

# A QUARTER OF STRONG PERFORMANCE

**Merck Q2 2019 results**

***- Presentation for the media -***

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# Agenda

**01** Executive summary

**02** Financial overview

**03** Guidance



# 01 EXECUTIVE SUMMARY

# Highlights

## Operations

- ▶ Healthcare – Underlying profitability better than Q1 and further boosted by non-recurring business-related income
- ▶ Life Science – Sustained strong organic growth driven by all businesses with Process Solutions as main contributor
- ▶ Performance Materials – Strong OLED growth more than offset by (1) lower LC due to decreasing China ramp-up support, and (2) market slowdown in Semiconductor Solutions and Surface Solutions

## Financials

- ▶ Q2 2019 organic sales growth of +5.6%; Q2 2019 organic EBITDA pre growth of +20.3%
- ▶ Full-year 2019 guidance confirmed: net sales: €15.3 to 15.9 bn; EBITDA pre: € 4,150 to 4,350 m; EPS pre: € 5.30 to 5.65
- ▶ Financing structure for Versum Materials acquisition in place – €1.5 bn hybrid bonds and €2 bn EUR bonds\* successfully issued

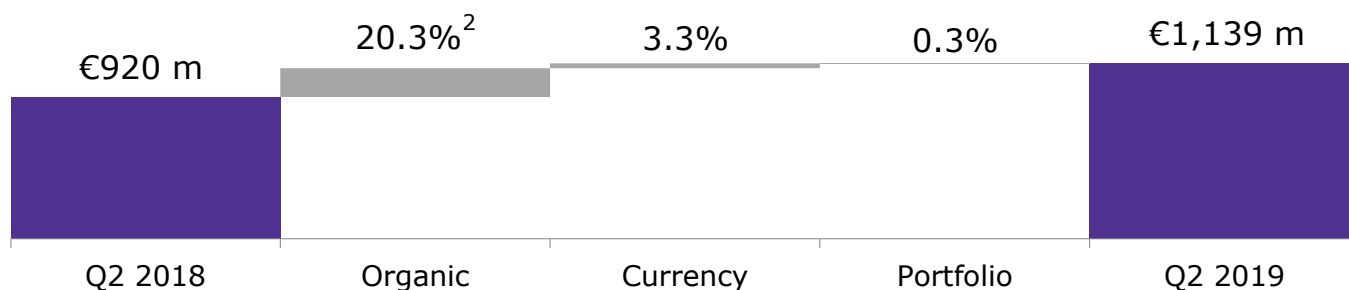
## Life Science and Healthcare drive organic growth supported by FX tailwinds

### Q2 2019 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	5.2%	0.7%	0.0%	<b>5.9%</b>
Life Science	9.0%	2.1%	-0.6%	<b>10.5%</b>
Performance Materials	-2.0%	2.4%	0.0%	<b>0.4%</b>
Group	5.6%	1.5%	-0.2%	<b>6.9%</b>

- Solid growth in Healthcare reflects stable core business and increasing contributions from Mavenclad<sup>®</sup> and Bavencio<sup>®</sup>
- Above-market organic growth in Life Science due to strong demand across all businesses and regions
- Performance Materials reflects lower LC due to reduced China ramp-up support and softer market demand in Semiconductor and Surface Solutions; OLED again strong

### Q2 YoY EBITDA pre

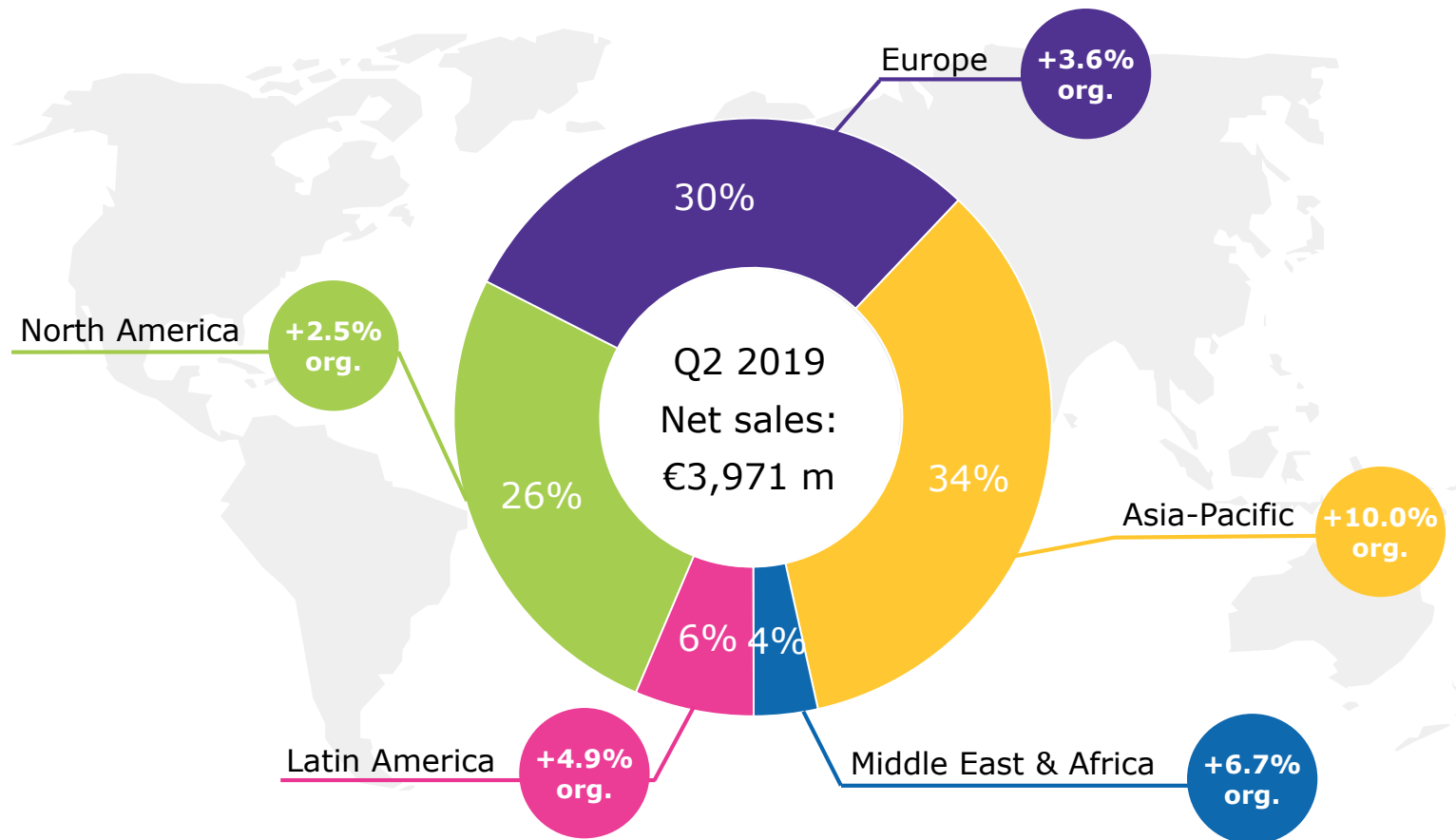


- Increased organic EBITDA pre driven by milestone payments and deferred income in HC as well as ongoing strong performance of LS
- Positive FX impact on EBITDA pre due to EUR/USD development and last years' ARS<sup>1</sup> devaluation burdened by hedging losses

<sup>1</sup>ARS – Argentine peso; <sup>2</sup>Thereof IFRS 16 effect with +3.5% (+€32 m); Totals may not add up due to rounding

# Organic growth driven by all regions

## Regional breakdown of net sales [€m]



## Regional organic development

- Strong APAC due to double-digit growth of Glucophage<sup>®</sup>, Erbitux<sup>®</sup> and OLED; Life Science with ongoing strong demand
- Europe driven by strong demand in Life Science; strong Mavenclad<sup>®</sup> ramp-up overcompensates Rebif<sup>®</sup> decline
- North America reflects double-digit growth of Process Solutions, Fertility and Mavenclad<sup>®</sup> ram-up, outweighing double-digit decline of Rebif<sup>®</sup>
- Solid performance in LATAM due to strong Life Science, Erbitux and N&I franchise
- Middle East and Africa driven by strong Rebif<sup>®</sup> and Glucophage<sup>®</sup>





## 02 FINANCIAL OVERVIEW

## Q2 2019: Overview

### Key figures

[€m]	Q2 2018	Q2 2019	Δ
Net sales	3,714	<b>3,971</b>	6.9%
EBITDA pre	920	<b>1,139</b>	23.8%
Margin (in % of net sales)	24.8%	28.7%	
EPS pre	1.23	<b>1.54</b>	25.2%
Operating cash flow	367	<b>743</b>	102.2%

[€m]	Dec. 31, 2018	June 30, 2019	Δ
Net financial debt	6,701	<b>7,829</b>	16.8%
Working capital	3,486	<b>3,866</b>	10.9%
Employees	51,749	<b>53,051</b>	2.5%

### Comments

- Net sales growth driven by Life Science and Healthcare
- EBITDA pre & margin reflect Peg-Pal (~€75 m) and Bavencio<sup>®</sup> (~€35 m) milestones, GSK deferred income (~€30 m) and strong performance of LS
- Strong operating cash flow due to higher profit after tax and GSK upfront payment
- Working capital reflects increased business activity and FX
- Higher net financial debt mainly due to IFRS 16 adoption, dividends and temporary investment of cash proceeds from CH divestment

# Reported figures

## Reported results

[€m]	Q2 2018	Q2 2019	Δ
EBIT	392	<b>618</b>	57.6%
Financial result	-65	<b>-61</b>	-5.4%
Profit before tax	328	<b>557</b>	70.0%
Income tax	-84	<b>-136</b>	62.8%
<i>Effective tax rate (%)</i>	25.5%	<b>24.4%</b>	
Net income <sup>*</sup>	247	<b>471</b>	90.8%
EPS (€)	0.57	<b>1.08</b>	89.5%

