



# A SOLID START INTO THE YEAR

Merck KGaA, Darmstadt, Germany Q1 2018 results

*– Presentation for the media –*

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May 15, 2018



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# Agenda

**01** Executive summary

**02** Financial overview

**03** Guidance



01

## EXECUTIVE SUMMARY

# Highlights

## Operations

- ▶ Healthcare – 27<sup>th</sup> consecutive quarter of organic growth; Mavenclad & Bavencio on track
- ▶ Life Science – Seamless Sigma integration; strong organic business performance
- ▶ Performance Materials – Solid growth in Semiconductor Solutions and OLED; LC decline as expected

## Financials

- ▶ 3.5% organic sales growth; EBITDA pre down 18% to €1,015 m (org. -8%)
- ▶ Dividend growth sustained – AGM approved 1.25€ dividend per share
- ▶ Organic FY 2018 guidance confirmed<sup>1</sup> – EBITDA pre: €3,750 – 4,000 m

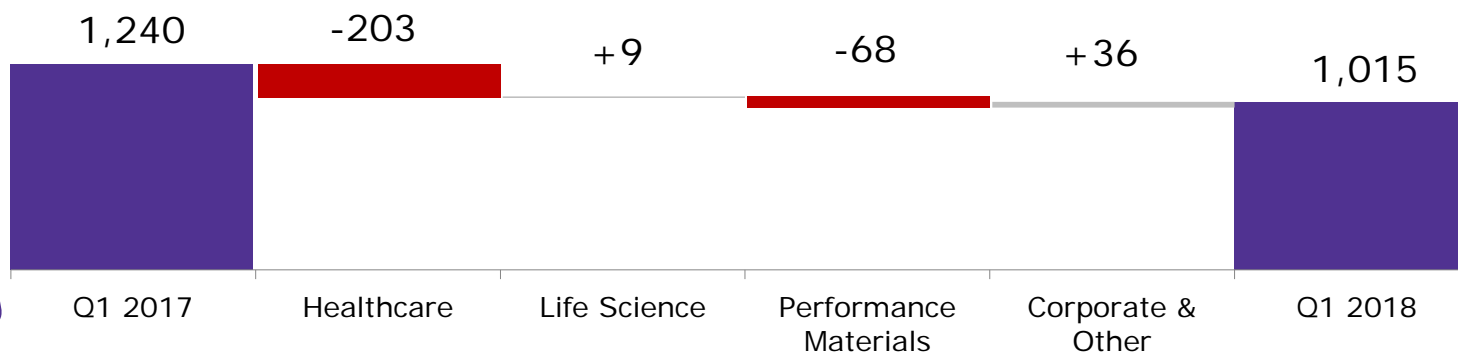
# Organic growth driven by Healthcare and Life Science but more than offset by FX

## Q1 2018 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	1.8%	-7.2%	0.0%	<b>-5.5%</b>
Life Science	8.8%	-8.4%	0.0%	<b>0.4%</b>
Performance Materials	-4.0%	-8.5%	0.0%	<b>-12.5%</b>
Group	3.5%	-7.9%	0.0%	<b>-4.4%</b>

- Healthcare reflects strong growth in Fertility and CH, Mavenclad and Bavencio contributing positively, outweighing Rebif decline
- Above-market performance in Life Science driven by all business units
- Strong growth of Semiconductor Solutions and positive OLED mitigate LC decline
- Strong FX headwinds (-€305 m) in Q1 2018

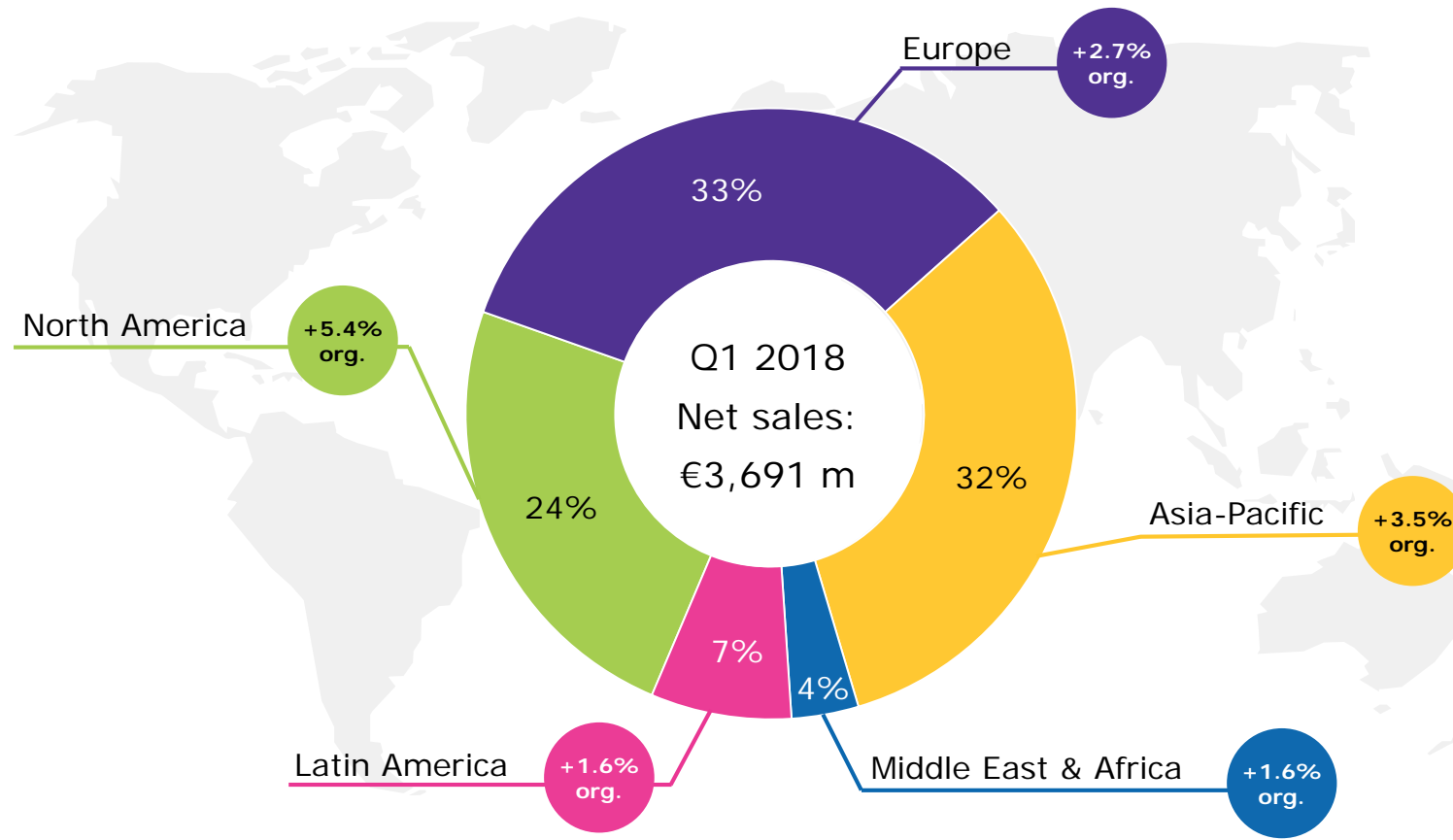
## Q1 YoY EBITDA pre contributors [€ m]



