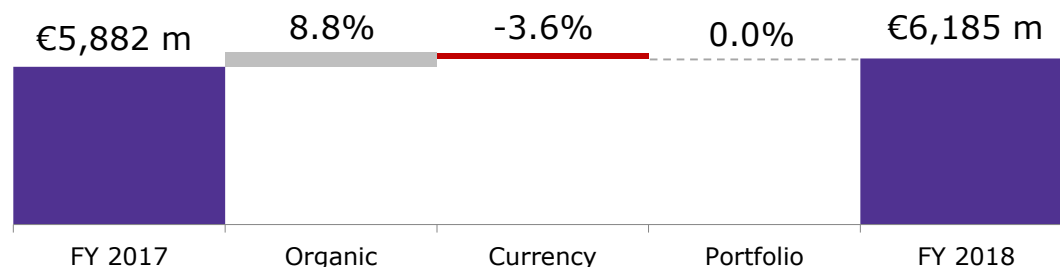
<sup>1</sup>Note: All timelines are event-driven and may be subject to change; <sup>2</sup> proposed International Nonproprietary Name (INN); Acronyms: NSCLC – Non small cell lung cancer | MS – Multiple Sclerosis | RCC – Renal Cell Carcinoma | FDA – U.S. Food and Drug Administration | IA – Interim Analysis

# Life Science: Strong organic sales growth across all businesses

## Life Science P&L

[€m]	FY 2017	FY 2018
Net sales	5,882	<b>6,185</b>
Marketing and selling	-1,734	<b>-1,775</b>
Administration	-261	<b>-282</b>
Research and development	-241	<b>-249</b>
EBIT	834	<b>1,036</b>
EBITDA	1,580	<b>1,756</b>
EBITDA pre	1,786	<b>1,840</b>
Margin (in % of net sales)	30.4%	<b>29.8%</b>

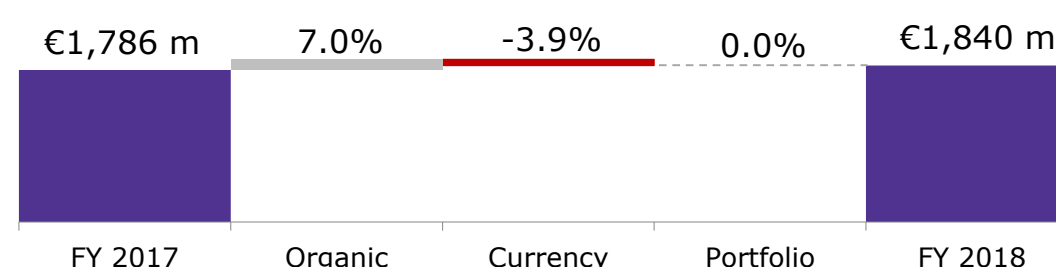
## Net sales bridge



## Comments

- Double-digit growth in Process Solutions fueled by continuing high demand across all businesses, especially single use and filtration
- Applied Solutions posts growth across all businesses, mainly due to advanced analytical and introduction of new lab water platform
- Solid organic growth in Research Solutions driven by all major businesses across all regions, mainly reagents and laboratory & specialty chemicals
- Strategic investments in viral vector manufacturing, single-use bioprocessing and China expansion start to impact topline growth
- EBITDA pre reflects strong top-line growth, offset by investments in eCommerce and strategic initiatives as well as LTIP<sup>1</sup> provisions and FX headwinds

## EBITDA pre bridge



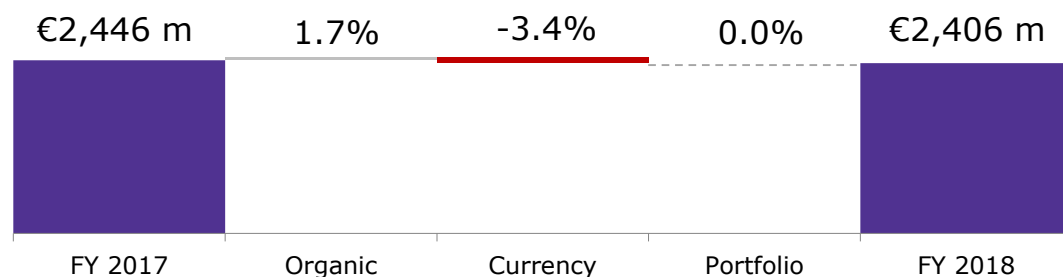
Totals may not add up due to rounding  
<sup>1</sup>LTIP = Long-term incentive plan