## Comments

- Increased EBIT due to Peg-Pal and Bavencio<sup>®</sup> milestones, GSK deferred income as well as strong top-line contribution from Life Science
- Effective tax rate within guidance range of ~24-26%
- Higher net income and EPS reflect higher EBIT

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

# Healthcare: Underlying profitability increases vs. Q1 driven by organic performance and cost discipline, further boosted by non-recurring business-related income

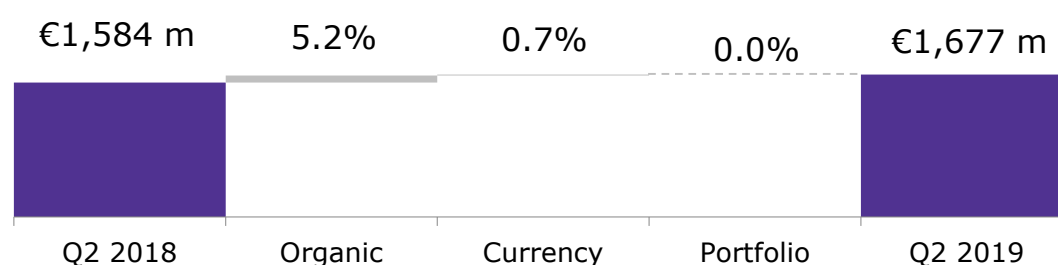
## Healthcare P&L

[€m]	Q2 2018 <sup>1</sup>	Q2 2019
Net sales	1,584	<b>1,677</b>
Marketing and selling	-592	<b>-599</b>
Administration	-82	<b>-84</b>
Research and development	-407	<b>-395</b>
EBIT	155	<b>345</b>
EBITDA	338	<b>523</b>
EBITDA pre	379	<b>528</b>
Margin (in % of net sales)	23.9%	<b>31.5%</b>

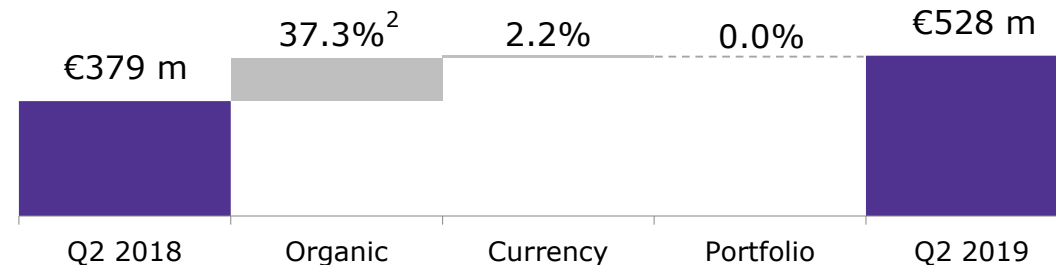
## Comments

- Solid growth in Healthcare driven by General Medicine, Mavenclad<sup>®</sup>, Erbitux<sup>®</sup>, Fertility and Bavencio<sup>®</sup>, more than offset strong Rebif<sup>®</sup> decline
- Mavenclad<sup>®</sup> with continued strong uptake supported by initial U.S. sales following approval (+41% vs. Q1)
- Bavencio<sup>®</sup> on track; Erbitux<sup>®</sup> benefiting from China reimbursement, still facing ongoing competition and price pressure in major markets
- R&D below prior year due to stringent project prioritization
- Higher EBITDA pre driven by Peg-Pal (~€75 m) and Bavencio<sup>®</sup> (~€35 m) milestone as well as GSK deferred income (~€30 m), sequential underlying<sup>3</sup> margin increase

## Net sales bridge



## EBITDA pre bridge



<sup>1</sup>LY numbers have been modified, due to disclosure changes of adjustments; <sup>2</sup>Thereof IFRS 16 effect with +3.2% (+€12 m); <sup>3</sup>EBITDA pre adjusted for €140 m non-recurring income; Totals may not add up due to rounding

# Life Science: Strong organic growth fueled by all businesses

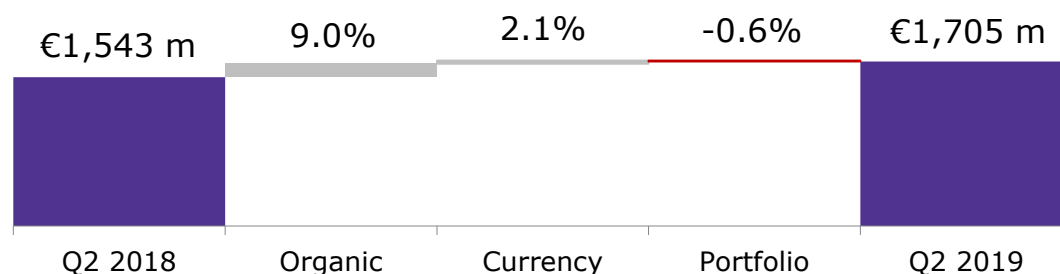
## Life Science P&L

[€m]	Q2 2018 <sup>1</sup>	Q2 2019
Net sales	1,543	<b>1,705</b>
Marketing and selling	-452	<b>-490</b>
Administration	-65	<b>-68</b>
Research and development	-61	<b>-69</b>
EBIT	254	<b>322</b>
EBITDA	442	<b>518</b>
EBITDA pre	452	<b>533</b>
Margin (in % of net sales)	29.3%	<b>31.3%</b>

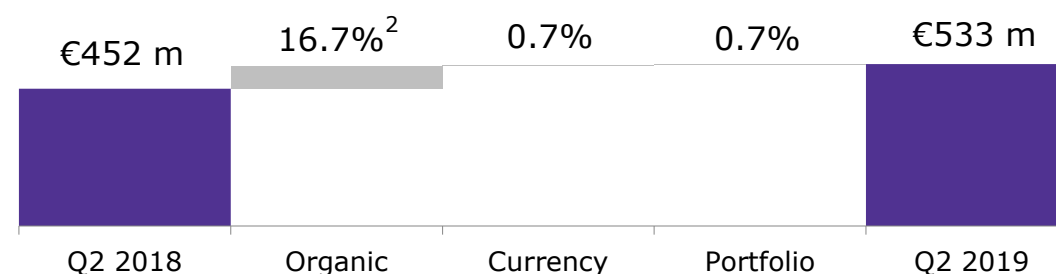
## Comments

- Process Solutions with continued strong demand: double-digit growth in all major business fields, especially single-use
- Advanced Analytical and Lab Water main contributor to Applied Solutions solid organic growth, all business segments and regions contributing
- Moderate organic growth of Research Solutions due to ongoing strong demand for lab chemicals and workflow tools, especially in APAC and NA
- M&S increase reflects volume growth and investments in eCommerce
- EBITDA pre and margin increase driven by strong top-line

## Net sales bridge



## EBITDA pre bridge



<sup>1</sup>LY numbers have been modified, due to disclosure changes of adjustments; <sup>2</sup>Thereof IFRS 16 effect with +2.8% (+€12 m); Totals may not add up due to rounding

# Performance Materials: Reduced China support for Liquid Crystals mitigated by strong demand for OLED, amid market slowdown in Semiconductor and Surface

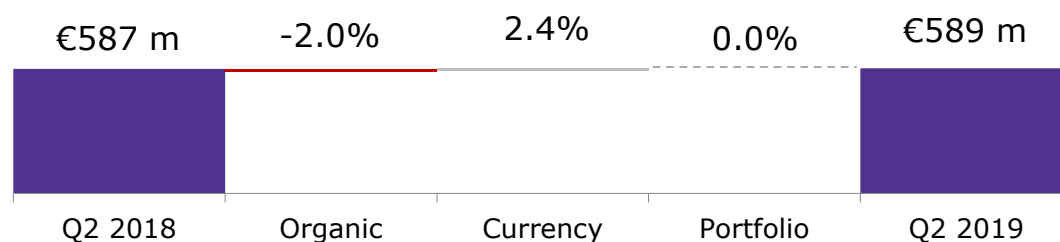
## Performance Materials P&L

[€m]	Q2 2018 <sup>1</sup>	Q2 2019
Net sales	587	<b>589</b>
Marketing and selling	-61	<b>-66</b>
Administration	-27	<b>-25</b>
Research and development	-59	<b>-74</b>
EBIT	131	<b>100</b>
EBITDA	192	<b>161</b>
EBITDA pre	196	<b>190</b>
Margin (in % of net sales)	33.4%	<b>32.3%</b>

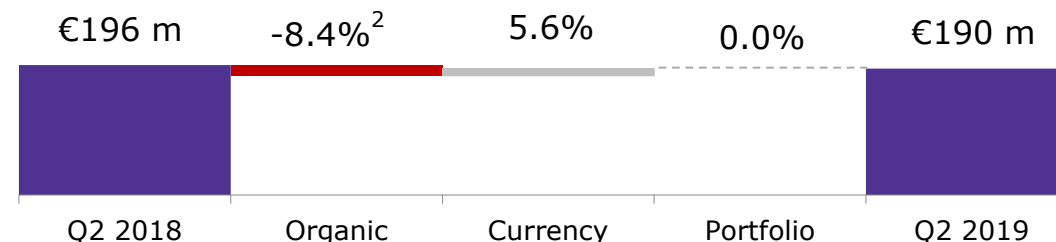
## Comments

- About stable Display Solutions sales driven by strong demand for OLED, almost offset by decline in LC due to deceleration of China ramp-up support
- Softness of Semiconductor Solutions reflects market slowdown
- Surface Solutions below prior year due to weak automotive market
- Provisions related to Bright Future program drive M&S and R&D increase; adjusted for EBITDA pre - decrease in R&D reflecting cost control
- EBITDA pre impacted by ongoing liquid crystal price decline and slowing China ramp up contribution as well as reduced fixed cost leverage due to softness in Surface Solutions and Semiconductor Solutions