- HC reflects FX headwinds, one-time effects and negative business mix
- Life Science driven by organic growth and ongoing synergy realization, mitigated by FX
- PM with strong Semiconductor Solutions and OLED performance, more than offset by LC decline
- Corporate EBITDA pre contains hedging gains

# All regions deliver organic growth

## Regional breakdown of net sales [€ m]



## Regional organic development

- Growth in Europe reflects solid Life Science, contributions from Mavenclad and GM, overcompensating competition-driven decline in Rebif, Erbitux and Gonal-f and softer Surface Solutions
- North America shows solid growth fueled by Life Science strength, growth of Bavencio and Gonal-f, offsetting continued Rebif decline
- Slight growth in Asia-Pacific mainly driven by Life Science, Fertility, CH and Semiconductor Solutions, fully offsetting LC decline
- Growth in LATAM due to Life Science, CH and Fertility, mitigated by Rebif decline
- MEA with slight growth mainly driven by Healthcare, mitigating slower Life Science





02

## FINANCIAL OVERVIEW

# Q1 2018: Overview

## Key figures

[€m]	Q1 2017	Q1 2018	Δ
Net sales	3,861	<b>3,691</b>	-4.4%
EBITDA pre	1,240	<b>1,015</b>	-18.2%
<i>Margin (in % of net sales)</i>	32.1%	27.5%	
EPS pre	1.80	<b>1.41</b>	-21.7%
Operating cash flow	777	<b>380</b>	-51.1%

[€m]	Dec. 31, 2017	March 31, 2018	Δ
Net financial debt	10,144	<b>9,974</b>	-1.7%
Working capital	3,387	<b>3,578</b>	5.6%
Employees	52,941	<b>53,358</b>	0.8%

## Comments

- Organic sales growth of Life Science and Healthcare more than offset by FX headwinds and LC decline
- EBITDA pre & margin as well as EPS pre decrease driven by LY one-time effects, FX headwinds and LC market share decline
- Operating cash flow reflects business performance and higher income tax payments
- Working capital reflects LY Glucophage repatriation and business dynamics

Totals may not add up due to rounding  
 LY EBITDA pre reflects royalty income swap (+€116 m) and Bavencio milestone payment (+€37 m)

# Reported figures

## Reported results

[€m]	Q1 2017	Q1 2018	Δ
EBIT	755	<b>518</b>	-31.4%
Financial result*	-69	<b>-62</b>	-9.8%
Profit before tax*	686	<b>456</b>	-33.6%
Income tax	-161	<b>-114</b>	-29.6%
<i>Effective tax rate (%)</i>	23.5%	<b>24.9%</b>	
Net income*	523	<b>341</b>	-34.8%
EPS (€)	1.20	<b>0.78</b>	-35.0%

## Comments

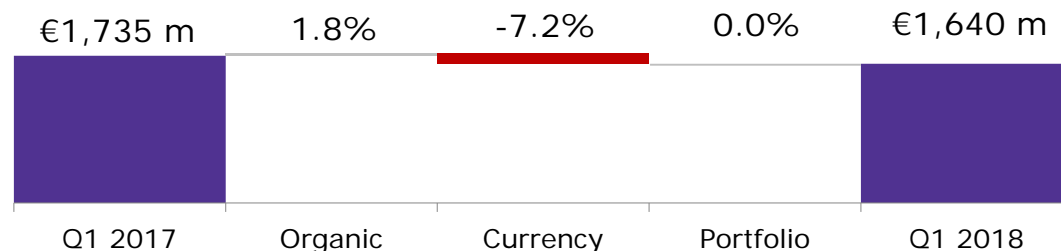
- Lower EBIT reflects decreased EBITDA pre, one-time effects, FX headwinds and LC market share decline
- Improved financial result – ongoing deleveraging supports interest result
- Effective tax rate within guidance range of ~24-26%

# Healthcare: Continued solid top line performance while profitability declines in relation to FX headwinds and LY's substantial favorable one-time effects

## Healthcare P&L

[€m]	Q1 2017	Q1 2018
Net sales	1,735	<b>1,640</b>
Marketing and selling	-656	<b>-636</b>
Administration	-77	<b>-81</b>
Research and development	-376	<b>-385</b>
EBIT	445	<b>211</b>
EBITDA	629	<b>401</b>
EBITDA pre	633	<b>430</b>
Margin (in % of net sales)	36.5%	<b>26.3%</b>

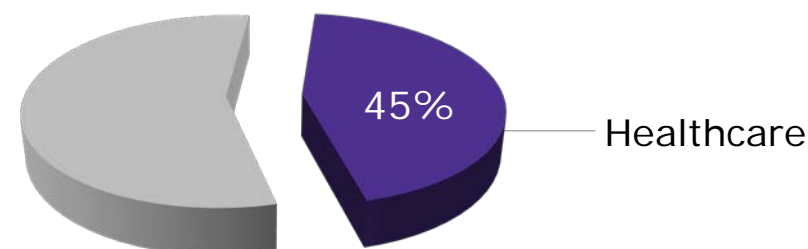
## Net sales bridge



## Comments

- Organic growth supported by strong Fertility and Consumer Health; Mavenclad and Bavencio contribution on track
- MS franchise back to growth in Europe driven by Mavenclad launch
- Rebif with ongoing volume and price declines in Europe and in line with Interferons market development in North America
- Erbitux shows moderate organic decline, facing ongoing competition and price pressure in major markets
- Marketing & selling and R&D reflect disciplined launch and pipeline investments, mitigated by supporting FX
- Profitability reflects significant FX headwinds and unfavorable product mix mitigated by Kuvan milestone payment (+€50 m) – LY included royalty income swap (€116 m) and Bavencio Milestone payment (€37 m)

## Q1 2018 share of group net sales

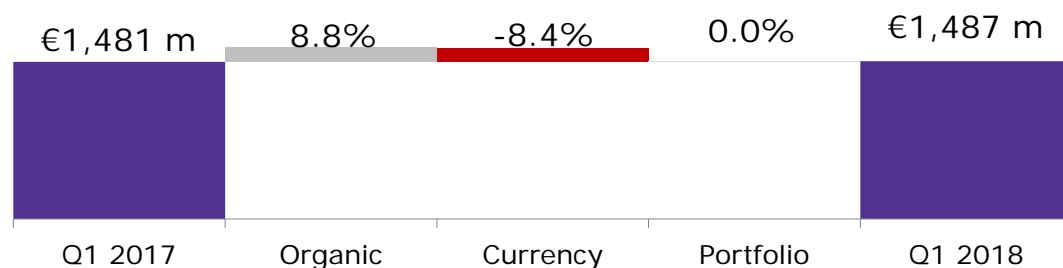


# Life Science: Continued strong organic growth offset by FX

## Life Science P&L

[€m]	Q1 2017	Q1 2018
Net sales	1,481	<b>1,487</b>
Marketing and selling	-449	<b>-408</b>
Administration	-70	<b>-70</b>
Research and development	-62	<b>-59</b>
EBIT	236	<b>273</b>
EBITDA	430	<b>442</b>
EBITDA pre	445	<b>455</b>
Margin (in % of net sales)	30.1%	<b>30.6%</b>