# Performance Materials: Positive organic growth due to strong demand for Semiconductor Solutions and OLED offsetting LC decline

## Performance Materials P&L

[€m]	FY 2017	FY 2018
Net sales	2,446	<b>2,406</b>
Marketing and selling	-242	<b>-255</b>
Administration	-72	<b>-90</b>
Research and development	-225	<b>-242</b>
EBIT	689	<b>508</b>
EBITDA	947	<b>769</b>
EBITDA pre	980	<b>786</b>
Margin (in % of net sales)	40.1%	<b>32.7%</b>

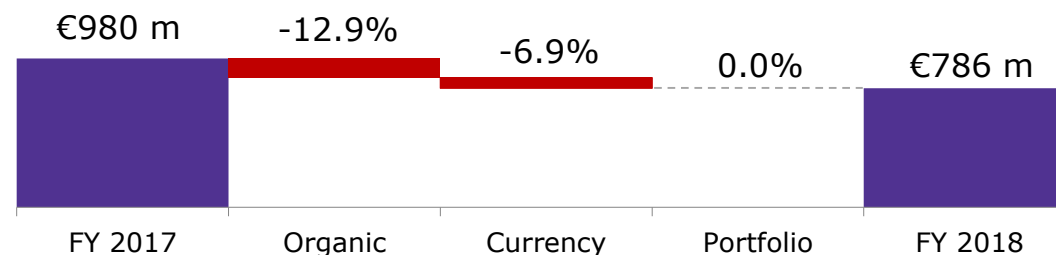
## Net sales bridge



## Comments

- Organic growth driven by growth of Semiconductor and OLED overcompensating Liquid Crystals decline; Liquid Crystals benefited from new plant ramp-up projects in China
- Stronger demand for innovative UB-FFS technology
- Semiconductor Solutions with above-market growth due to strong demand for dielectric and lithography materials
- Surface Solutions softer driven by slowdown of automotive end market
- Increased R&D due to Semiconductor Solutions related projects
- Lower profitability reflects negative business mix, ongoing Liquid Crystals decline and FX headwinds

## EBITDA pre bridge



# Cash flow statement

## FY 2018 – cash flow statement

[€m]	FY 2017	FY 2018	Δ
Profit after tax	2,615	<b>3,396</b>	781
D&A	1,758	<b>1,812</b>	54
Changes in provisions	103	<b>199</b>	95
Changes in other assets/liabilities	-1,256	<b>-288</b>	968
Other operating activities	-354	<b>-2,722</b>	-2,368
Changes in net working capital	-170	<b>-178</b>	-8
Operating cash flow	2,696	<b>2,219</b>	-477
Investing cash flow	-1,147	<b>2,191</b>	3,338
thereof Capex on PPE	-919	<b>-910</b>	9
Financing cash flow	-1,870	<b>-2,825</b>	-955

## Cash flow drivers

- Profit after tax driven by disposal gain (+ €2.2 bn) from Consumer Health, which is neutralized in other operating activities
- Last year profit after tax reflects one time U.S. tax reform effect
- D&A increase due to low base last year related to write up of Vevey site (~€70 m)
- Changes in other assets/liabilities reflects last year neutralizing of non-cash relevant U.S. tax gain
- Higher investing cash flow reflects Consumer Health disposal
- Financing cash flow reflects repayment of bank loans, commercial papers and USD400 m bond

# Adjustments in Q4 2018

## Adjustments in EBIT

[€m]	Q4 2017		Q4 2018	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	73	33	23	11
Life Science	123	0	54	2
Performance Materials	34	19	28	20
Corporate & Other	43	4	34	0
Total	272	56	138	33