## Net sales bridge

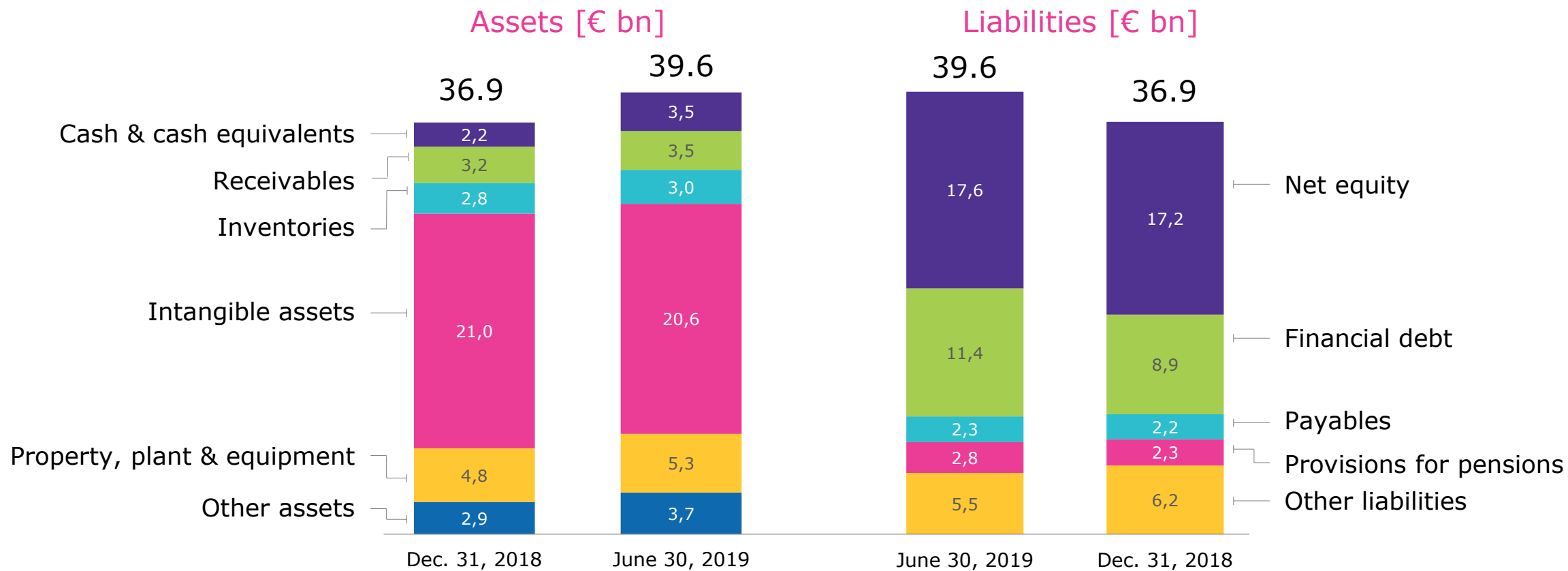


## EBITDA pre bridge



<sup>1</sup>LY numbers have been modified, due to disclosure changes of adjustments; <sup>2</sup>Thereof IFRS 16 effect with +1.3% (+€3 m); Totals may not add up due to rounding

## Balance sheet – Reflecting bond placements and IFRS 16 adoption



- Higher cash & cash equivalents driven by bond placements (€1.5 bn)
- Property, plant and equipment increase mainly due to IFRS 16 adoption
- Other assets reflect temporary investment of cash proceeds from Consumer Health divestment

- Increase in equity reflects profit after tax (equity ratio of 44.4%)
- Higher financial debt due to bond placements (€1.5 bn) and IFRS 16 reclassification of lease liabilities
- Increase of provisions for pensions reflects decline in interest rate

# Cash flow statement

## Q2 2019 – cash flow statement

[€m]	Q2 2018	Q2 2019	Δ
Profit after tax	251	<b>471</b>	220
D&A	448	<b>453</b>	5
Changes in provisions	34	<b>-47</b>	-80
Changes in other assets/liabilities	-243	<b>-26</b>	217
Other operating activities	25	<b>-51</b>	-76
Changes in working capital	-148	<b>-58</b>	90
Operating cash flow	367	<b>743</b>	375
Investing cash flow	-200	<b>-870</b>	-671
thereof Capex on PPE	-168	<b>-165</b>	3
Financing cash flow	-295	<b>1,244</b>	1,539

## Cash flow drivers

- Profit after tax in line with higher EBIT
- Changes in provisions driven by LTIP\* adjustment
- Changes in other assets/liabilities reflects GSK upfront and Peg-Pal milestone payment
- Changes in working capital driven by increased trade accounts payable
- Increased investing cash flow due to temporary investment of cash proceeds from Consumer Health divestment
- Higher financing cash flow reflects the issuance of new hybrid bonds (€1.5 bn)

\*LTIP – long-term incentive plan;  
Totals may not add up due to rounding





# 03 GUIDANCE

# Group

## Full-year 2019 guidance<sup>1</sup>

### Net sales:

Organic +3% to +5% YoY

FX ~ 0% to +2% YoY

~ € 15.3 – 15.9 bn

### EBITDA pre:

Organic +10% to +13% YoY<sup>2</sup>

FX 0% to +2% YoY

~ € 4,150 – 4,350 m<sup>3</sup>

### EPS pre:

~ € 5.30 – 5.65

<sup>1</sup>Merck KGaA, Darmstadt, Germany stand-alone, i.e. without acquisition of Versum Materials and Intermolecular Inc.; <sup>2</sup>Incl. ~€130 m YoY contribution from adoption of IFRS 16 (Healthcare ~40%, Life Science ~40%, PM ~10%, CO ~10%); <sup>3</sup>CO guidance 2019: -€420 m to -€480 m (assuming FX adjusted CO costs -€390 m to -€400 m)

# Group

## 2019 business sector guidance<sup>1</sup>



### Healthcare

#### Net sales

- Solid organic growth +4% to +6%
- Base business at least stable organically
- Strong contributions from launches including Mavenclad<sup>®</sup>

#### EBITDA pre<sup>2</sup>

- Organic +19% to +23% YoY
- FX -1% to +2% YoY
- ~ €1,830 – 1,940 m



### Life Science

#### Net sales

- Organic growth +7% to +8%, above expected market growth
- Main growth driver Process Solutions but all businesses contributing

#### EBITDA pre<sup>2</sup>

- Organic +11% to +13% YoY
- FX +0% to +2% YoY
- ~ €2,020 – 2,120 m with 20-30 bps<sup>3</sup> underlying margin progression



### Performance Materials

#### Net sales

- Organic decline -4% to -7%
- LC resuming decline, following temporary capacity ramp-up in China
- Economic environment may lead to moderate decline in Semiconductor, return to growth in 2020

#### EBITDA pre<sup>2, 4</sup>

- Organic -9% to -13% YoY
- FX +1% to +4% YoY
- ~ €685 – 745 m

<sup>1</sup>Divisional guidances are only support to the group guidance and do not have to add up; <sup>2</sup>Incl. ~€130 m YoY contribution from adoption of IFRS 16 (Healthcare ~40%, Life Science ~40%, PM ~10%, CO ~10%); <sup>3</sup>bps = basis points; <sup>4</sup>Merck KGaA, Darmstadt, Germany stand-alone, i.e. without acquisition of Versum Materials and Intermolecular Inc.



The background features a teal gradient on the right side, transitioning into a purple area on the left. Overlapping these are large, organic shapes in shades of purple and pink. In the bottom-left corner, there is a white line graphic consisting of two parallel, wavy paths that form a stylized, elongated shape.

## APPENDIX

# Group

## Key earnings drivers to remember for 2019



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

- Strong sales contribution from Mavenclad<sup>®</sup> ramp-up and Bavencio<sup>®</sup>

New

Ongoing strength in Life Science with 7% to 8% organic above-market net sales growth and 20-30 bps underlying margin progression

- Successful partnering of bintrafusp alfa with ~€100 m of deferred income from upfront payment recognized as other operating income in Q2 to Q4 2019
- Income from milestones and management of pipeline (part of operating business in Healthcare) materializing in Q2 and Q4 2019

- Lower expected license payments for Erbitux<sup>®</sup>

- High level of cost consciousness and prioritization

- Adoption of IFRS 16 contributes ~€130 m<sup>2</sup> to organic growth YoY

New

Positive FX impact: Emerging market currencies remain weak but offset by favorable EUR/USD development (range 2019: 1.12-1.16)



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

New

About stable R&D costs budgeted for Healthcare and 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

New

Performance Materials sales and earnings reaching trough due to expected decline in Liquid Crystals in H2; economic environment may lead to moderate decline in Semiconductors, returning to growth in 2020

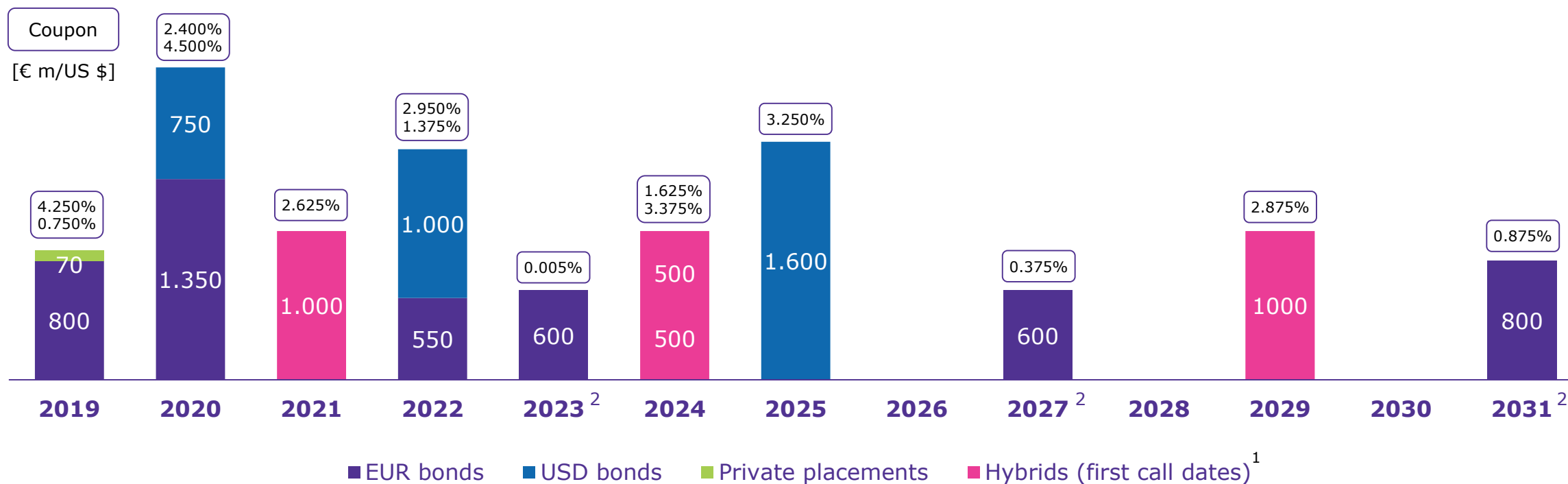
# Additional financial guidance 2019

## Further financial details

Corporate & Other EBITDA pre*	~ -€420 – -480 m
Interest result	~ -€260 – -280 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	~ 1.12 – 1.16