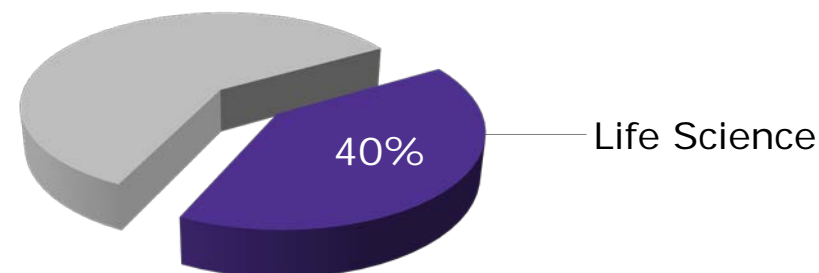
## Net sales bridge



## Comments

- Process Solutions with double-digit growth driven by all businesses, especially high demand for single use, cell-culture media and services
- Applied Solutions shows high single-digit organic growth, fueled by all major businesses across all major regions
- Research Solutions posts solid organic growth from high demand across all businesses, mainly laboratory and specialty chemicals
- Marketing & selling organically flat with additional benefit from FX
- Slight increase in profitability as solid organic growth including synergy realization are mostly offset by FX

## Q1 2018 share of group net sales

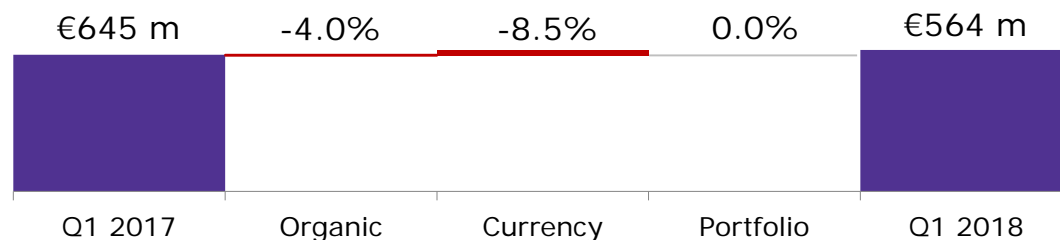


# Performance Materials: Organic growth of Semiconductor Solutions and OLED mitigate ongoing LC market share decline

## Performance Materials P&L

[€m]	Q1 2017	Q1 2018
Net sales	645	<b>564</b>
Marketing and selling	-62	<b>-60</b>
Administration	-18	<b>-19</b>
Research and development	-58	<b>-59</b>
EBIT	195	<b>136</b>
EBITDA	257	<b>192</b>
EBITDA pre	263	<b>196</b>
Margin (in % of net sales)	40.9%	<b>34.7%</b>

## Net sales bridge

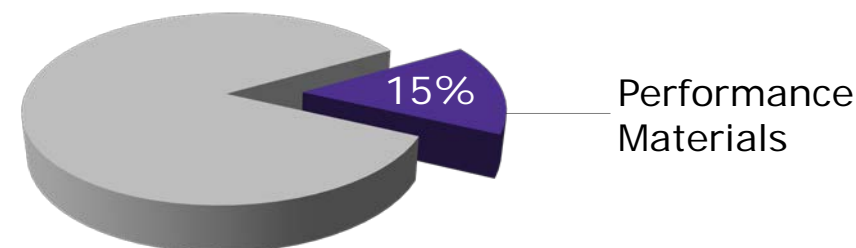


Totals may not add up due to rounding;  
Further details on the new structure of Performance Materials are given on page 34.

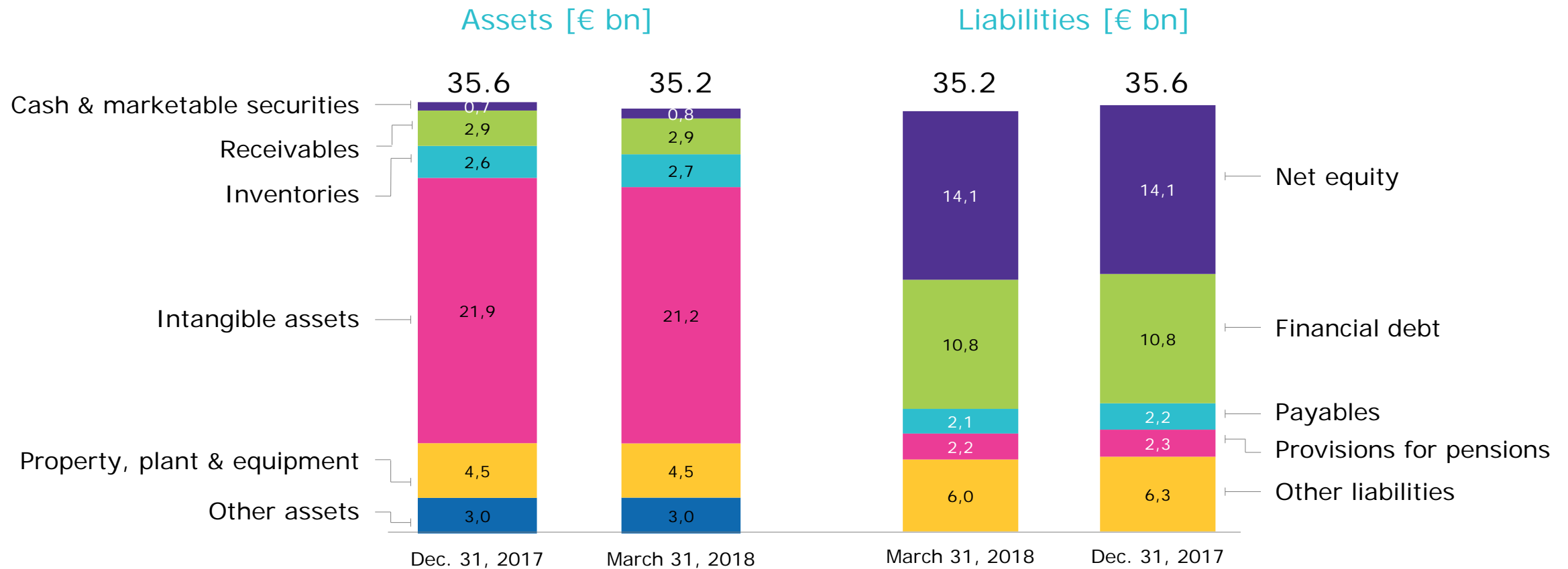
## Comments

- Strong growth of Semiconductor Solutions and OLED more than offset by ongoing LC market share decline
- Strong demand for innovative UB-FFS technology
- Semiconductor Solutions with above-market growth due to strong demand from all major material classes, esp. dielectric materials
- Surface Solutions with slight organic decline reflects tough comparables from last year
- Lower profitability reflects FX headwinds, negative business mix and Liquid Crystals price decline

## Q1 2018 share of group net sales



# Balance sheet – deleveraging remains in focus



- Total assets about stable, while equity ratio increases to 40.1%
- Reduction in intangible assets mainly reflects D&A and FX (~ -€700 m)
- Net financial debt reduced by €170 m
- Pension provisions down due to increased interest environment

# Operating cash flow reflects business performance

## Q1 2018 – cash flow statement

[€m]	Q1 2017	Q1 2018	Δ
Profit after tax	524	<b>342</b>	-182
D&A	448	<b>428</b>	-20
Changes in provisions	51	<b>17</b>	-34
Changes in other assets/liabilities	134	<b>-235</b>	-369
Other operating activities	-12	<b>-10</b>	2
Changes in working capital	-368	<b>-161</b>	207
Operating cash flow	777	<b>380</b>	-397
Investing cash flow	-402	<b>-213</b>	190
thereof Capex on PPE	-201	<b>-228</b>	-27
Financing cash flow	-290	<b>-3</b>	287