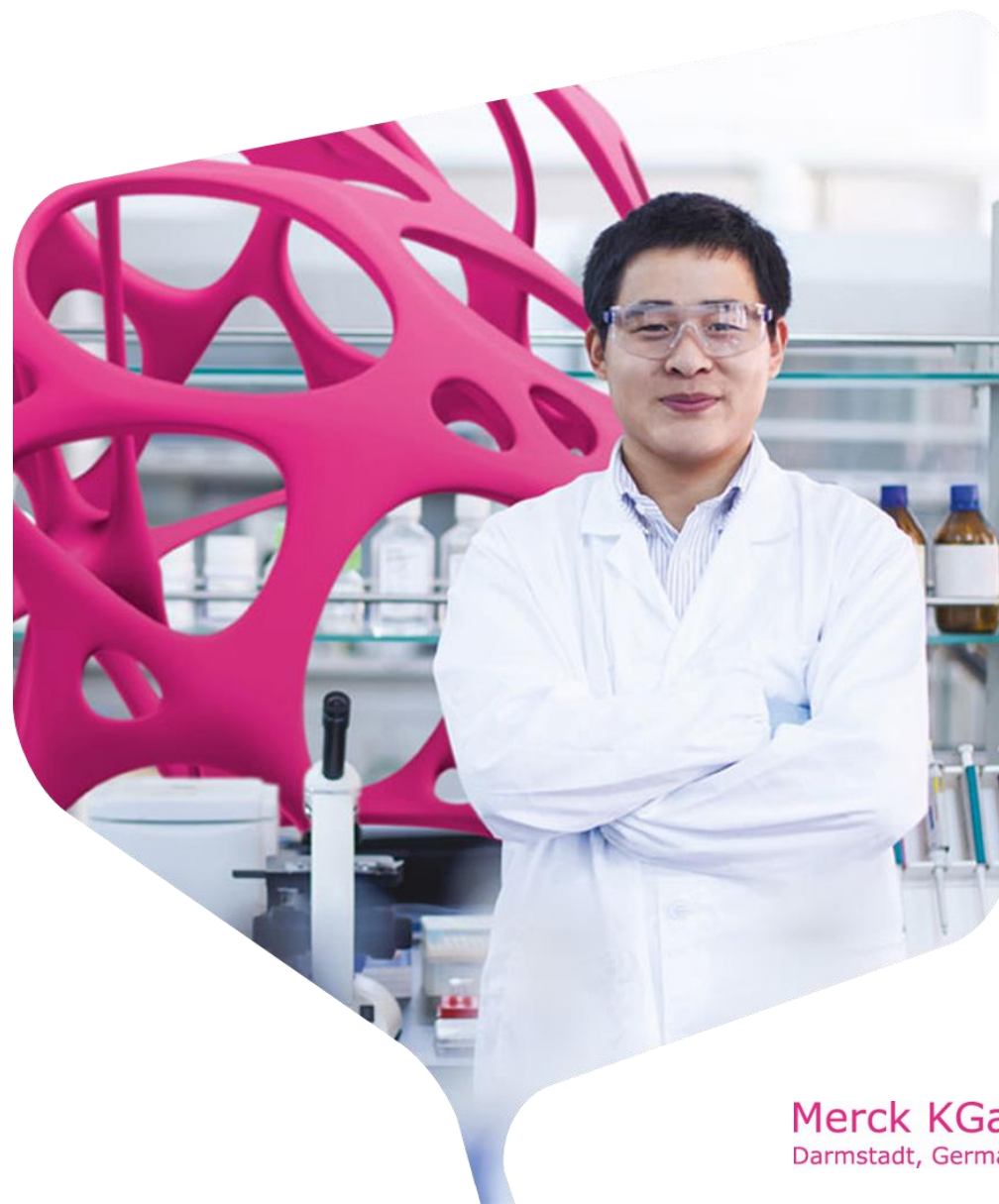
# Adjustments in FY 2018

## Adjustments in EBIT

[€m]	FY 2017		FY 2018	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	-307	-51	75	11
Life Science	209	3	108	23
Performance Materials	59	26	37	21
Corporate & Other	103	4	107	0
Total	64	-19	327	55

## Financial calendar

Date	Event
April 26, 2019	Annual General Meeting
May 14, 2019	Q1 2019 Earnings release
August 8, 2019	Q2 2019 Earnings release
November 14, 2019	Q3 2019 Earnings release





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