# Maturity profile reflects Sigma-Aldrich and Versum financing transactions

Maturity profile as of June 30, 2019



**Balanced maturity profile in upcoming years avoids refinancing risks and provides sufficient flexibility for deleveraging**

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

<sup>2</sup>EUR bonds had been placed at July 1<sup>st</sup>, 2019



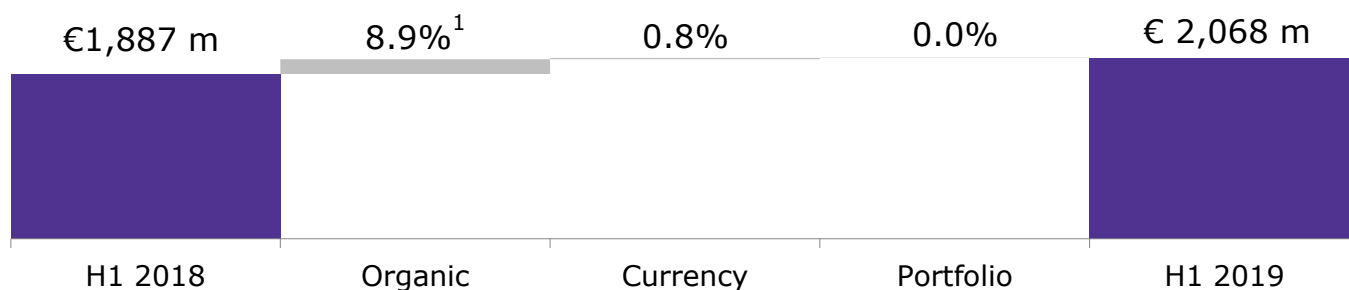
## All businesses drive organic growth supported by FX tailwinds

### H1 2019 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	4.1%	0.5%	0.0%	<b>4.6%</b>
Life Science	9.2%	2.5%	-0.5%	<b>11.1%</b>
Performance Materials	0.6%	3.1%	0.0%	<b>3.7%</b>
Group	5.7%	1.8%	-0.2%	<b>7.2%</b>

- Healthcare with solid growth driven by General Medicine, Mavenclad<sup>®</sup>, Fertility, Erbitux<sup>®</sup> and Bavencio<sup>®</sup>, offsetting strong Rebif<sup>®</sup> decline
- Above-market growth in Life Science due to strong momentum across all business units
- Performance Materials about stable due to decelerated LC support from China ramp-up and softer Surface and Semiconductor mitigated by strong OLED

### H1 YoY EBITDA pre



- Increased organic EBITDA pre reflects milestone payments in HC and strong performance of LS, mitigated by ongoing LC price decline
- Slightly positive FX effects on EBITDA pre

<sup>1</sup>Thereof IFRS 16 effect with +3.4% (+€64 m); Totals may not add up due to rounding

# H1 2019: Overview

## Key figures

[€m]	H1 2018	H1 2019	Δ
Net sales	7,199	<b>7,717</b>	7.2%
EBITDA pre*	1,887	<b>2,068</b>	9.6%
<i>Margin (in % of net sales)</i>	26.2%	26.8%	
EPS pre	2.56	<b>2.67</b>	4.3%
Operating cash flow	748	<b>1,235</b>	65.2%

[€m]	Dec. 31, 2018	June 30, 2019	Δ
Net financial debt	6,701	<b>7,829</b>	16.8%
Working capital	3,486	<b>3,866</b>	10.9%
Employees	51,749	<b>53,051</b>	2.5%

\*LY numbers have been modified, due to Consumer Health disposal;  
Totals may not add up due to rounding.

## Comments

- Net sales reflect sales growth across all businesses supported by FX tailwinds
- EBITDA pre & margin increase due to milestone payments and deferred income in HC and operational leverage in LS
- Higher EPS pre reflects improved EBITDA pre, mitigated by impairment of asset from F-star collaboration (~€27 m)
- Strong operating cash flow driven by higher profit after tax and GSK upfront payment
- Working capital reflects increased business activity and FX effects
- Higher net financial debt mainly due to IFRS 16 adoption, dividends and temporary investment of cash proceeds from CH disposal

# Reported figures

## Reported results

[€m]	H1 2018	H1 2019	Δ
EBIT	895	<b>997</b>	11.5%
Financial result	-126	<b>-174</b>	38.1%
Profit before tax	769	<b>824</b>	7.1%
Income tax	-192	<b>-203</b>	6.1%
<i>Effective tax rate (%)</i>	<i>24.9%</i>	<b><i>24.7%</i></b>	
Net income <sup>1</sup>	588	<b>659</b>	12.2%
EPS (€)	1.35	<b>1.52</b>	12.6%

## Comments

- Higher EBIT reflects strong topline contribution from Life Science and non-recurring income in Healthcare
- Lower financial result driven by revaluation of F-Star purchase option (-€45 m)
- Effective tax rate within guidance range of ~24-26%
- Higher net income and EPS in line with increased EBIT

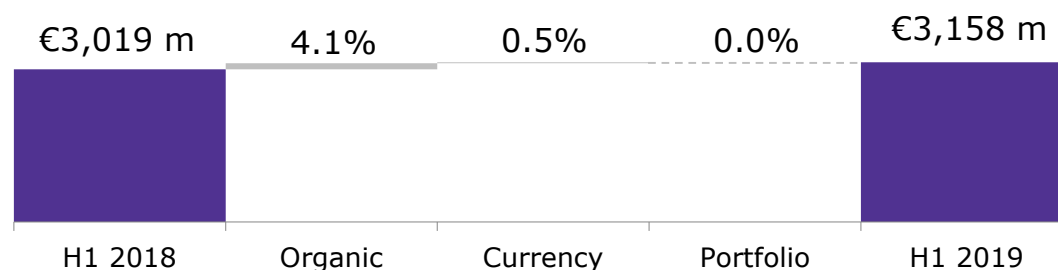
<sup>1</sup>From continuing and discontinued operations;  
Totals may not add up due to rounding

# Healthcare: Profitability driven by topline growth and milestone payments

## Healthcare P&L

[€m]	H1 2018 <sup>1</sup>	H1 2019
Net sales	3,019	<b>3,158</b>
Marketing and selling	-1,142	<b>-1,150</b>
Administration	-159	<b>-172</b>
Research and development	-785	<b>-775</b>
EBIT	350	<b>473</b>
EBITDA	717	<b>852</b>
EBITDA pre	760	<b>860</b>
Margin (in % of net sales)	25.2%	<b>27.2%</b>

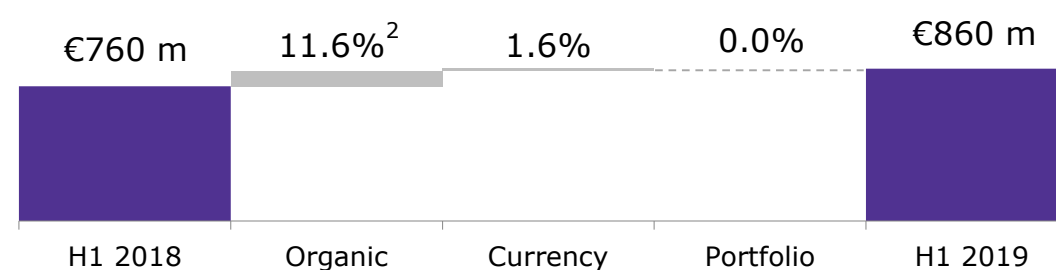
## Net sales bridge



## Comments

- Solid growth in Healthcare driven by General Medicine, Mavenclad<sup>®</sup>, Erbitux<sup>®</sup>, Fertility and Bavencio<sup>®</sup>, more than offset strong Rebif<sup>®</sup> decline
- Mavenclad<sup>®</sup> with continued strong uptake after U.S. approval in March 2019
- Bavencio<sup>®</sup> ramp-up on track; Erbitux<sup>®</sup> benefitting from China reimbursement, still facing ongoing competition and price pressure in major markets
- Stable M&S reflects pre-launch investments attributable to Mavenclad<sup>®</sup> and Bavencio<sup>®</sup> as well as investments to drive growth in China mitigated by lower investments in mature products
- Higher EBITDA pre driven by Bavencio<sup>®</sup> (~€35 m) milestone, GSK deferred income (~€30 m) and Peg-Pal (~€75 m), outweighing last years Peg-Pal milestone (~€50 m)

