

BACK TO PROFITABLE GROWTH

Merck KGaA, Darmstadt, Germany FY 2019 results

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Agenda

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



01 EXECUTIVE SUMMARY

Highlights



Operations

Healthcare – Launches on track (Mavenclad[®] & Bavencio[®] guidance delivered); core business¹ remains stable; N&I back to growth since Q3

Life Science – Ongoing strong momentum across all businesses and regions; Process Solutions as strongest driver (org. +15.1%)

Performance Materials – acquisitions closed; integration on track; expected LC decline materialized and soft Semiconductor and Surface market; OLED again strong



Financials

Full-year organic sales growth of +5.3%;
full-year organic EBITDA pre growth of +11.3%²

Delivered on guidance: Net sales €16.2 bn,
EBITDA pre €4.4 bn, EPS pre €5.56

Net financial debt to EBITDA pre at 2.8 on
Dec. 31 2019 – deleveraging in focus

¹Core business excludes Mavenclad[®] and Bavencio[®] net sales; ²Thereof IFRS 16 effect with +3.7 percentage points (~ €140 m); N&I – Neurology & Immunology

Guidance delivered

2019 Guidance

2019 Results

net sales

€15.7 – 16.3 bn

€16.2 bn



EBITDA pre

€4,230 – 4,430

€4,385 m



EPS pre

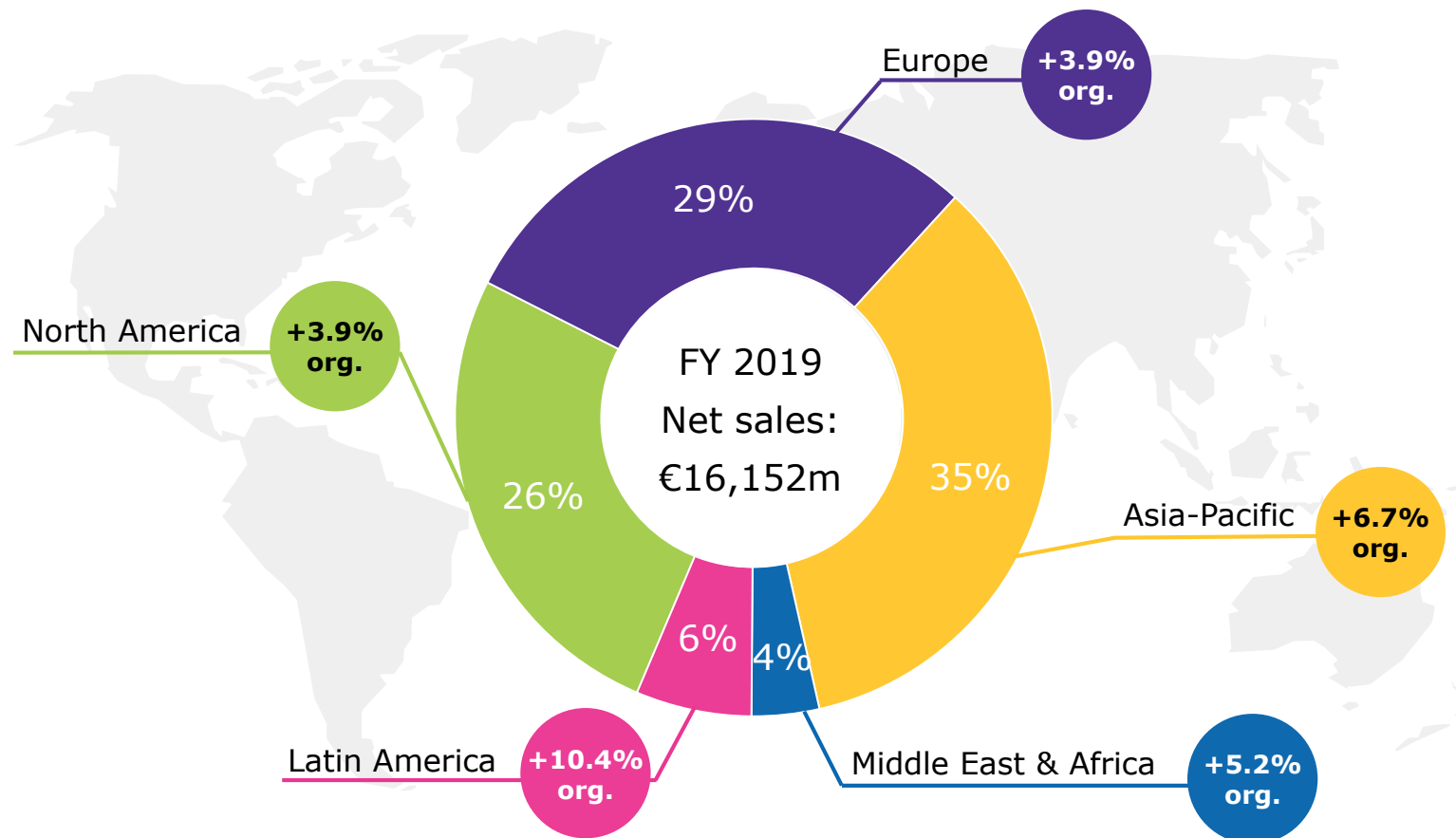
€5.30 – 5.65

€5.56



All regions drive organic growth

Regional breakdown of net sales [€ m]



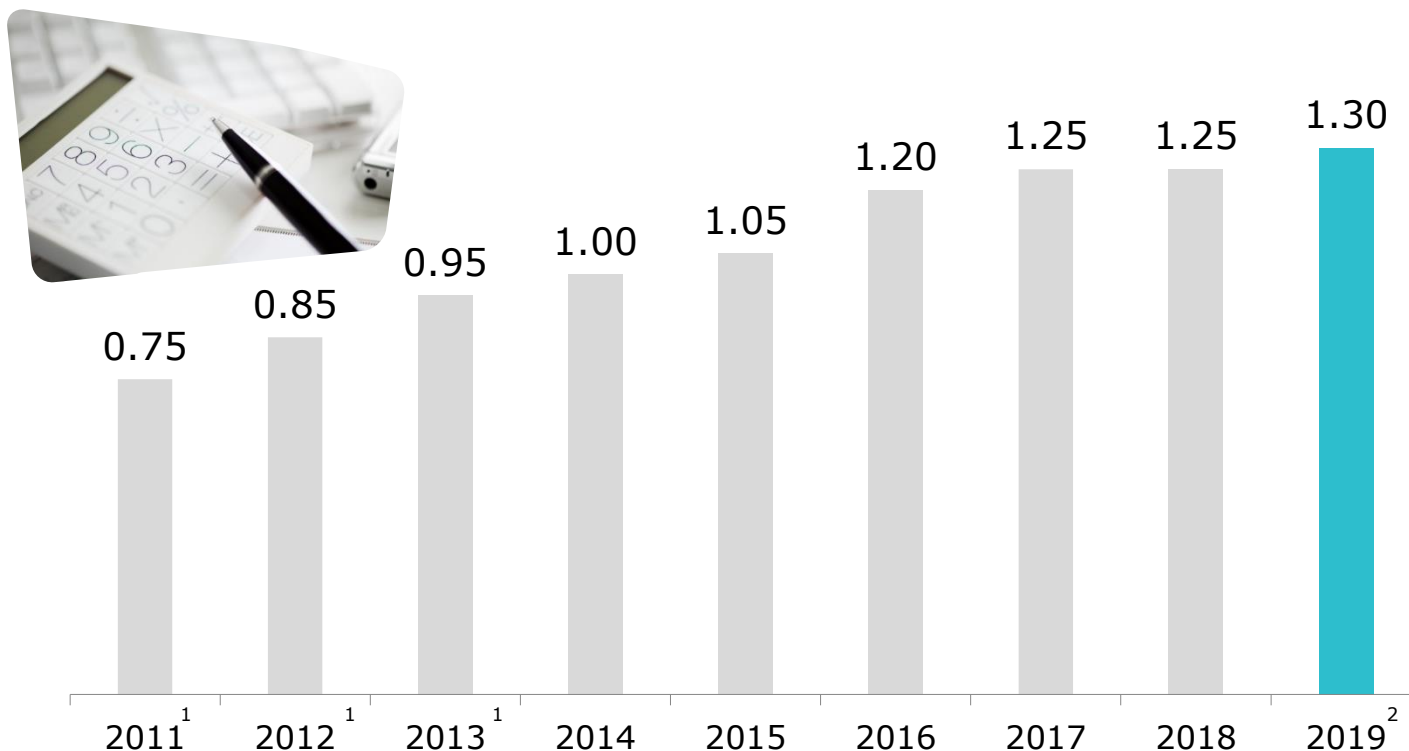
Regional organic development

- Europe with solid growth driven by strong Life Science; Mavenclad[®] ramp-up offsetting Rebif[®] decline
- North America reflects strong Life Science; Mavenclad[®], Fertility and Bavencio[®] mitigate ongoing Rebif[®] decline
- Strong APAC fueled by double-digit growth of Life Science and Healthcare, especially Glucophage[®] and Erbitux[®]; OLED mitigating liquid crystals decline
- LATAM with double-digit growth reflecting strong demand in Healthcare's core business and Life Science
- Middle East and Africa driven by solid demand in Neurology & Immunology and Fertility