## Cash flow drivers

- Profit after tax reflects lower EBIT
- LY changes in provisions contained favorable LTIP provisions
- Changes in other assets/liabilities driven by bonus payments to US employees and higher income tax payments
- Changes in working capital reflects LY Glucophage repatriation
- LY investing cash flow included Vertex oncology in-licensing agreement
- Financing cash flow reflects repayment of USD400 m bond, mitigated by increased bank loan and commercial paper





# 03 GUIDANCE

# Key EBITDA pre\* drivers



## EBITDA-supporting factors

- Organic net sales growth by Healthcare and Life Science
- Sigma-Aldrich incremental cost and revenue synergies  
~ +€95 m YoY
- Biosimilars divestment frees up R&D budget  
(2017: mid to high double-digit million R&D costs)
- First full-year sales contribution from newly launched pipeline products Mavenclad® and Bavencio®
- BioMarin milestone payment of €50 m



## EBITDA-reducing factors

- Underlying R&D costs in Healthcare are budgeted above 2017, but actual development will be subject to clinical data outcome of priority projects and prioritization decisions
- Healthcare margins negatively impacted by product mix
- 2017 special gains of ~€200 m will not recur
- Performance Materials sales and earnings continuously affected by decline in Liquid Crystals
- First launch preparations for Mavenclad® U.S., driving M&S costs
- FX remains a strong headwind, esp. in H1 2018, and is slightly stronger than anticipated so far; expected EUR/USD 1.19-1.23 for FY 2018

# Organic full-year 2018 guidance confirmed

## GROUP „incl. CH”<sup>1</sup>

### Net sales:

Organic +3% to +5% YoY  
FX ~ -4% to -6% YoY  
~ €15.0 – 15.5 bn<sup>1</sup>

### EBITDA pre:

Organic -1% to -3% YoY  
FX -5 to -7% YoY  
~ €3,950 – 4,150 m<sup>1</sup>

### EPS pre:

~ €5.30 – 5.65<sup>1</sup>

### Disposal of Consumer Health

- Net sales ~€ 0.9-1.0 bn<sup>2</sup>
- EBITDA pre ~€170-200m<sup>2</sup>

## GROUP „excl. CH”

### Net sales:

Organic +3% to +5% YoY  
FX ~ -4% to -6% YoY  
~ €14.0 - 14.5 bn

### EBITDA pre:

Organic -1% to -3% YoY  
FX -5 to -7% YoY  
~ €3,750 – 4,000 m

### EPS pre:

~ €5.00-5.40

<sup>1</sup>Constant portfolio; <sup>2</sup>Indication only; the actual impact and 2017 restatement may differ as restatement process is currently ongoing; other business sectors may also see minor adjustments due to contractual agreements

## 2018 business sector guidance including Consumer Health



### Net sales

- Moderate organic growth: ongoing organic Rebif decline offset by growth in other franchises
- Full-year contributions from 2017 launches

### EBITDA pre

- Organic -1% to -2% YoY
- FX -5% to -7% YoY
- ~ €1,770 – 1,830 m (incl. CH)
- ~ €1,580 – 1,650 m (excl. CH)



### Net sales

- Organic growth again slightly above market; driven by Process Solutions
- Full realization of expected topline synergies

### EBITDA pre

- Organic ~ +8% YoY
- FX -4% to -6% YoY
- ~€1,820 - 1,870 m



### Net sales

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

### EBITDA pre

- Organic -14% to -16% YoY
- FX -8% to -10% YoY
- ~€725 – 765 m



The background features a vibrant, abstract design. On the left side, there are overlapping, organic shapes in shades of purple and cyan. The rest of the page is a solid, bright lime green. The word 'APPENDIX' is centered in the green area.

## **APPENDIX**

# Additional financial guidance 2018

## Further financial details

Corporate & Other EBITDA pre	~ -€320 – -360 m
Interest result	~ -€230 – -240 m
Effective tax rate	~ 24% to 26%
Capex on PPE	~ €900 – 950 m
Hedging/USD assumption	<b>2018 hedge ratio ~50-60% at EUR/USD ~ 1.19 to 1.20</b>
2018 Ø EUR/USD assumption	~ 1.19 – 1.23 <sup>1</sup>

# FX sensitivity per business sector



## Healthcare

### Sales

- Global presence
- ~35% of sales in Europe

### Costs

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

### Net Sales currency exposure<sup>1</sup>



### FX impact on EBITDA pre<sup>2</sup>



## Life Science

### 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

### Net Sales currency exposure<sup>1</sup>



### FX impact on EBITDA pre<sup>2</sup>



## Performance Materials

### 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

### Net Sales currency exposure<sup>1</sup>



### FX impact on EBITDA pre<sup>2</sup>



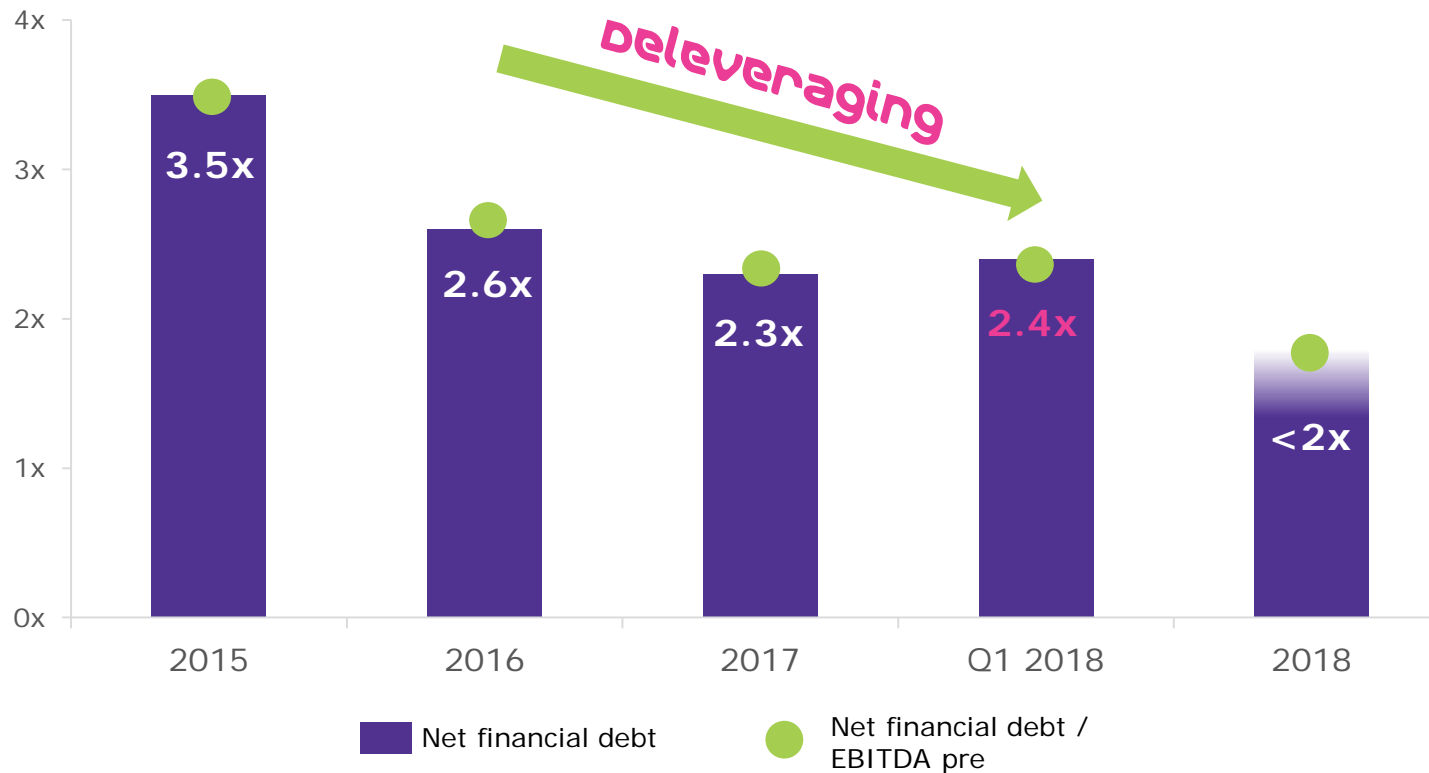
<sup>1</sup>Net sales not generated in €; <sup>2</sup>Indicative feedthrough of net sales FX impact to EBITDA pre; can vary over time