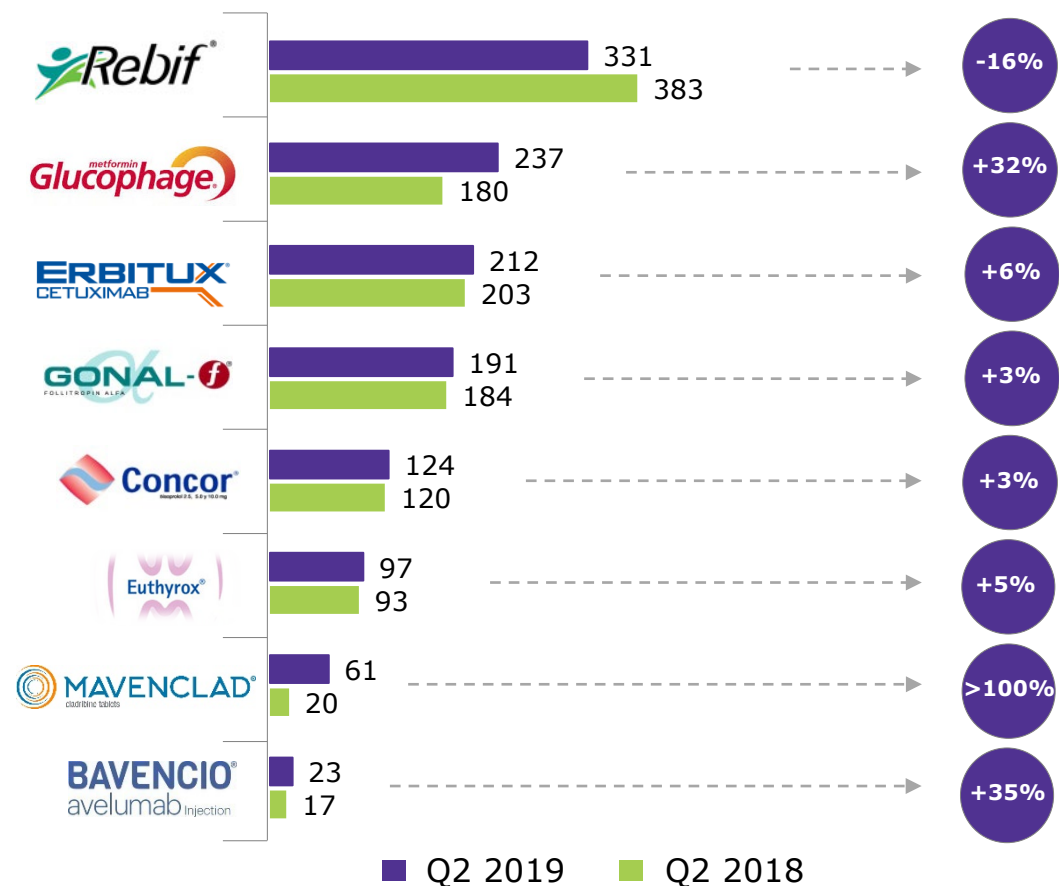
## EBITDA pre bridge



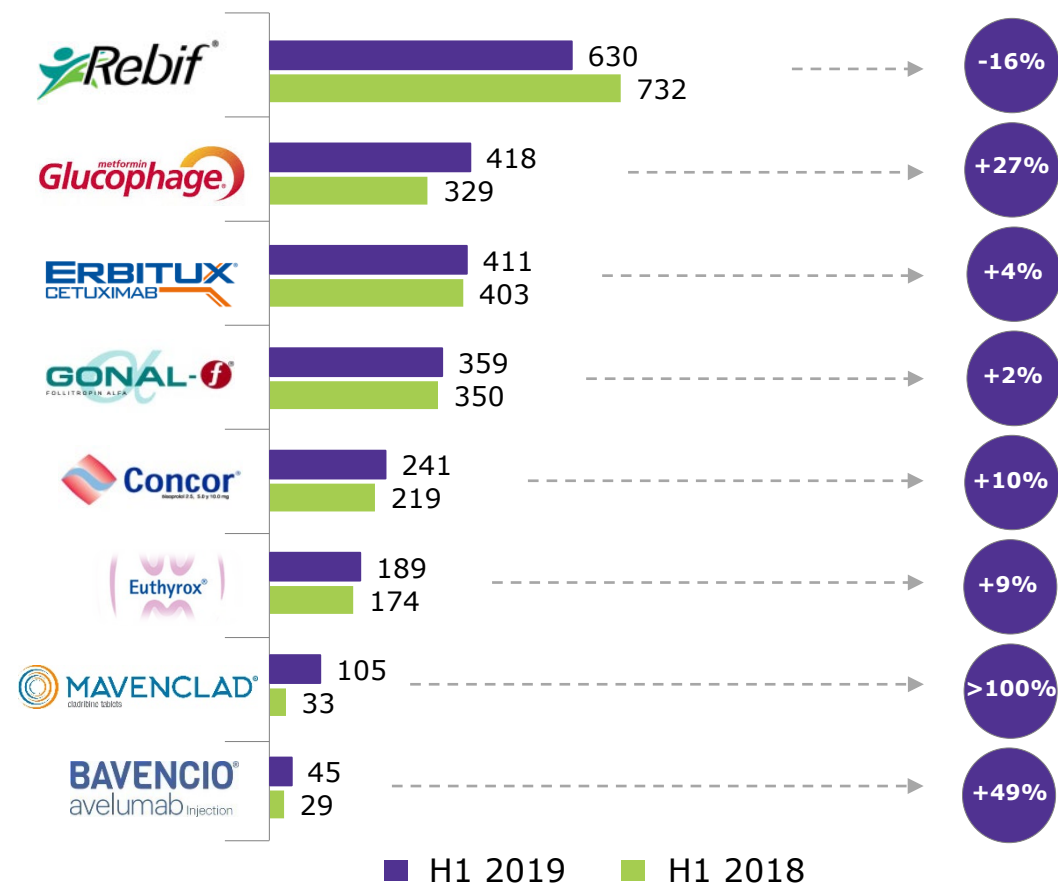
<sup>1</sup>LY numbers have been modified, due to Consumer Health disposal and disclosure changes of adjustments; <sup>2</sup>Thereof IFRS 16 effect with +3.3% (+€25 m); Totals may not add up due to rounding

# Healthcare organic growth by franchise/product

Q2 2019 organic sales growth [%]  
by key product [€m]

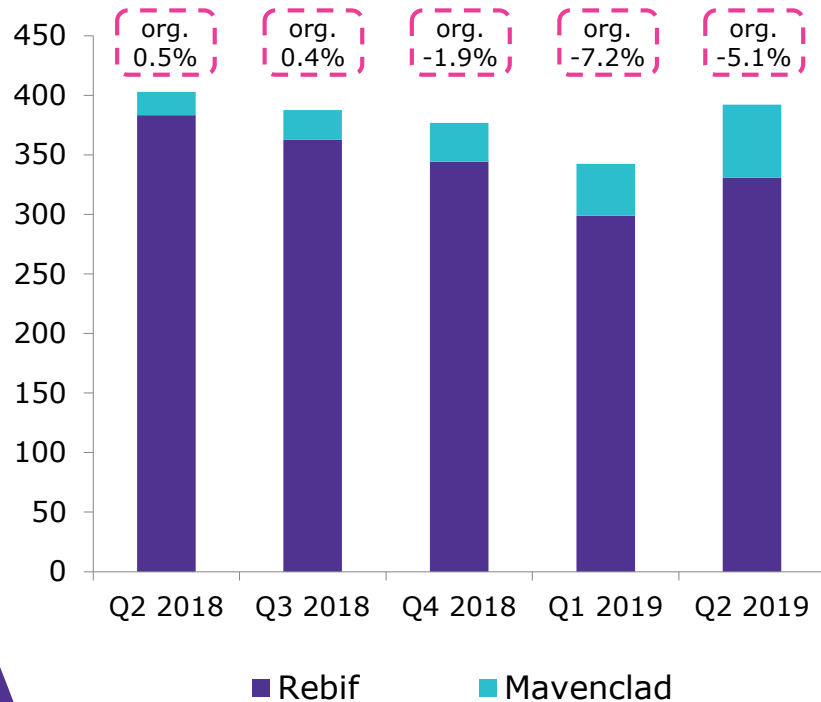


H1 2019 organic sales growth [%]  
by key product [€m]

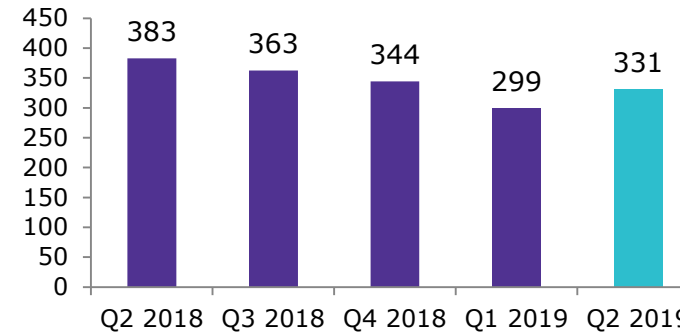


# Neurodegenerative Diseases: Strong growth of Mavenclad<sup>®</sup> still overcompensated by Rebif<sup>®</sup> decline

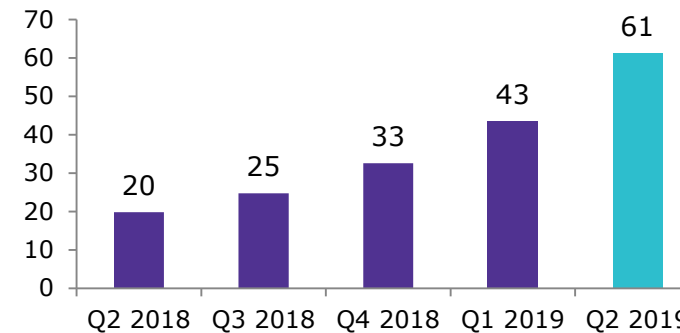
Sales development NDI, [€m]



Rebif<sup>®</sup> net sales, [€m]



Mavenclad<sup>®</sup> net sales, [€m]



- Rebif<sup>®</sup> sales of €331 m in Q2 2019 reflects organic decline of -16.1% mitigated by FX effect of +2.5%
- U.S. and European volume decline mainly due to competition
- U.S. decline in line with IFN market dynamics