Acronyms: APAC – Asia-Pacific; MEA – Middle East & Africa; LATAM – Latin America

Sustainable dividend growth

Dividend¹ development 2011-2019



2019 dividend

- Dividend of €1.30 (+4% YoY) per share proposed² for 2019
- Payout ratio of 23.4% of EPS pre in 2019; we aim at 20–25% of EPS pre
- Dividend yield³ of 1.2%

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

³Calculated with 2019 year-end share price of € 105.35 per share.

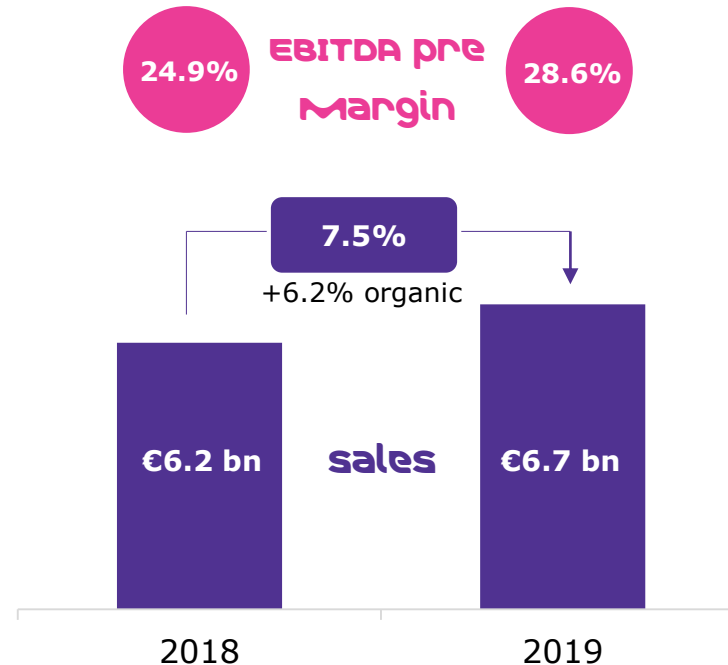


02 STRATEGIC REVIEW

Healthcare: Mavenclad[®] and core business fuel strong organic growth

Business Performance

- Strong organic sales growth of 6.2%
- Neurology & Immunology returns to growth over the full year with strong Mavenclad[®] performance (net sales FY2019: €321 m)
- Core business with organic growth of 2.1% driven by strong demand in General Medicine, Fertility portfolio and Erbitux[®]
- Higher EBITDA pre from strong top-line performance, stringent cost management and non-recurring income
- Strategic alliance with GlaxoSmithKline to develop and commercialize Bintrafusp alfa (M7824) announced in February 2019



Pipeline

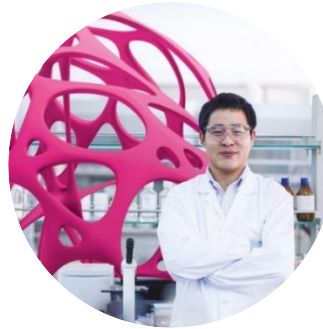
- **Mavenclad[®]**: now approved in 75 countries
- **Bavencio[®]**:
 - Primary endpoint (OS) met in 1L urothelial carcinoma/Bladder 100 study¹
 - Approved in combination with Inlyta[®] for 1L advanced renal cell carcinoma by US FDA, EMA & PMDA
- **Tepotinib**:
 - Filed in Japan in Q4 2019 under Sakigake
 - Granted Breakthrough Designation by FDA (NSCLC, MET exon 14 skipping alterations)
- **Bintrafusp alfa**: five pivotal studies (1L NSCLC vs pembrolizumab², Stage III NSCLC³, 1L & 2L Biliary Tract⁴, & 2L Cervical⁵) on track, several safety run in & signal finding studies recently initiated or in planning⁶
- **Evobrutinib**: initiated pivotal Ph III program in Relapsing Multiple Sclerosis

¹PR published on January 6, 2020; ²INTR@PID Lung 037; ³INTR@PID Lung 005; ⁴INTR@PID BTC 047 & 055; ⁵NCT04246489 posted on www.clinicaltrials.gov in January 2020, not yet recruiting; ⁶incl. INTR@PID Lung 024 and TNBC (Triple Negative Breast Cancer); Acronyms: FDA – US Food and Drug Administration; EMA – European Medicines Agency; OS – Overall Survival; PMDA – Pharmaceuticals and Medical Devices Agency Japan

Life Science: Continued above-market performance

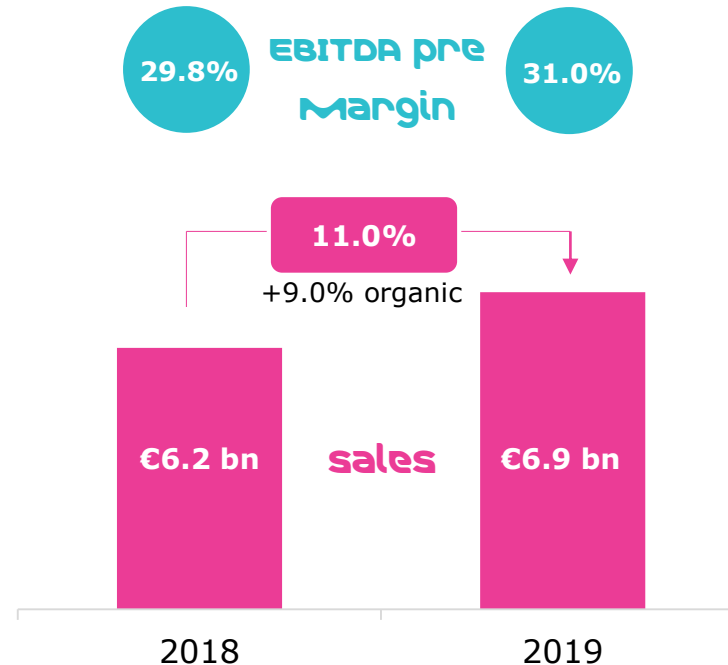
Business Performance

- Above-market growth in Life Science driven by all businesses and regions
- Excellent performance across all businesses, with Process Solutions once again achieving double-digit organic growth
- Strong EBITDA pre growth reflects robust top-line growth, cost control, and investments in eCommerce and CAPEX



Innovation

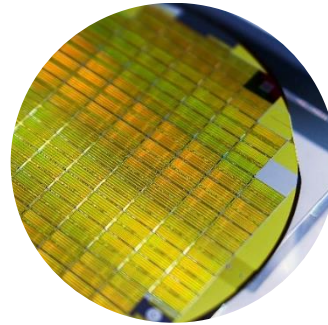
- Continued flow of new products in Process Solutions, supporting bioprocessing, single-use and FloDesign Sonics
- Strong growth in Applied Solutions with further development of Milli-Q Platform (IoT) and the launch of Steritest™ for Biomonitoring
- Further strengthening of eCommerce platform within Research Solutions, driven by new eCommerce platform development and partnership with Alibaba in China



Performance Materials: Acquisitions successfully closed – delivering on Bright Future transformation