# Strong focus on cash generation to ensure swift deleveraging

## Net financial debt\* and leverage development

[Net financial debt/  
EBITDA pre]

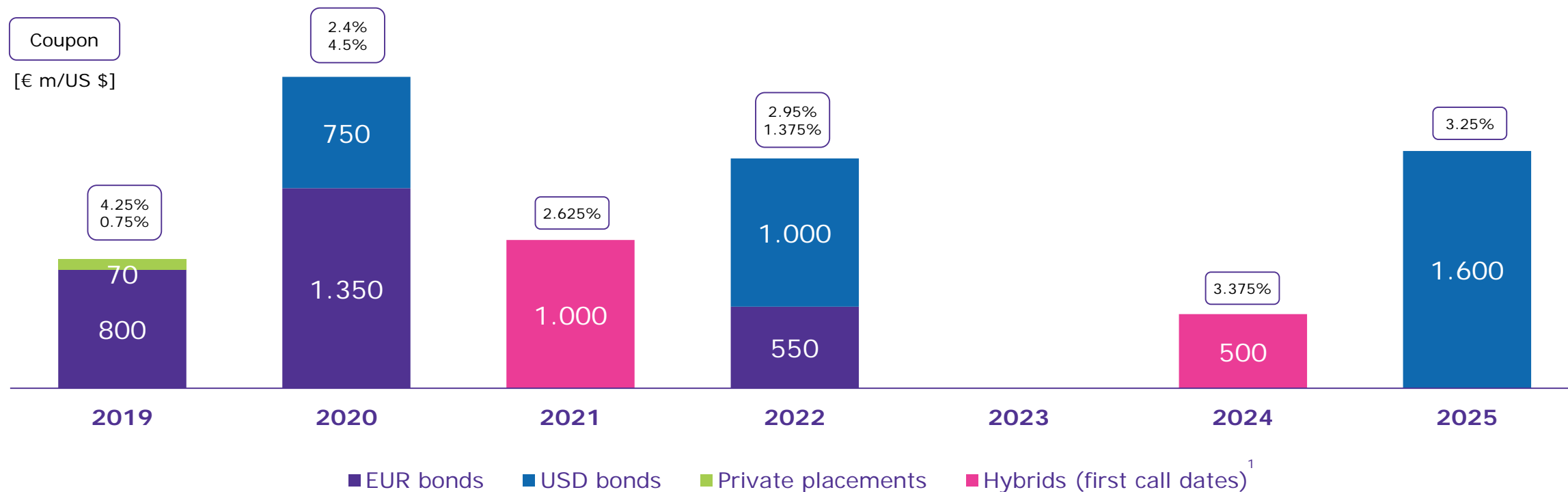


## Focus on deleveraging

- 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) remain ruled out for 2018