**Mavenclad<sup>®</sup> launch on track with increasing contribution**

**FY 2019 guidance of up to mid triple-digit €m**

NDI = Neurodegenerative Diseases & Immunology; IFN = Interferon

# Multiple Sclerosis: Mavenclad® launch continues to make progress with sales +41% Q2 vs Q1 2019



## Global Launch Update

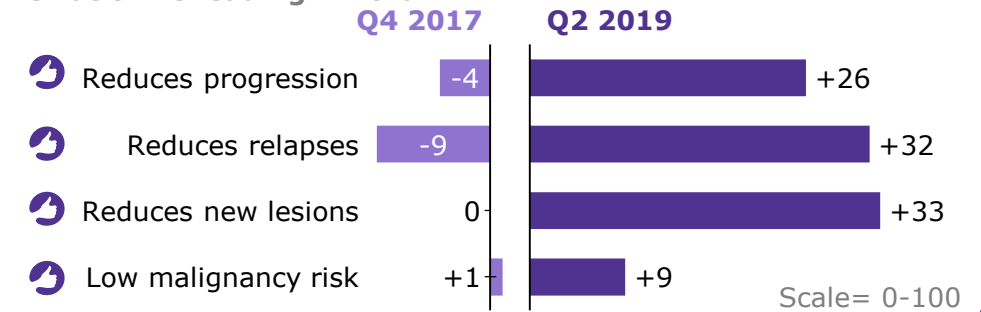
- **Approval in 61 countries with reimbursement in ~50% to date, consistent with expectations**
- **>3,000 neurologists have now prescribed Mavenclad®**
- **Advancing clinical perception:** relative perception vs approved high-efficacy agents continues to improve across major launch markets
- **Increasing share of high-efficacy dynamic patients (new + switch)<sup>1</sup> in major launch markets vs LY**
  - Germany: from 9% to 14% (Q1/18 vs Q1/19)<sup>2</sup>
  - UK: from 8% to 20% (Q1/18 vs Q1/19)<sup>3</sup>
- **Increasing use in earlier lines of therapy in major launch markets:** ~30% of starts are treatment naïve<sup>5</sup>; Switches predominantly from platform orals & platform injectables
- **MS Franchise in early launch markets returning to growth:** Mavenclad® complementing Rebif® to drive franchise growth

➔ **On track for up to mid-triple digit m€ sales in 2019**

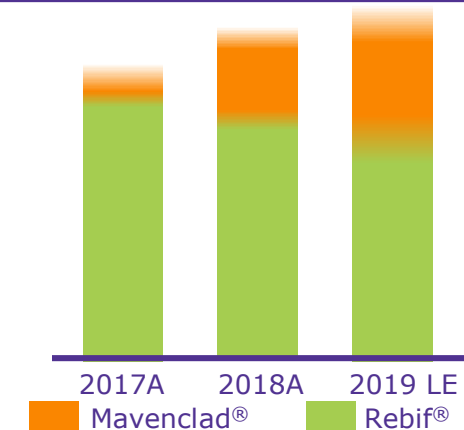


## Improved clinical perception versus leading HE oral (Germany)<sup>4</sup>

### Deviation vs leading HE Oral



- **MS Franchise sales evolution (Germany)**
- **Rebif maintaining share in IFN class**
- **Mavenclad competing in HE class**



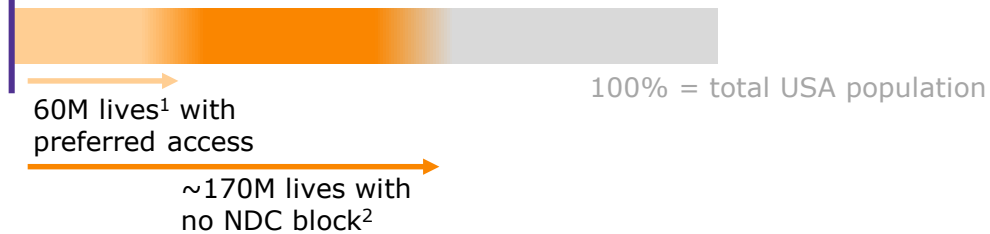
<sup>1</sup>High efficacy treatments include MAV, Gil, Ocr, Tys, Lem; <sup>2</sup>IQVIA LRx data; consolidated retail + hospital data; <sup>3</sup>IQVIA – fully consolidated Q1/19 data; <sup>4</sup>Global MAVENCLAD ATU, DE neurologists (n=62), bar charts indicate difference between Mavenclad® and leading HE oral: positive numbers imply Mavenclad® strength vs. competitor; <sup>5</sup>excludes US prescriptions

# Multiple Sclerosis: Mavenclad® gaining momentum in the first 13 weeks of launch in the USA



## Payer & Physician Feedback

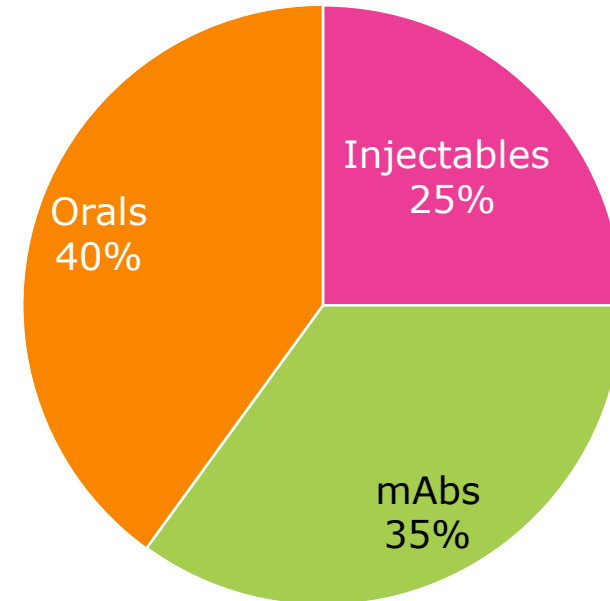
- **Positive, early payer acceptance:**



- **Strong physician access** resulting in **leading share of voice**<sup>3</sup>
- **86% of neurologists willing to prescribe Mavenclad®**<sup>4</sup>
- **~ 3% high efficacy dynamic share in RRMS,** and **~11% high efficacy dynamic share in SPMS/other** (new + switch, April to June)<sup>3</sup>
- **Broad spectrum of early adopters:** both neurologists from **academic centers** and from **community practices** initiating patients on Mavenclad® (equal proportions to date)
- **Mavenclad®'s novel mechanism, posology, and efficacy profile** have made it a **candidate for switches from all approved agents**



## Source of Prescription<sup>5</sup>



<sup>1</sup>Appropriate USA patients as per MAVENCLAD FDA label; <sup>2</sup>The NDC (National Drug Code) is a unique product identifier code for all drugs in the USA;

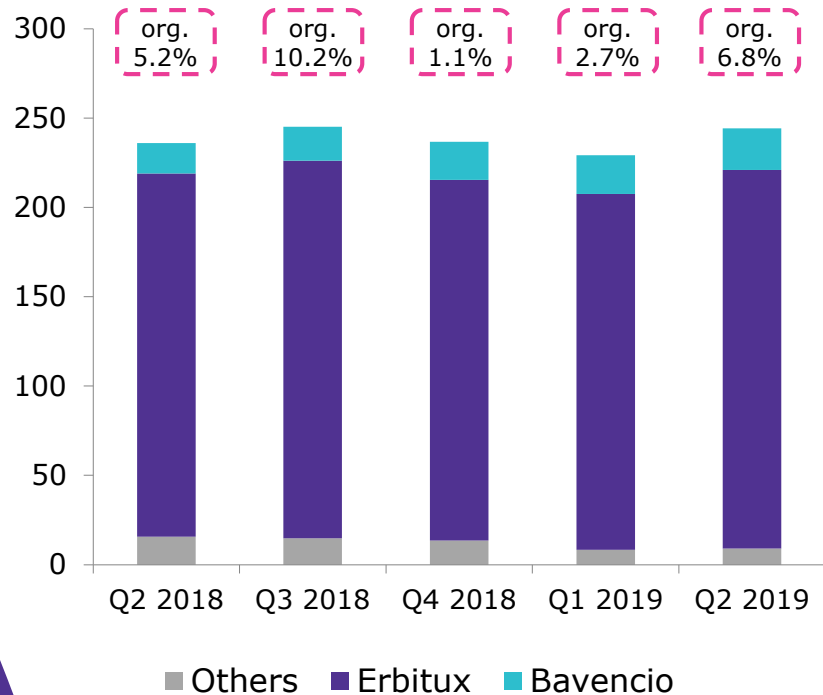
<sup>3</sup>IQVIA/BrandImpactRx rolling 3 months end June: MAVENCLAD ranked 2nd across full panel on SOV, and shares reflecting NWRx, HE incl. Tys, Gil, Ocr, May, Mav, Lem;

<sup>4</sup>Spherix Global Insights RealTime Dynamix – MS Q2/19; <sup>5</sup>Company data based on MAVENCLAD patient support program “MS Life Lines”

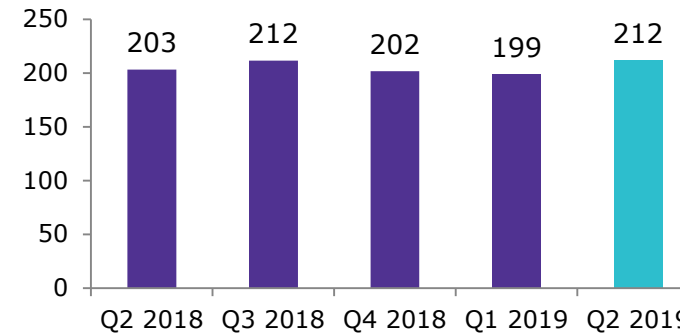


# Oncology: Solid organic growth reflects strong demand for Erbitux<sup>®</sup> in China and Bavencio<sup>®</sup> ramp up