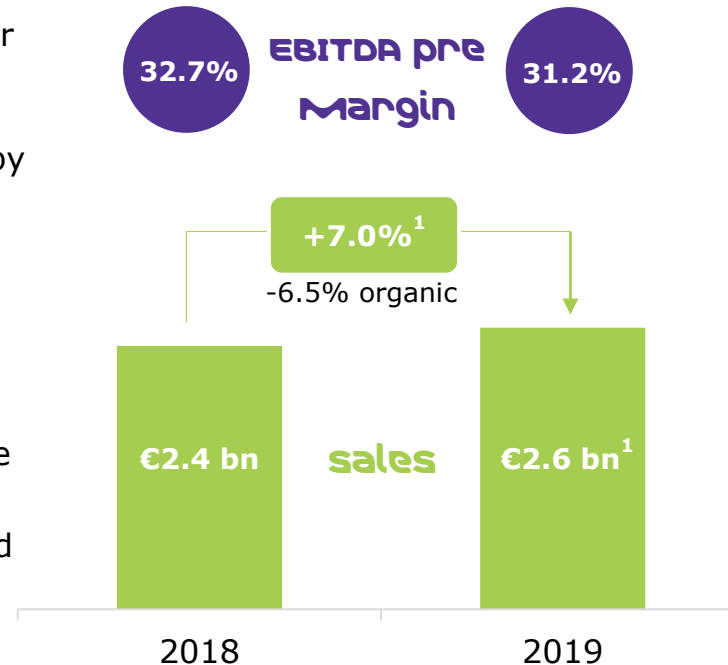
Business Performance

- Semiconductor Solutions outperforming weaker market
- OLED with ongoing strong momentum driven by increasing demand in China
- Liquid crystals as expected: back to negative underlying trajectory with high comparables in prior year
- Organic EBITDA pre reflects ongoing LC decline and temporary market weakness in Semiconductor and Surface Solutions mitigated by Bright Future measures



Transformation

- Acquisitions of Versum Materials and Intermolecular successfully closed
 - Versum as leading supplier of high-purity semiconductor materials, gases and equipment
 - Intermolecular leading in advanced materials innovation
- Combined position creating a leading electronics materials player
- Innovation Hub in Guangzhou opened
- Site in Chilworth (UK) closed, overall transformation on track



¹Including Versum in Q4;



03 FINANCIAL OVERVIEW

FY 2019 Financials: Overview

Key figures

[€m]	FY 2018	FY 2019	Δ
Net sales	14,836	16,152	8.9%
EBITDA pre <i>Margin (in % of net sales)</i>	3,800 25.6%	4,385 27.1%	15.4%
EPS pre	5.10	5.56	9.0%
Operating cash flow	2,219	2,856	28.7%

[€m]	Dec. 31, 2018	Dec 31, 2019	Δ
Net financial debt	6,701	12,363	84.5%
Working capital	3,486	3,944	13.2%
Employees	51,749	57,071	10.3%

Comments

- All business sectors drive net sales growth
- Increasing EBITDA pre & margin reflect strong top-line growth, milestone payments, deferred income and cost consciousness; LS with strong operating leverage
- Strong operating cash flow due to higher EBITDA pre, GSK upfront and milestone payments
- Working capital driven by increased inventory levels, Versum acquisition and FX
- Higher net financial debt and increased headcount reflect Versum acquisition

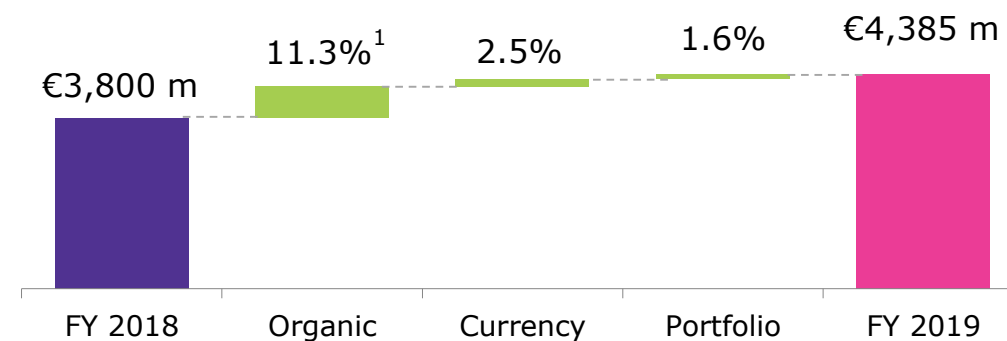
Healthcare and Life Science fuel strong organic top- and bottom-line performance, supported by FX tailwinds and Portfolio

FY 2019 YoY net sales	Organic	Currency	Portfolio	Total
Healthcare	6.2%	1.3%	0.0%	7.5%
Life Science	9.0%	2.6%	-0.6%	11.0%
Performance Materials	-6.5%	3.1%	10.4%	7.0%
Group	5.3%	2.1%	1.4%	8.9%

- Healthcare with strong growth fueled by Mavenclad[®] ramp-up, strong demand for General Medicine and Erbitux[®] in China and solid Fertility portfolio
- All businesses and regions drive strong Life Science performance, especially Process Solutions with double-digit growth
- Performance Materials organic decline due to liquid crystals, soft market demand in Semiconductor and Surface Solutions; OLED with strong demand

¹Thereof IFRS 16 effect with +3.7 percentage points (~ €140 m); Totals may not add up due to rounding

FY YoY EBITDA pre



- Organic EBITDA pre fueled by strong top-line growth, milestone payments and deferred income in Healthcare, sustained strong performance of Life Science, more than offset ongoing liquid crystal price decline
- Positive FX impact on EBITDA pre due to U.S. dollar and major Asian currencies

Reported Figures

Reported results

[€m]	FY 2018	FY 2019	Δ
EBIT	1,727	2,120	22.8%
Financial result	-266	-385	44.6%
Profit before tax	1,461	1,735	18.8%
Income tax	-368	-440	19.7%
<i>Effective tax rate</i>	25.2%	25.3%	
Net income ¹	3,374	1,320	-60.9%
EPS [€]	7.76	3.04	-60.8%

Comments

- Higher EBIT due to strong top-line contribution from LS and HC, cost consciousness, milestone payments and GSK deferred income
- Increase in financial result reflects higher interest expense due to Versum financing and revaluation of F-Star purchase option
- Effective tax rate within guidance range of ~24-26%
- Lower net income and EPS reflect last year's high base due to Consumer Health divestment

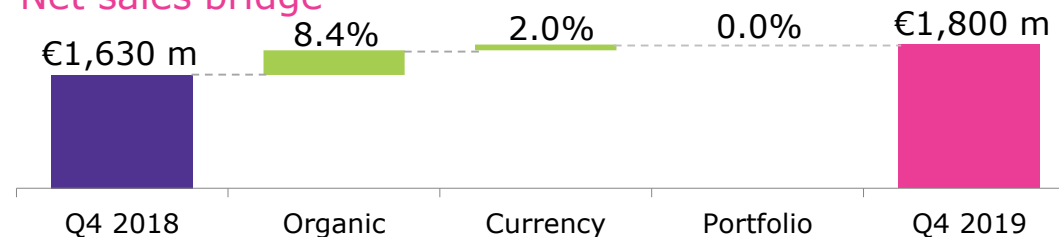
¹From continuing and discontinued operations;
Totals may not add up due to rounding

Healthcare: Mavenclad[®] and Bavencio[®] deliver guidance; moderate growth of core business

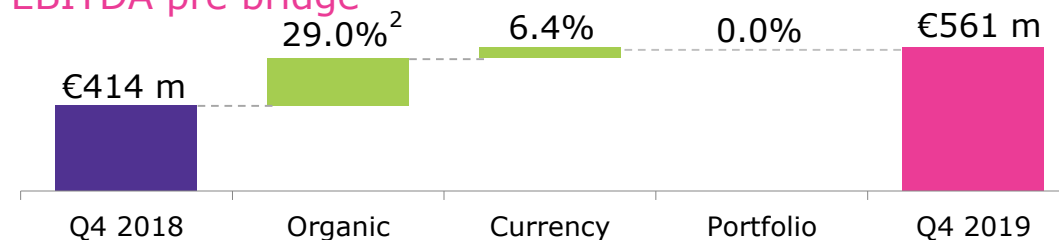
Healthcare P&L

[€m]	Q4 2018 ¹	Q4 2019
Net sales	1,630	1,800
Marketing and selling	-634	-595
Administration	-89	-90
Research and development	-493	-462
EBIT	190	351
EBITDA	403	541
EBITDA pre	414	561
Margin (in % of net sales)	25.4%	31.2%