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

Maturity profile as of March 31, 2018

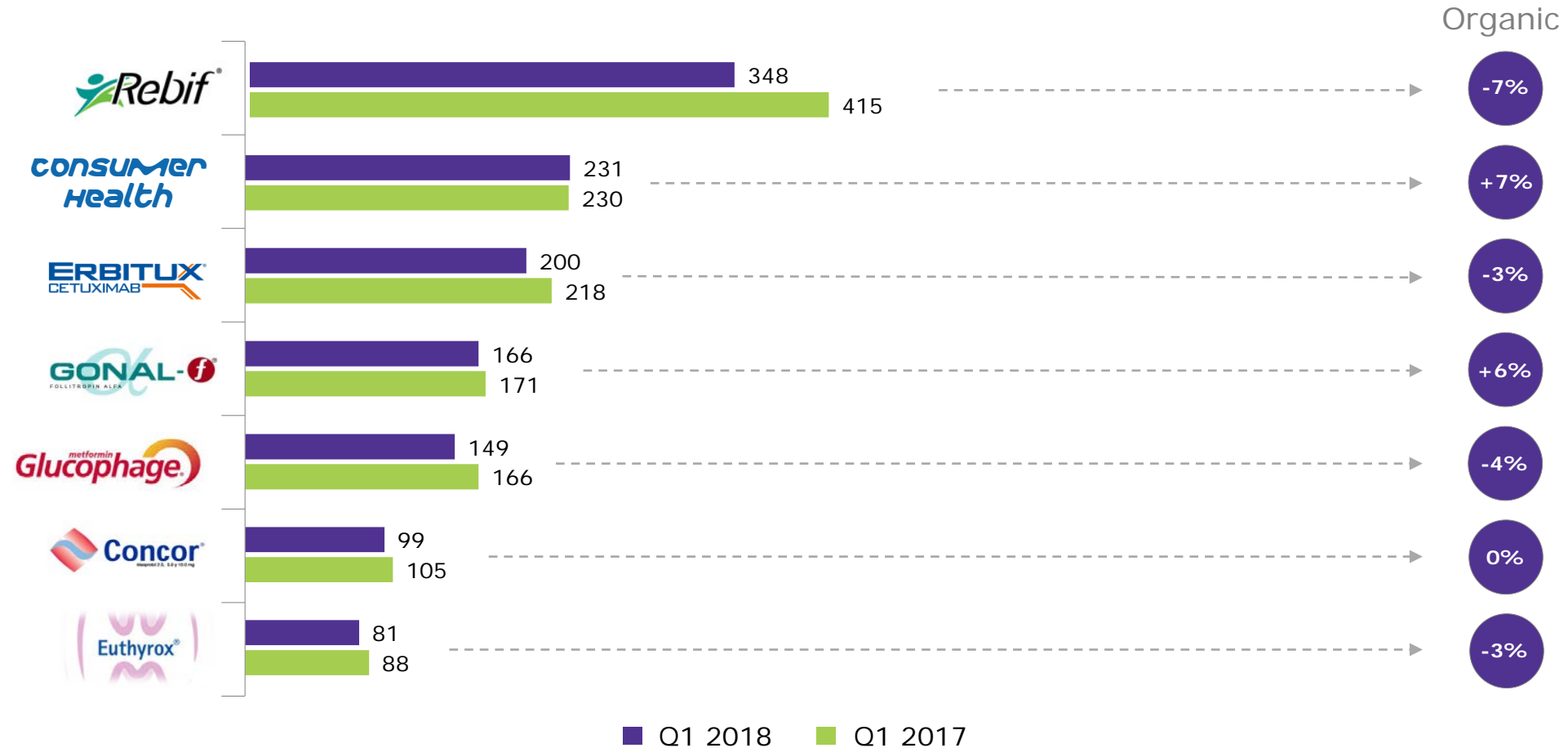


**Financing structure enables flexible and swift deleveraging**

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

# Healthcare organic growth by franchise/product

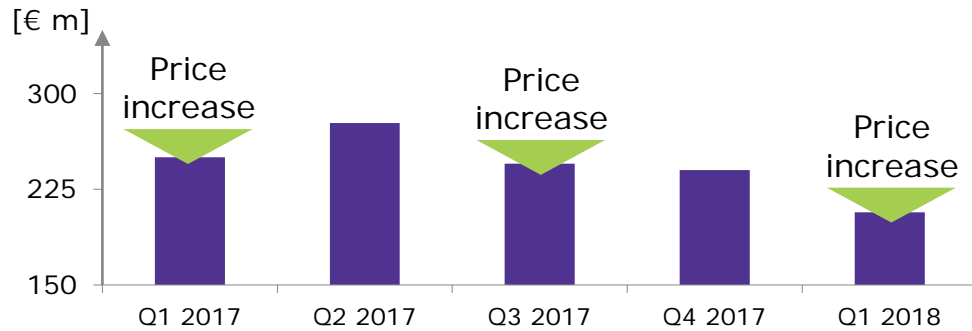
Q1 2018 organic sales growth [%] by key franchise/products [€ m]



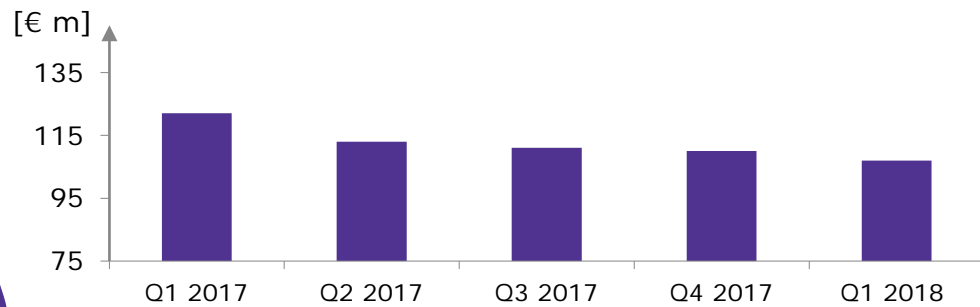
# Rebif: Ongoing decline in line with interferon market

## Rebif sales evolution

### North America



### Europe



### Q1 drivers

-4.9% org.



Price



Volume



FX

### Q1 drivers

-9.8% org.



Price



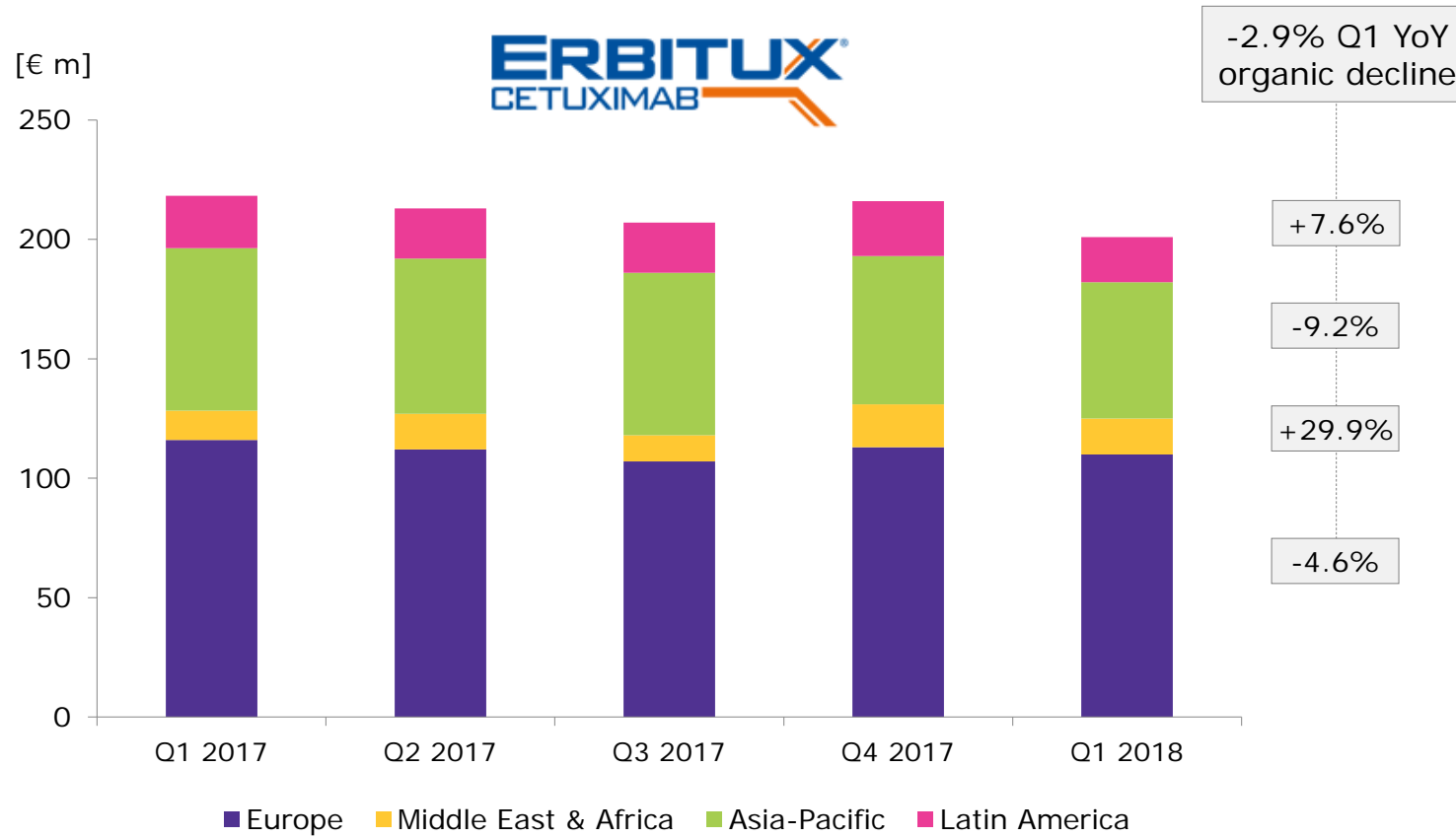
Volume

## Q1 2018 Rebif performance

- Rebif sales of €348 m in Q1 2018 reflect organic decline of -6.7% and negative FX effects mainly from the U.S.
- U.S. price increase in February more than offset by U.S. volume erosion
- Market shares within interferons stable due to high retention rates and known long-term track record
- Competitive environment incl. competition from orals cause ongoing organic decline in Europe