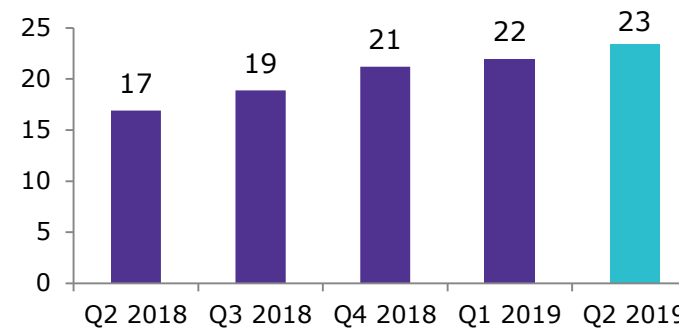
Sales development Oncology, [€m]



Erbitux<sup>®</sup> net sales, [€m]



Bavencio<sup>®</sup> net sales, [€m]



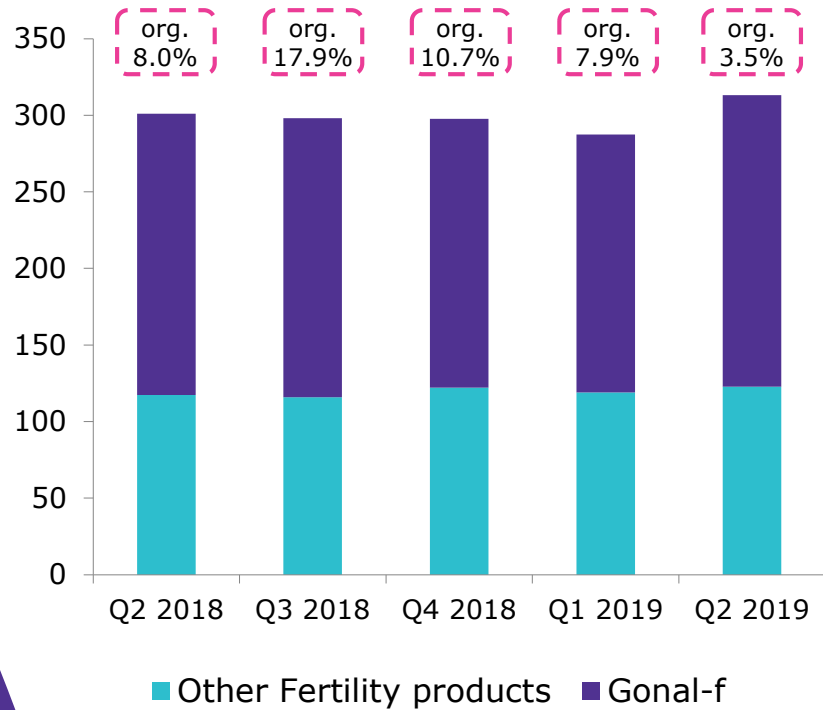
- Absolute sales of €212 m reflect solid growth (org. 5.7%; FX -1.5%)
- Decline in Europe reflects ongoing competition, price reductions and shrinking market size
- LATAM strong, while MEA affected by tender phasing due to import permit
- Strong APAC driven by China reimbursement recognition

**Bavencio<sup>®</sup> approved for RCC in US mid May 2019**

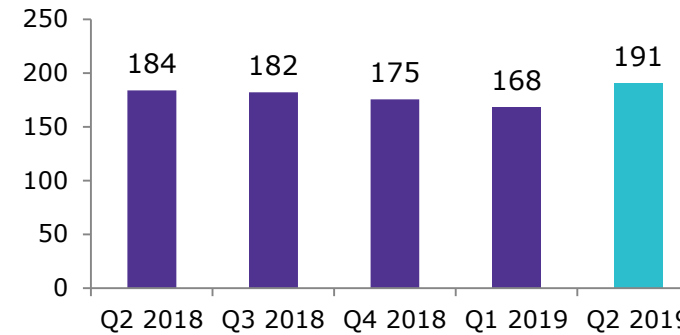
**FY 2019 guidance of high double-digit €m**

# Fertility: Moderate organic growth driven by ongoing demand for Gonal-f in the U.S.

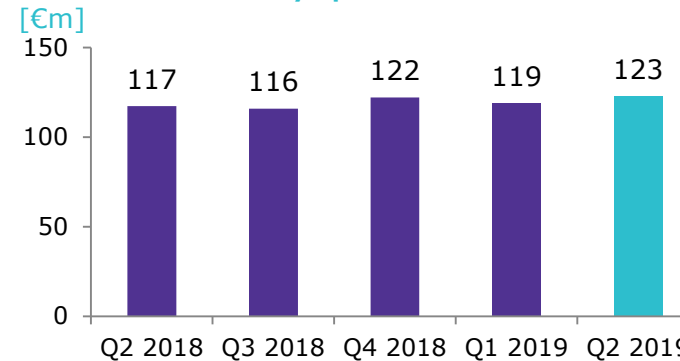
Sales development Fertility, [€m]



Gonal-f<sup>®</sup> net sales, [€m]



Other Fertility products net sales, [€m]

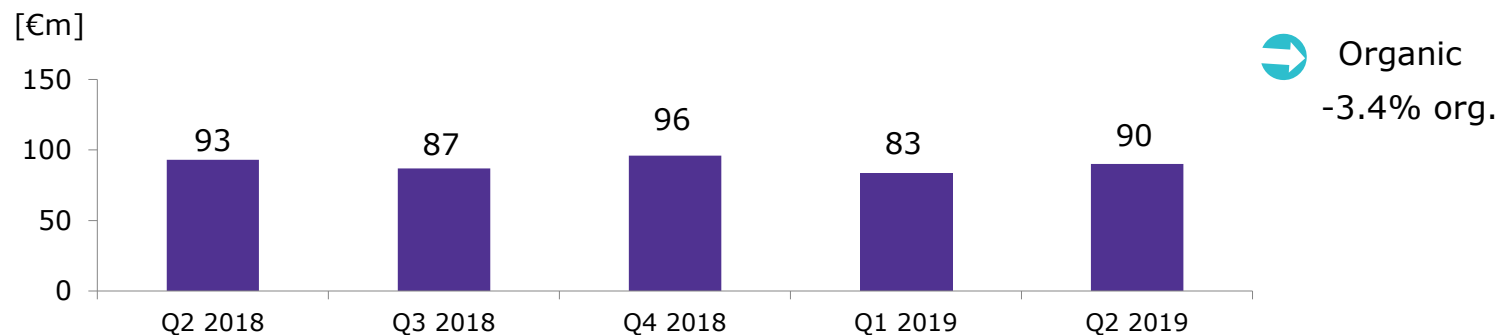


- Fertility franchise posts moderate organic growth driven by North America and APAC
- Gonal-f<sup>®</sup> absolute sales reflect moderate growth posting €191 m (org. 2.8%; FX 0.9%)
- Gonal-f<sup>®</sup> driven by ongoing strong demand in the U.S. despite tough comps last year
- Other Fertility products with solid growth driven by APAC and Europe

# Double digit organic growth of General Medicine fueled by China and LATAM

## Sales evolution

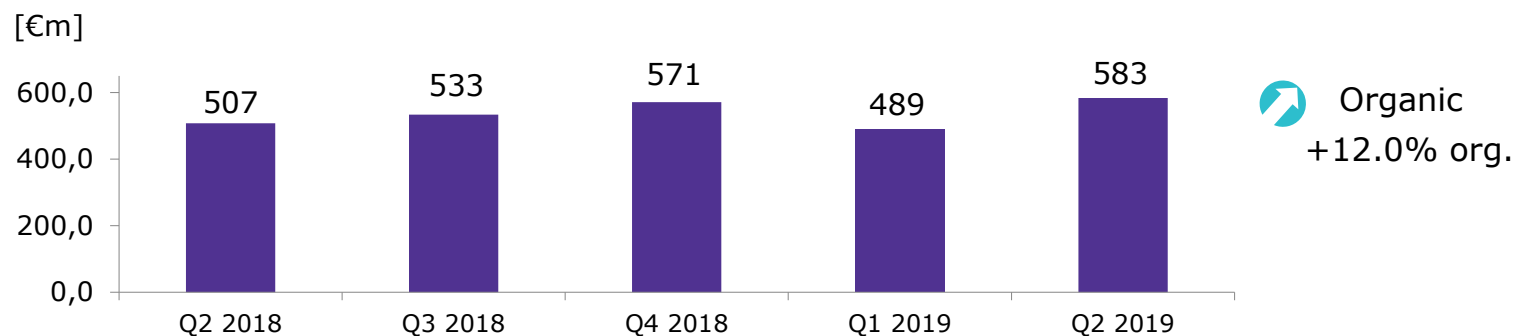
### Endocrinology



## Q2 2019 organic drivers

- Endocrinology declines organically due to lower demand and higher sales deductions in the U.S. mitigated by higher demand in LATAM and APAC

### General Medicine\*



- General Medicine reflects double digit growth of Glucophage<sup>®</sup>, ongoing strong demand for Concor<sup>®</sup> and Euthyrox<sup>®</sup> driven by China and LATAM

\*includes CardioMetabolic Care & General Medicine and Others

# Clinical pipeline

August 5, 2019

## Phase I

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

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

**M3814**  
**DNA-PK inhibitor**  
Solid tumors<sup>1</sup>

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

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

**M7583**  
**BTK inhibitor**  
Hematological malignancies

**M8891**  
**MetAP2 inhibitor**  
Solid tumors

**avelumab**  
**anti-PD-L1 mAb**  
Solid tumors

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

**M9241 (NHS-IL12)**  
**Cancer immunotherapy**  
Solid tumors<sup>1</sup>

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

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

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

## Phase II

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

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

**M3814**  
**DNA-PK inhibitor**  
Rectal cancer

**M6620 (VX-970)**  
**ATR inhibitor**  
Ovarian cancer<sup>1</sup>

**abrituzumab**<sup>2</sup>  
**pan- $\alpha$  integrin inhibiting mAb**  
Colorectal cancer 1L

**avelumab**  
**anti-PD-L1 mAb**  
Merkel cell cancer 1L

**avelumab**  
**anti-PD-L1 mAb**  
Solid tumors<sup>3</sup>

**avelumab**  
**anti-PD-L1 mAb**  
Non-small cell lung cancer<sup>3</sup>

**avelumab**  
**anti-PD-L1 mAb**  
Urothelial cancer<sup>3</sup>

**bintrafusp alfa**  
**TGFbeta trap/anti-PD-L1**  
Non-small cell lung cancer 1L

**bintrafusp alfa**  
**TGFbeta trap/anti-PD-L1**  
Non-small cell lung cancer 1L/2L

**bintrafusp alfa**  
**TGFbeta trap/anti-PD-L1**  
Locally advanced non-small cell lung cancer

**bintrafusp alfa**  
**TGFbeta trap/anti-PD-L1**  
Biliary tract cancer 2L

**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

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

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

## Phase III

**avelumab - anti-PD-L1 mAb**  
Non-small cell lung cancer 1L

**avelumab - anti-PD-L1 mAb**  
Gastric cancer 1L-M

**avelumab - anti-PD-L1 mAb**  
Urothelial cancer 1L-M

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

**evobrutinib - BTK inhibitor**  
Multiple sclerosis<sup>5</sup>

## Registration

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

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

1L, first-line treatment; 1L-M, first-line maintenance treatment; 2L, second-line treatment.