Net sales bridge



EBITDA pre bridge



Comments

- Strong growth in Healthcare reflects growth of core business and acceleration of Mavenclad[®] uptake
- Rapid uptake of Mavenclad[®] (+43% vs. Q3) across all regions, especially in the U.S. and Europe
- Double-digit growth of Erbitux[®] mainly driven by China reimbursement (NRDL); Bavencio[®] as expected

- M&S decrease due to stringent cost management and resource prioritization across franchises
- Lower R&D due to rigorous project prioritization
- Higher EBITDA pre driven by strong top-line performance, cost consciousness, deferred income, milestone payments [Bavencio[®] (~€55 m)] and IFRS 16

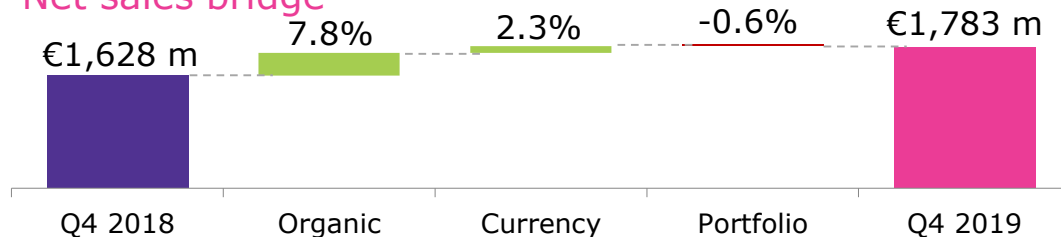
¹LY numbers have been modified due to disclosure changes of adjustments; ²Thereof IFRS 16 effect with +3.7 percentage points (~ €15 m); NRDL = National reimbursement drug list; Totals may not add up due to rounding

Life Science with strong operating leverage

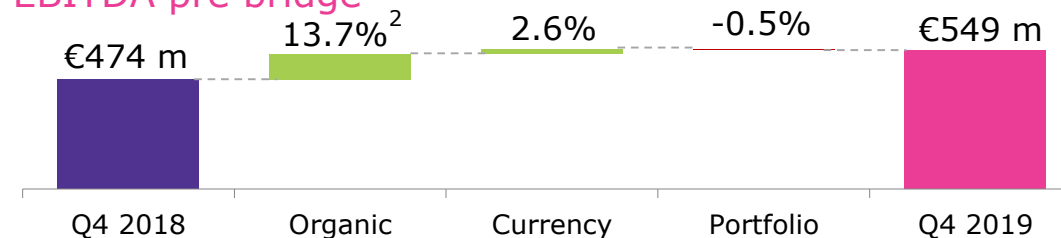
Life Science P&L

[€m]	Q4 2018 ¹	Q4 2019
Net sales	1,628	1,783
Marketing and selling	-473	-490
Administration	-106	-102
Research and development	-71	-78
EBIT	232	329
EBITDA	422	534
EBITDA pre	474	549
Margin (in % of net sales)	29.1%	30.8%

Net sales bridge



EBITDA pre bridge



Comments

- Process Solutions with ongoing strong demand, BioProcessing as main contributor
- Solid organic growth for Applied Solutions - all businesses contributing, especially lab water
- Moderate organic growth of Research Solutions driven by all businesses, especially China
- Higher M&S reflects strong volume growth and continued investments in eCommerce
- EBITDA pre and margin increase driven by sustained strong top-line, operating leverage and IFRS 16

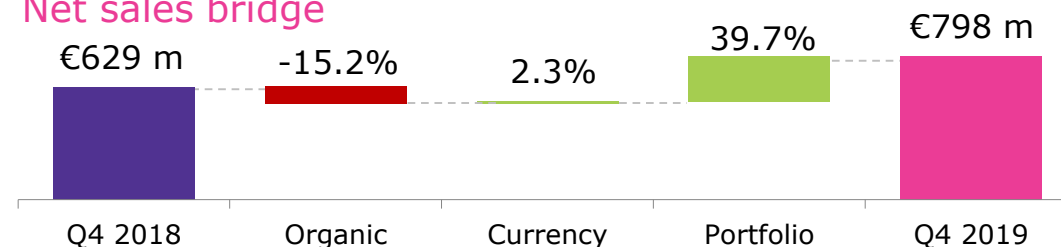
¹LY numbers have been modified, due to disclosure changes of adjustments; ²Thereof IFRS 16 effect with +3.9 percentage points (~ €20 m); Totals may not add up due to rounding

Performance Materials: Expected LC decline has materialized amid continued market slowdown in Semiconductor and Surface

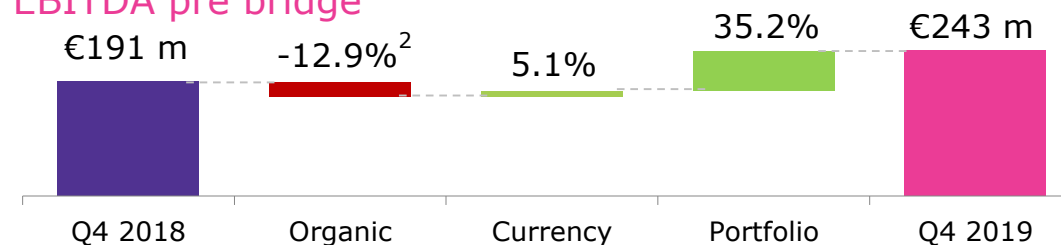
Performance Materials P&L

[€m]	Q4 2018 ¹	Q4 2019
Net sales	629	798
Marketing and selling	-72	-136
Administration	-34	-39
Research and development	-59	-73
EBIT	98	14
EBITDA	183	149
EBITDA pre	191	243
Margin (in % of net sales)	30.3%	30.5%

Net sales bridge



EBITDA pre bridge



Comments

- Display Solutions as expected: LC returns to negative underlying trajectory against last year's high base, OLED again strong
- Semiconductor Solutions continues to perform above weaker market
- Surface Solutions reflects ongoing weak demand in automotive market

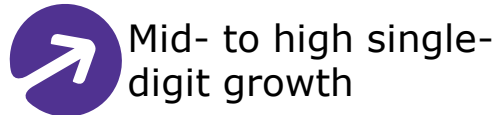
- M&S reflects Versum acquisition, while underlying diligent cost management continues
- Provisions related to Bright Future program and Versum drive R&D increase; underlying reduction reflecting strong cost control
- Organic EBITDA pre decline from reduced organic top-line and negative business mix mitigated by Bright Future measures; absolute EBITDA pre reflects Versum acquisition

¹LY numbers have been modified, due to disclosure changes of adjustments; ²Thereof IFRS 16 effect with +1.6 percentage points (~ €5 m); Totals may not add up due to rounding

Performance Materials: Attractive underlying market trends and business conditions to deliver the turnaround in 2020

Mid term outlook

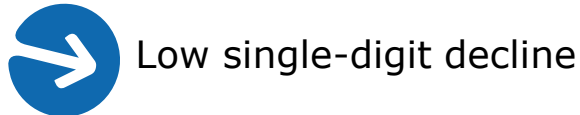
semiconductor solutions



Mid- to high single-digit growth

- Continued market growth due to technological advances (Artificial intelligence, 5G, Big Data and cloud, Internet of Things) serving customers in **Logic, Memory, Packaging and others**
- DS&S representing ~15% of Semiconductor Solutions net sales is driven by investments in new semiconductor fabs as well as a safe and reliable supply of high-purity materials
- Semiconductor market expected to **grow ~7% CAGR¹**

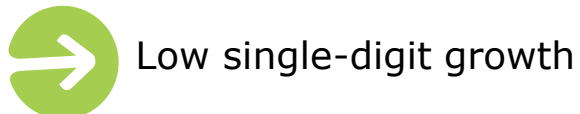
display solutions



Low single-digit decline

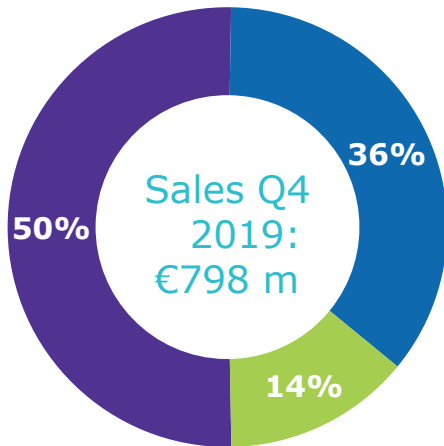
- Driven by trend to bigger TV size, higher resolutions, more mobile devices
- Maturing **LC** market expected to decline in **mid to high single-digit**, driven by ~3% CAGR² (2018-2023) of LCD area shipment more than offset by ongoing price pressure
- **OLED** display shipment area³ [km²] to grow **~28% CAGR** (2018-2023) with OLED material market⁴ to exceed LC material market by 2022

surface solutions



Low single-digit growth

- Surface Solutions well balanced exposure to **automotive** and **cosmetics** market
- Drivers are raising living standards, higher disposable income in growing markets and increasing demand for high value products at reasonable prices
- **CAGR ~3%** volume growth⁵ for pearlescent pigments