# Erbitux: A challenging market environment

## Erbitux sales by region



## Q1 2018 Erbitux performance

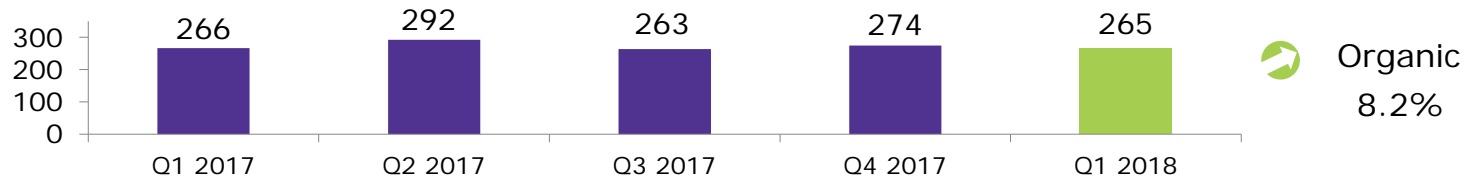
- Sales decrease to €200 m burdened by FX headwinds mainly from LATAM and APAC
- Europe impacted by competition, price reductions and shrinking market size due to increasing immuno-oncology trials
- APAC with ongoing volume and price erosion in China and Japan
- LATAM and MEA shows organic growth from higher demand, MEA also benefited from tender phasing

# Strong organic growth of Fertility driven by all regions

## Sales evolution

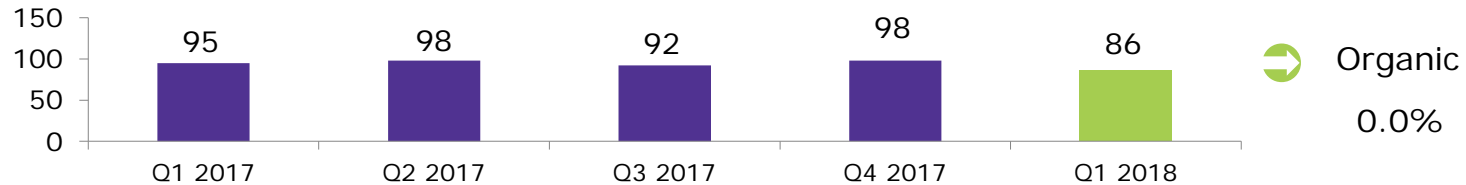
### Fertility

[€ m]



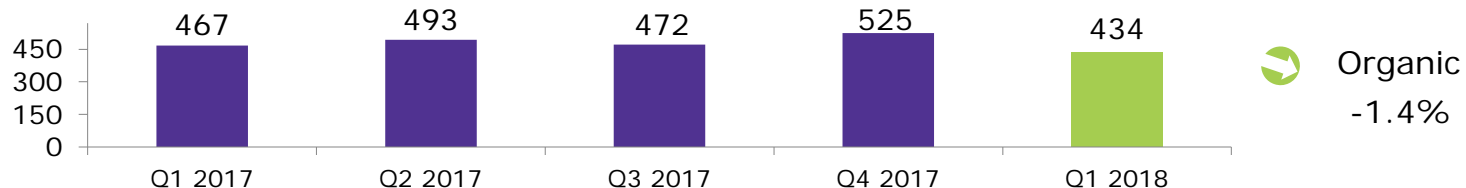
### Endocrinology

[€ m]



### General Medicine\*

[€ m]



## Q1 2018 organic drivers

- Fertility with strong growth across all regions, particularly North America with positive price and volume effects and increasing demand in APAC
- Gonal-f shows solid growth, supported by increasing demand and positive pricing, mitigated by competition from biosimilars in the EU
- Other Fertility drugs show further increases, especially in Europe
- General Medicine with slight decline, driven by tender phasing in MEA
- Endocrinology posts flat growth driven by organic growth in major markets, mitigated by decline in North America

# Clinical pipeline

May 2, 2018

## 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

**M7824**  
anti-PD-L1/TGFbeta trap  
Solid tumors

**M4112**  
Cancer immunotherapy  
Solid tumors

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

**M1095 (ALX-0761)<sup>2</sup>**  
anti-IL-17 A/F nanobody  
Psoriasis

**M5717**  
PeEF2 inhibitor  
Malaria

## 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 cancer 1L<sup>1</sup>

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

**sprifermin**  
fibroblast growth factor 18  
Osteoarthritis

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

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

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

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

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

## Registration

**cladribine tablets**  
lymphocyte-targeting agent  
Relapsing multiple sclerosis<sup>4</sup>

- Oncology
- Immuno-Oncology
- Immunology
- Neurology
- General Medicine

<sup>1</sup> First Line treatment; <sup>1M</sup> First Line maintenance treatment.

<sup>2</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

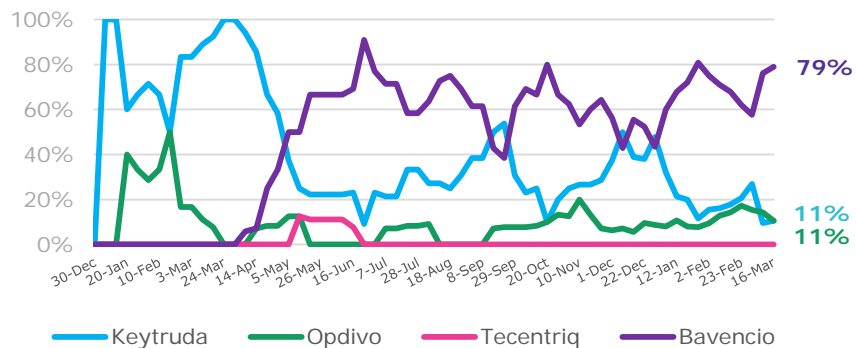
<sup>3</sup> As announced on May 2 2018, in an agreement with SFJ Pharmaceuticals Group, abrituzumab will be developed by SFJ for colorectal cancer through Phase II/III clinical trials.

<sup>4</sup> As announced on August 25 2017, the European Commission has granted marketing authorization for cladribine tablets for the treatment of highly active relapsing multiple sclerosis in the 28 countries of the European Union in addition to Norway, Liechtenstein and Iceland.

# Healthcare: Innovative drugs on track to deliver > €100m into 2018

## Bavencio 2<sup>nd</sup> anti-PD-L1 to the market

Leading patient share in MCC naïve/1L IO class<sup>4</sup>



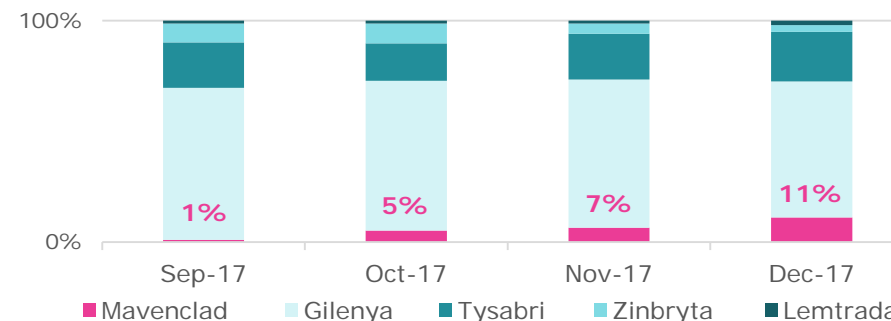
- MCC<sup>1</sup>: successful uptake due to accelerated approval<sup>3</sup>
- mUC<sup>2,3</sup>: targeted go-to-market

## Mid-double digit €m in 2018

<sup>1</sup>mMCC = metastatic Merkel cell carcinoma; <sup>2</sup>mUC = metastatic urothelial cancer; <sup>3</sup>Accelerated FDA approval for mMCC on March 23, 2017, and for mUC on May 9, 2017; Continued approval for these indications in the U.S. is contingent upon verification and description of clinical benefit in confirmatory trials; <sup>4</sup> Data sources: IMS claims data; <sup>5</sup>Source: IQVIA LRx data ("High efficacy dynamic segment" defined as "Naive or switch patients who are starting one of the mentioned high efficacy therapies during the month.").