<sup>1</sup> Includes studies in combination with avelumab. <sup>2</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>3</sup> Avelumab combination studies with talazoparib, axitinib, ALK inhibitors, cetuximab, chemotherapy, or novel immunotherapies. <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> Enrollment anticipated in Q3 2019. <sup>6</sup> As announced on May 15 2019, the US Food and Drug Administration (FDA) has approved avelumab in combination with axitinib for the first-line treatment of patients with advanced renal cell carcinoma (RCC) and as announced on March 8 2019, the European Medicines Agency (EMA) validated for review the Type II variation application for avelumab in combination with axitinib for patients with advanced RCC.

# Life Science: Strong organic growth fueled by all businesses across all regions

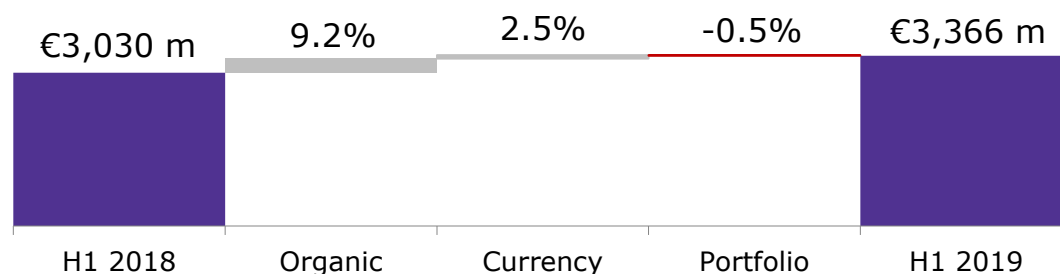
## Life Science P&L

[€m]	H1 2018 <sup>1</sup>	H1 2019
Net sales	3,030	<b>3,366</b>
Marketing and selling	-861	<b>-959</b>
Administration	-143	<b>-156</b>
Research and development	-120	<b>-131</b>
EBIT	527	<b>635</b>
EBITDA	884	<b>1,025</b>
EBITDA pre	906	<b>1,049</b>
Margin (in % of net sales)	29.9%	<b>31.2%</b>

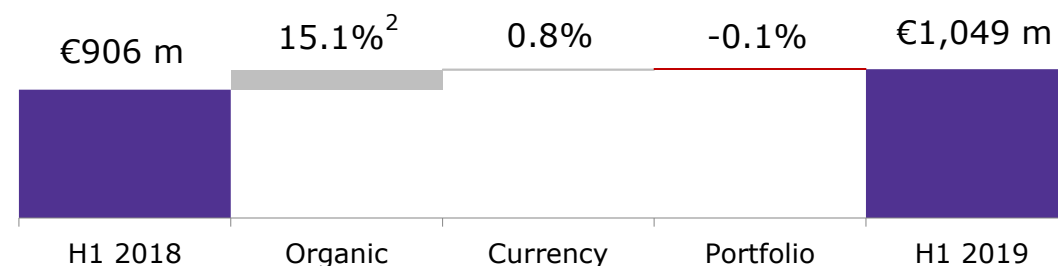
## Comments

- Process Solutions with double-digit growth due to ongoing strong demand in all businesses and all major regions
- Solid growth of Applied Solutions fueled by all businesses across all regions, especially Advanced Analytical and Lab Water
- Research Solutions posts moderate organic growth driven by ongoing strong demand for lab chemicals and workflow tools across all regions
- M&S increase reflects volume growth, investments in eCommerce and strategic initiatives
- EBITDA pre reflects strong top-line growth

## Net sales bridge



## EBITDA pre bridge



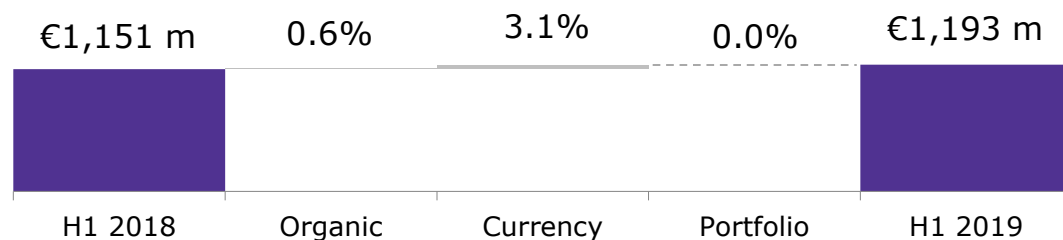
<sup>1</sup>LY numbers have been modified, due to disclosure changes of adjustments; <sup>2</sup>Thereof IFRS 16 effect with +2.8% (+€25 m); Totals may not add up due to rounding

# Performance Materials: Ongoing strong demand for OLED and support from LC capacity ramp-up, amid market slowdown in Semiconductor and Surface Solutions

## Performance Materials P&L

[€m]	H1 2018 <sup>1</sup>	H1 2019
Net sales	1,151	<b>1,193</b>
Marketing and selling	-121	<b>-132</b>
Administration	-49	<b>-49</b>
Research and development	-118	<b>-146</b>
EBIT	267	<b>195</b>
EBITDA	384	<b>318</b>
EBITDA pre	392	<b>383</b>
Margin (in % of net sales)	34.0%	<b>32.1%</b>

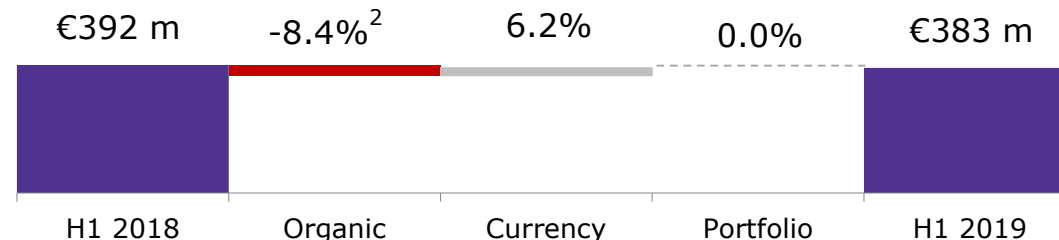
## Net sales bridge



## Comments

- Performance Materials about stable reflecting strong demand for OLED, LC benefits from new panel plant ramp-up projects in China and low comps
- Softness of Semiconductor Solutions reflects observed market slowdown
- Surface Solutions below expectations, attributable to automotive market decline
- Provisions related to Bright Future program drive M&S and R&D increase; adjusted for EBITDA pre - decrease in R&D reflecting cost control
- EBITDA pre driven by ongoing liquid crystal price decline and slowing China contribution as well as reduced fixed cost leverage due to Surface Solutions softness

## EBITDA pre bridge



<sup>1</sup>LY numbers have been modified, due to disclosure changes of adjustments; <sup>2</sup>Thereof IFRS 16 effect with +1.2% (+€5 m); Totals may not add up due to rounding

# Cash flow statement

## H1 2019 – cash flow statement

[€m]	H1 2018	H1 2019	Δ
Profit after tax	593	<b>660</b>	68
D&A	876	<b>927</b>	51
Changes in provisions	50	<b>54</b>	3
Changes in other assets/liabilities	-478	<b>-115</b>	363
Other operating activities	15	<b>-55</b>	-69
Changes in working capital	-309	<b>-236</b>	72
Operating cash flow	748	<b>1,235</b>	488
Investing cash flow	-412	<b>-1,199</b>	-787
thereof Capex on PPE	-396	<b>-374</b>	22
Financing cash flow	-298	<b>-1,241</b>	1,539

## Cash flow drivers

- Profit after tax in line with higher EBIT
- D&A increase mainly due to IFRS 16 reclassification
- Changes in other assets/liabilities reflects GSK upfront and Peg-Pal milestone payment
- Increased investing cash flow due to temporary investment of cash proceeds from Consumer Health divestment
- Higher financing cash flow reflects the issue of new bonds (€1.5 bn)

# Adjustments in Q2 2019

## Adjustments in EBIT

[€m]	Q2 2018		Q2 2019	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	40	0	5	0
Life Science	26	16	15	0
Performance Materials	5	1	29	0
Corporate & Other	26	0	16	0
Total	97	17	65	0



# Adjustments in H1 2019

## Adjustments in EBIT

[€m]	H1 2018		H1 2019	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	43	0	8	0
Life Science	39	16	24	0
Performance Materials	9	1	65	0
Corporate & Other	50	0	44	0
Total	140	17	141	0

## Financial calendar

Date	Event
November 14, 2019	Q3 2019 Earnings release
March 5, 2020	FY 2019 Earnings release
April 24, 2020	Annual General Meeting
May 14, 2020	Q1 2020 Earnings release