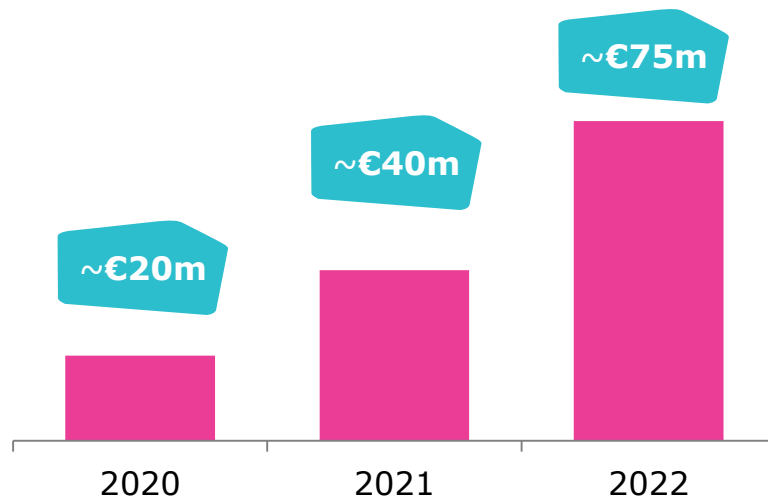


DS&S = Delivery Systems and Services;

Source: ¹McClean 2020; ^{2,3}IHS display long term demand forecast Q3 2019; ⁴Internal Business Intelligence; ⁵Smithers Rapra, Merck KGaA, Darmstadt, Germany internal analysis, McKinsey

Performance Materials: Versum integration and synergy realization in focus

cost synergies on EBITDA pre



- **Cost synergy target of ~€75 m from 2022 onwards confirmed as P&L effective**
 - Integration measures on track
 - Integration costs of €125 m in line with previous expectations, mostly in 2020 and 2021
- **Cost synergies represent 6%¹ of acquired net sales**

source of synergies



business optimization

- Transform country setup
- Streamline duplicate structures



procurement and supply chain

- Optimize production and supply chain network
- Achieve savings through joint procurement

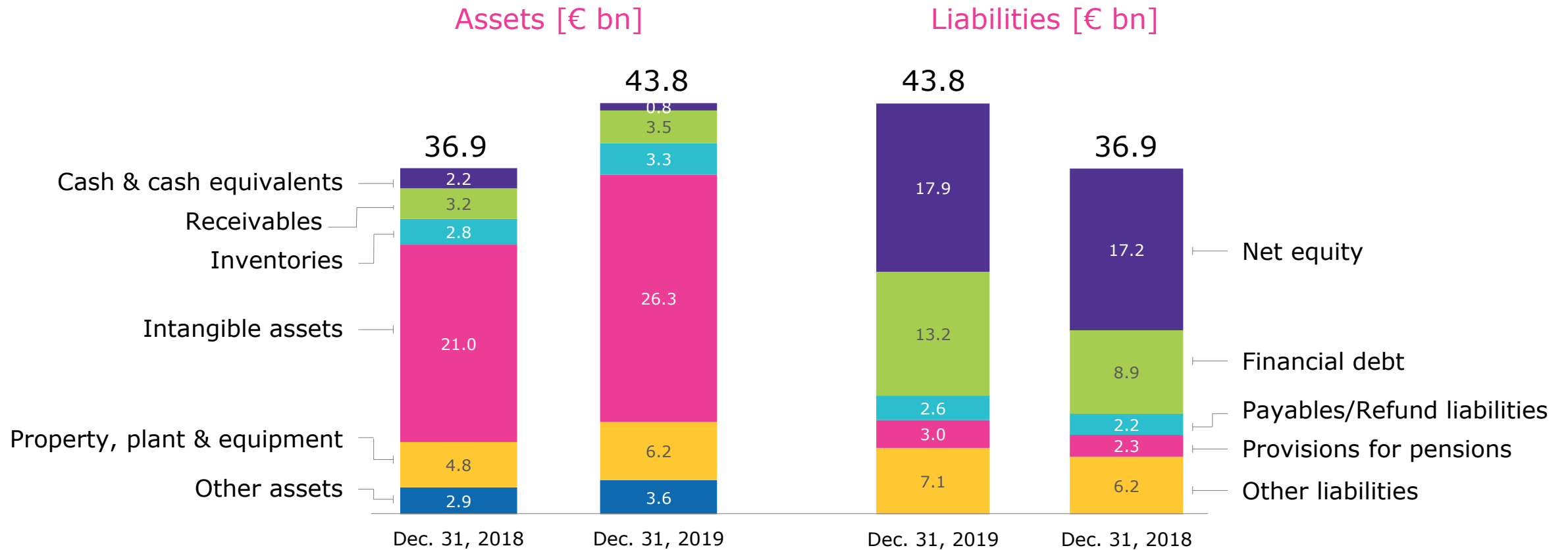


corporate and administrative functions

- Integrate corporate & administrative functions
- Cost savings due to U.S. company delistings

¹Assumes LTM Dec-2018 Versum Materials Revenue of €1,233 m and 1.12 USD to EUR exchange rate.

Balance sheet – Reflecting Versum acquisition

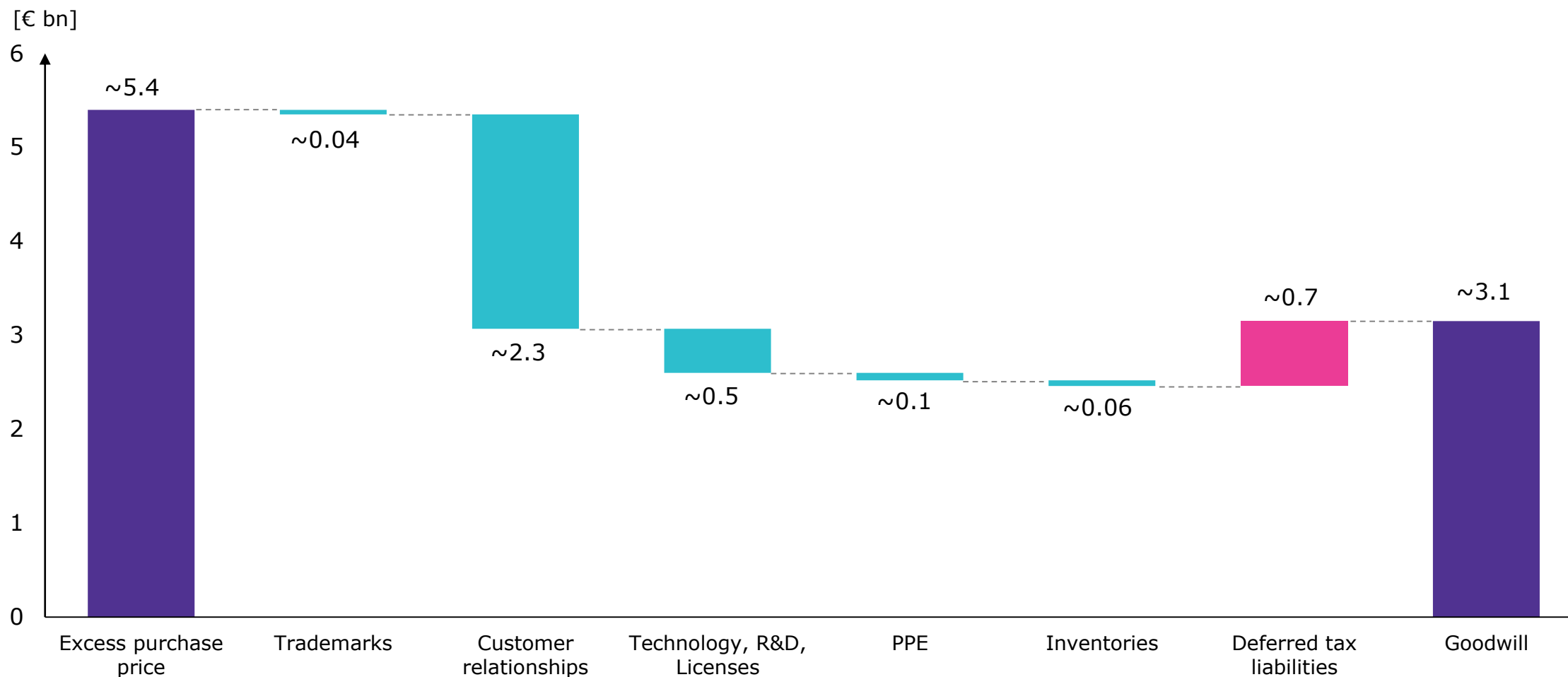


- First-time consolidation of Versum impacts balance sheet
- Intangible assets contain €17.1 bn goodwill, €7.0 bn customer relationships and trademarks