## Mavenclad Change MS treatment paradigm

Gaining market share in HE dynamic segment (Germany)<sup>5</sup>



- Registered in EU, Canada, Australia and other markets
- Navigating standard access processes by market

## High-double digit €m in 2018



## Pipeline optionality materializing upon clinical evidence – prioritization ongoing

### Avelumab

- Results for Ovarian plat. res./ref. Ph III expected in Q4
- NSCLC 2L data to be presented in Q3 2018

ASCO

### Tepotinib

- Clinical data for NSCLC Met-Exon 14 at ASCO (Ph II)
- Molecule to be developed internally (FTD in Japan)

### BTK-i

- First PoC for BTK-i in auto-immune disease (Ph IIb)
- Secondary endpoint in Q4 to inform Ph III set-up

ASCO

### TGF- $\beta$ Trap

- Clinical data for NSCLC 2L & HPV assocd. cancers at ASCO (Ph Ib)
- Focused development approach to be started in Q3

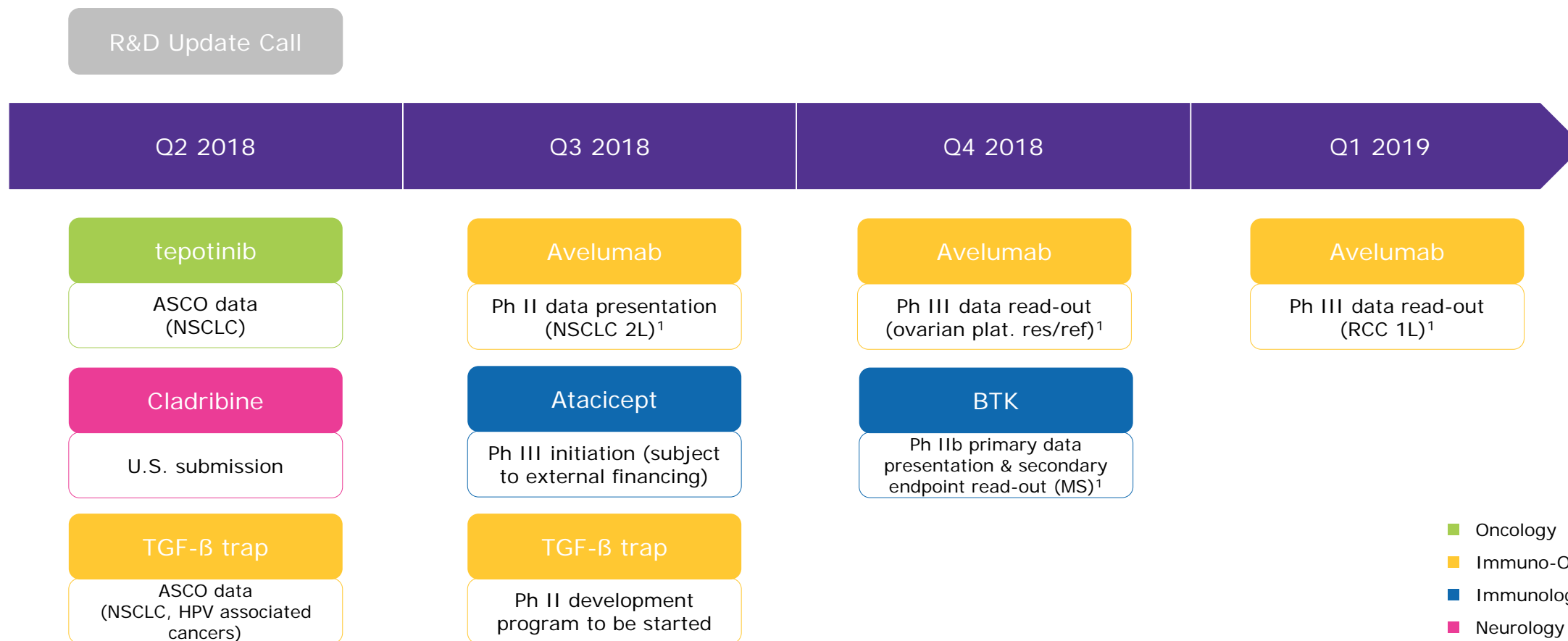
### Abituzumab

- Developing mCRC 1L in combination with Erbitux (LCM)
- Increasing R&D productivity through external financing

### Rationale for partnering

- Maximize asset potential and explore options beyond core indications
- Optimize investment risk
- Consider broad spectrum from partnering to external financing

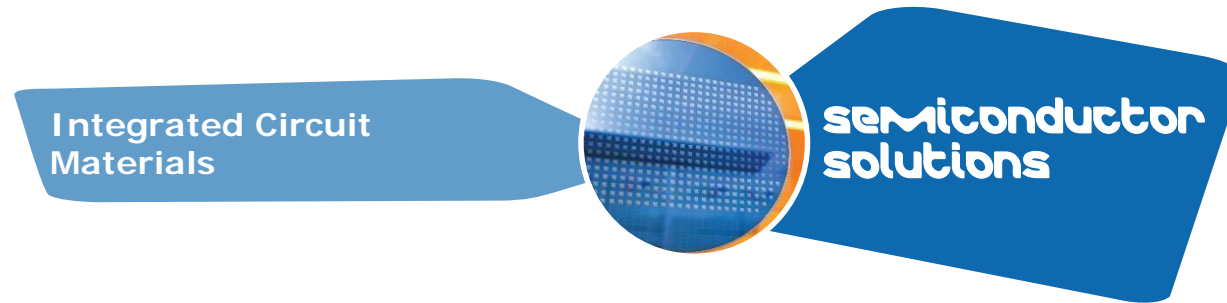
# Healthcare catalysts: Major read-outs and development progress expected



<sup>1</sup> Note: timelines are event-driven and may change.  
 Acronyms: NSCLC – Non small cell lung cancer; MS – Multiple Sclerosis; RCC – Renal Cell Carcinoma; HPV – Human papillomavirus

# Performance Materials: New structure combines LC with OLED, serving same customer group

## Business allocation within Performance Materials



## % sales



## Products

- Dielectrics, colloidal silica, lithography materials, yield enhancers, edge-bead removers
- Polyimide raw materials and printing materials



- Liquid crystals (LC) and photoresists for TVs, smartphones and tablet computers
- Other display and non-display applications (e.g. LC Windows)
- Organic and inorganic light emitting diodes



- Effect pigments and functional materials for coatings, plastics, printing and cosmetics
- Functional materials for cosmetics & special applications
- Functional materials for electronics and energy solutions

# Adjustments in Q1 2018

## Adjustments in EBIT

[€m]	Q1 2017		Q1 2018	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	4	1	31	2
Life Science	16	0	13	0
Performance Materials	7	0	3	0
Corporate & Other	15	3	24	0
Total	41	4	71	2

## Financial calendar

Date	Event
August 9, 2018	Q2 2018 Earnings release
November 14, 2018	Q3 2018 Earnings release
March 7, 2019	FY 2018 Earnings release