- Increase in equity mainly driven by profit after tax and FX translations, partially offset by dividends and actuarial loss (equity ratio of 40.9%)
- Financial debt increase reflects Versum financing

Totals may not add up due to rounding

Versum balance sheet effects



Amortization of intangible assets from Versum PPA*: ~€230 – 250 m p.a.

Totals may not add up due to rounding; Preliminary numbers (in line with IFRS3); no major changes expected;
 *Purchase price allocation

Cash Flow Statement

Q4 2019 – cash flow statement

[€m]	Q4 2018	Q4 2019	Δ
Profit after tax	2,458	321	-2,137
D&A	508	552	45
Changes in provisions	80	19	-61
Changes in other assets/liabilities	184	-405	-589
Other operating activities	-2,727	42	2,769
Changes in working capital	238	161	-78
Operating cash flow	741	690	-50
Investing cash flow	2,822	-4,744	-7,567
Thereof CAPEX on PPE	-290	-221	68
Financing cash flow	-2,240	-273	1,967

Cash flow drivers

- Last year's profit after tax driven by Consumer Health disposal, neutralized in other operating activities
- D&A increase mainly due to IFRS 16 reclassification
- Changes in provisions reflects last year's LTIP¹ adjustment
- Changes in other assets/liabilities driven by neutralization of non-cash relevant tax provisions, mitigated by milestone payment
- Investing cash flow driven by Versum acquisition and last year's Consumer Health divestment
- Higher financing cash flow due to last year's repayment of bank loans and commercial paper

¹LTIP = Long-term incentive plan;
Totals may not add up due to rounding



04 OUTLOOK AND GUIDANCE

Group COVID-19 Update



Assumptions as of mid February

If COVID-19 outbreak peaks in Q1, eases in Q2 and the situation is back to normal in H2, the impact on Merck KGaA, Darmstadt, Germany and its sectors is estimated to be the following:

Group

- Around -1% on full year net sales mainly from China
- Impact in Q1, improvement in Q2, and normal business dynamics in H2 2020

Healthcare

- Mid to high double-digit € million impact; mainly in Oncology and Fertility

Life science

- Mid double-digit € million impact; all businesses affected, mainly Research Solutions

performance Materials

- Up to mid double-digit € million impact; main effect in Display Solutions

Full year effect of around -1% on net sales reflected in qualitative outlook for 2020

Group

Full-year 2020 guidance

Net sales:

Solid organic sales growth, Versum growth contribution in the mid-single digits and slight FX headwinds of 0% to -3% YoY

EBITDA pre:

Strong organic growth, mid-single digit growth from Versum
Slight FX headwinds of 0% to -3% YoY

Group

Key earnings drivers to remember for 2020



EBITDA¹-supporting factors

- Increasing sales contribution from Mavenclad® and Bavencio®
- Stringent M&S and R&D cost management (decrease YoY as % of sales)
- Ongoing strength in Life Science with above-market sales growth and 20 - 30 bps underlying margin progression
- Post-trough recovery of Semiconductor Solutions and cost savings from Bright Future program related initiatives
- High level of cost consciousness and prioritization
- Three quarters of Versum portfolio contribution



EBITDA¹-reducing factors

- No more support from Pfizer deferred income (€191 m in 2019)
- Lower income from pipeline management
- Continued decline of Liquid Crystals and Rebif®
- COVID-19 related top-line effect – risk assessment ongoing

Group 2020 business sector guidance¹

Healthcare



Net sales

- Solid organic growth
- Base business organically stable
- New products with strong contribution

EBITDA pre

- Solid organic growth
- Driven by Mavenclad and Bavencio contribution and continued cost discipline
- Moderate adverse FX impact

Life Science



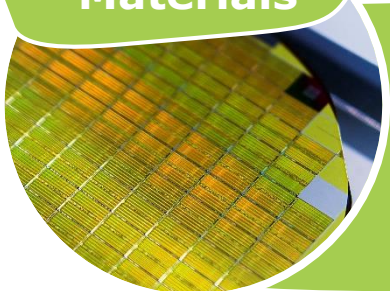
Net sales

- Strong organic growth
- Process Solutions main growth driver but all businesses contributing

EBITDA pre

- Strong organic growth
- Slight margin progression
- Slight adverse FX impact

Performance Materials



Net sales

- Slight organic growth
- Strong contribution from Semiconductor Solutions
- Display declining, driven by LC
- Low- to mid-thirties contribution from Versum

EBITDA pre

- Slight organic growth
- Semiconductor as well as cost management compensating LC price decline
- Slight adverse FX impact
- Low- to mid-thirties contribution from Versum





APPENDIX

Additional financial guidance 2020

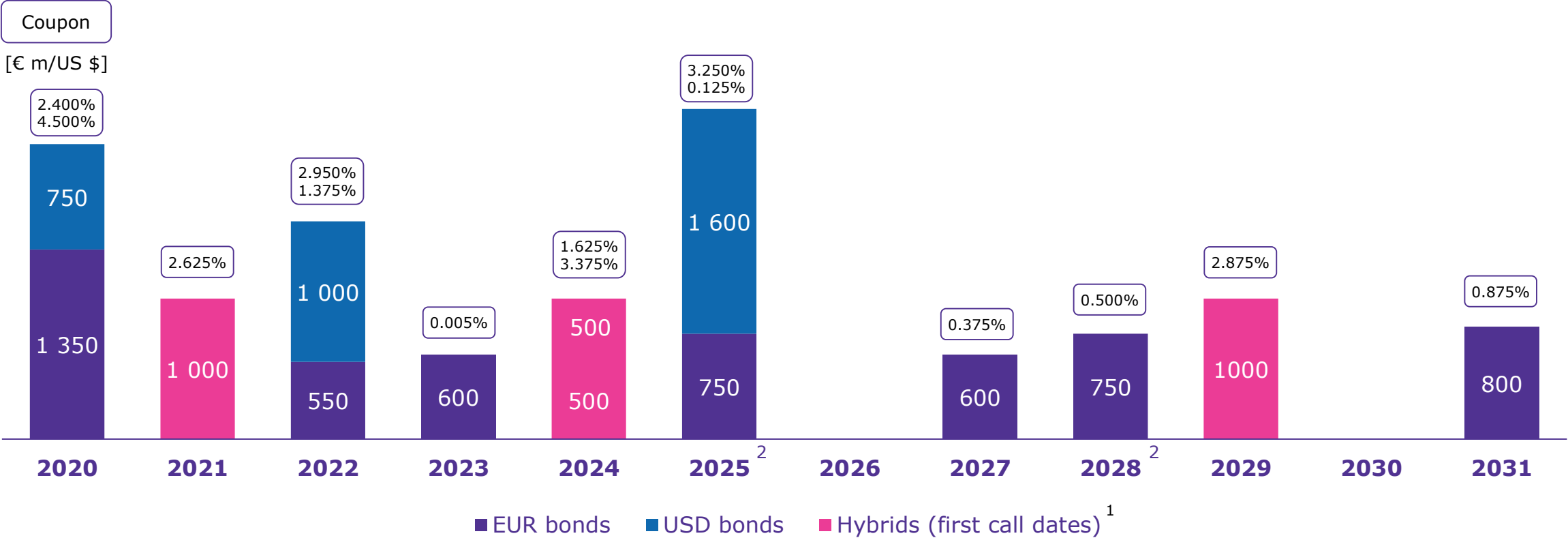
Further financial details

Corporate & Other EBITDA pre [*]	~ - €400 – -€440 m
Interest result	~ - 235 – -260 m
Effective tax rate	~24 % – 26%
Capex on PPE	~1.1 bn – 1.2 bn
Hedging/USD assumption	FY 2020 hedge ratio ~ 50% at EUR/USD ~1.18
2020 Ø EUR/USD assumption	~ 1.11 – 1.16

^{*}CO guidance 2020: -€400 m to -€440 m (assuming FX adjusted CO costs -€380 m to -€420 m)

Maturity profile reflects Sigma-Aldrich and Versum financing transactions

Maturity profile as of Mar. 5, 2020



Balanced maturity profile in upcoming years avoids refinancing risks;
Merck KGaA, Darmstadt, Germany will become a more frequent issuer

¹No decision on call rights taken yet;

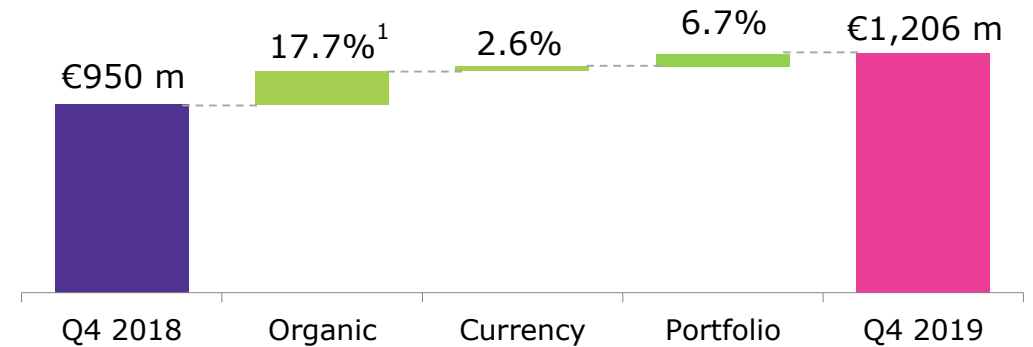
²EUR bonds have been placed on Jan 16th, 2020

Life Science and Healthcare fuel organic growth of top- and bottom-line, supported by Versum Portfolio and FX tailwinds

Q4 2019 YoY net sales	Organic	Currency	Portfolio	Total
Healthcare	8.4%	2.0%	0.0%	10.4%
Life Science	7.8%	2.3%	-0.6%	9.5%
Performance Materials	-15.2%	2.3%	39.7%	26.8%
Group	4.3%	2.2%	6.2%	12.7%

- Strong performance in Healthcare reflects growth of core business and strong uptake from pipeline products
- Life Science fueled by ongoing strong demand in Process Solutions despite last year's high base
- Performance Materials as expected, reflecting decline in liquid crystals despite strong demand in OLED; ongoing weak market demand in Semiconductor and Surface Solutions

Q4 YoY EBITDA pre



- Increased organic EBITDA pre due to solid top-line growth and cost consciousness in Healthcare; Life Science with sustained strong performance
- Positive FX impact on EBITDA pre due to US dollar and Argentine peso
- Positive portfolio effect driven by Versum, partially offset by Intermolecular

¹Thereof IFRS 16 effect with +4.5 percentage points (~ €40 m); Totals may not add up due to rounding

Q4 2019: Overview

Key figures

[€m]	Q4 2018	Q4 2019	Δ
Net sales	3,888	4,381	12.7%
EBITDA pre <i>Margin (in % of net sales)</i>	950 24.4%	1,206 27.5%	27.0%
EPS pre	1.22	1.54	26.2%
Operating cash flow	741	690	-6.8%

[€m]	Dec. 31, 2018	Dec 31, 2019	Δ
Net financial debt	6,701	12,363	84.5%
Working capital	3,486	3,944	13.2%
Employees	51,749	57,071	10.3%

Comments

- All business sectors drive net sales growth
- EBITDA pre & margin reflect strong top-line growth, GSK deferred income, milestone payments, cost consciousness, strong operating leverage in LS and Versum contribution
- Working capital driven by increased inventory levels, Versum acquisition and FX
- Higher net financial debt and increased headcount reflect Versum acquisition

Reported Figures

Reported results

[€m]	Q4 2018	Q4 2019	Δ
EBIT	341	515	51.0%
Financial result	-84	-76	-9.7%
Profit before tax	257	439	70.8%
Income tax	-64	-103	60.1%
<i>Effective tax rate</i>	<i>25.0%</i>	23.4%	
Net income ¹	2,446	318	-87.0%
EPS [€]	5.63	0.73	-87.0%

Comments

- Higher EBIT due to strong top-line contribution from Life Science and Healthcare as well as cost consciousness
- Last years net income and EPS reflect Consumer Health disposal

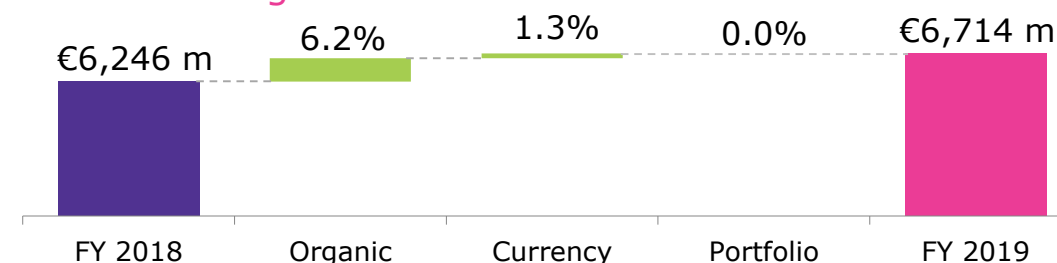
¹From continuing and discontinued operations;
Totals may not add up due to rounding

Healthcare: Significant contribution from Mavenclad® and Bavencio®; solid core business

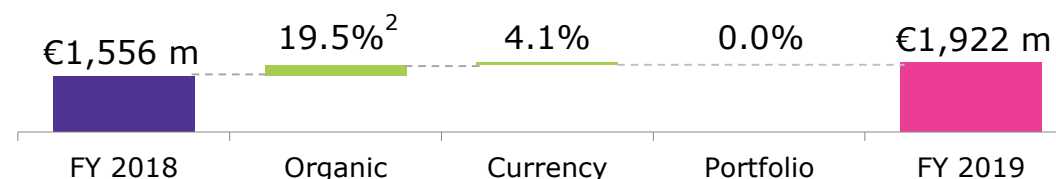
Healthcare P&L

[€m]	FY 2018 ¹	FY 2019
Net sales	6,246	6,714
Marketing and selling	-2,349	-2,305
Administration	-329	-344
Research and development	-1,687	-1,666
EBIT	731	1,149
EBITDA	1,492	1,896
EBITDA pre	1,556	1,922
Margin (in % of net sales)	24.9%	28.6%

Net sales bridge



EBITDA pre bridge



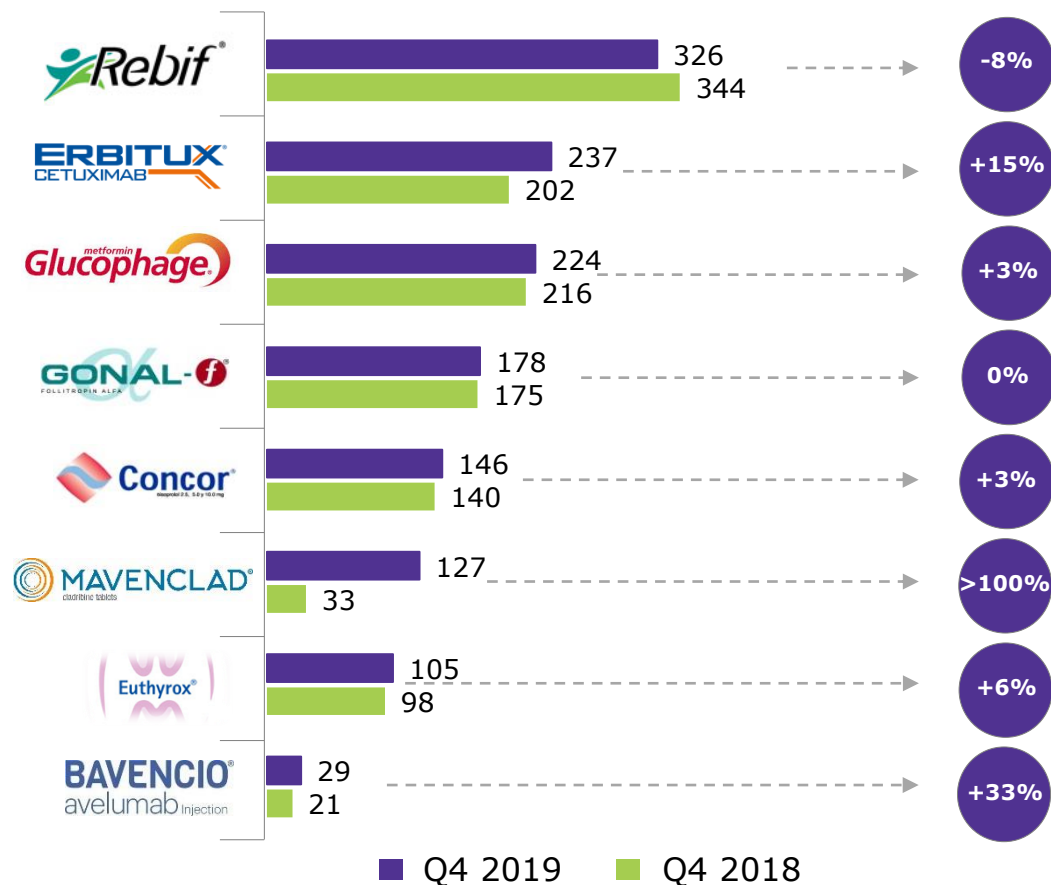
Comments

- Solid foundation due to growing core business, further supported by acceleration of Mavenclad® and Bavencio® launches
- Mavenclad® with continued strong uptake across all regions is offsetting strong Rebif® decline
- Bavencio® ramp-up on track; Erbitux® fueled by China reimbursement, still facing ongoing competition and price pressure in major markets
- M&S decrease due to resource reallocation from core business to new product launches and stringent cost management
- Higher EBITDA pre driven by strong top-line performance, cost management, non-recurring income [Bavencio® (~€90 m) milestone payments, GSK deferred income (~€90 m) and Peg-Pal (~€75 m)] and IFRS 16 effect, outweighing last years' Peg-Pal milestone (~€50 m)

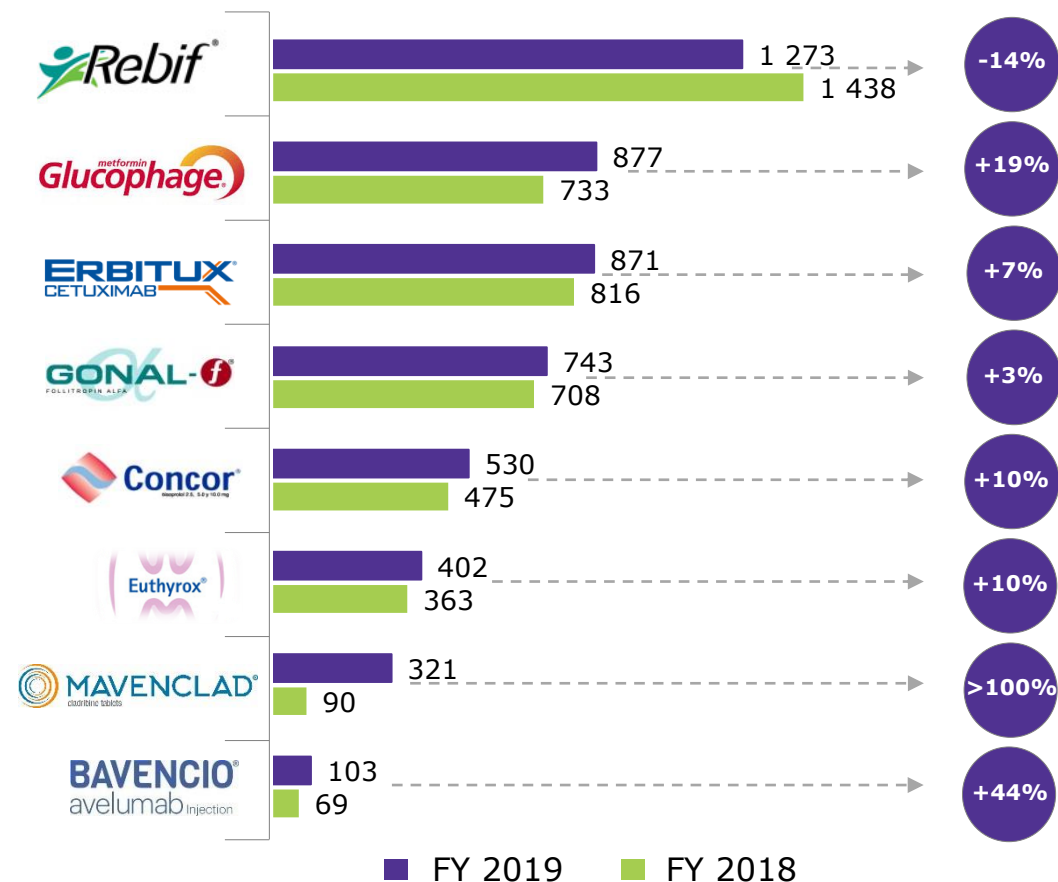
¹LY numbers have been modified, due to disclosure changes of adjustments; ²Thereof IFRS 16 effect with +3.3 percentage points (~ €50 m); Totals may not add up due to rounding

Healthcare organic growth by franchise/product

Q4 2019 organic sales growth [%]
by key product [€m]

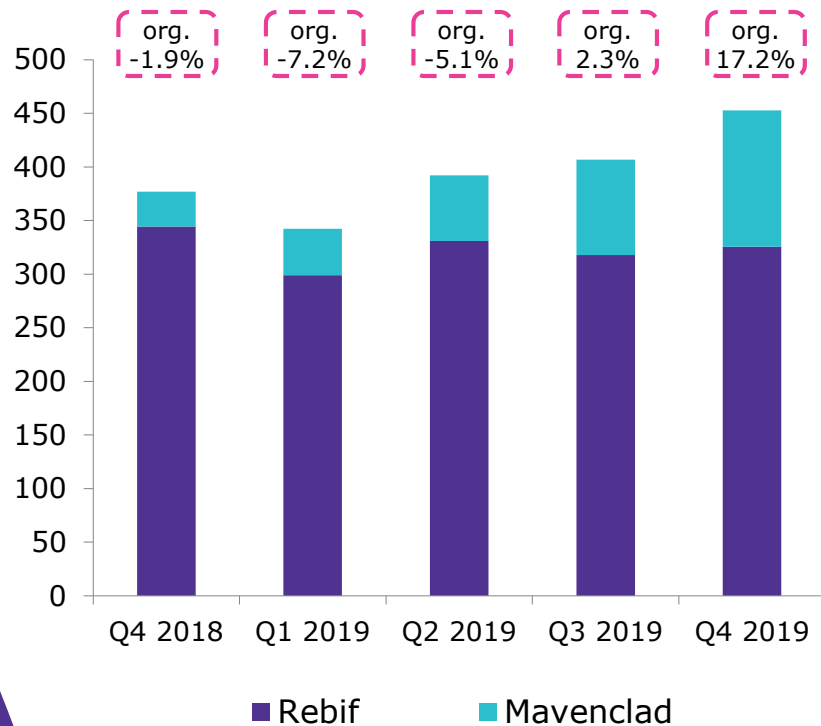


FY 2019 organic sales growth [%]
by key product [€m]

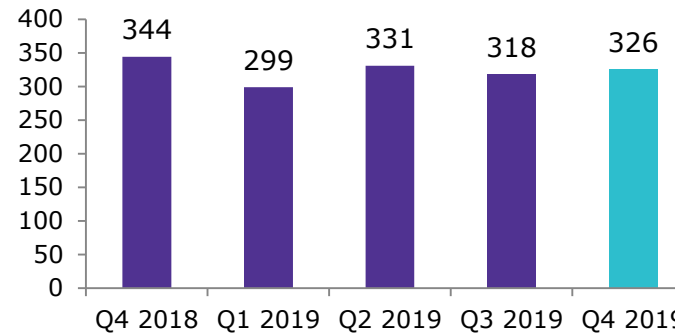


Neurology & Immunology: Strong ramp up of Mavenclad[®] more than offsets Rebif[®] decline

Sales development NDI, [€m]

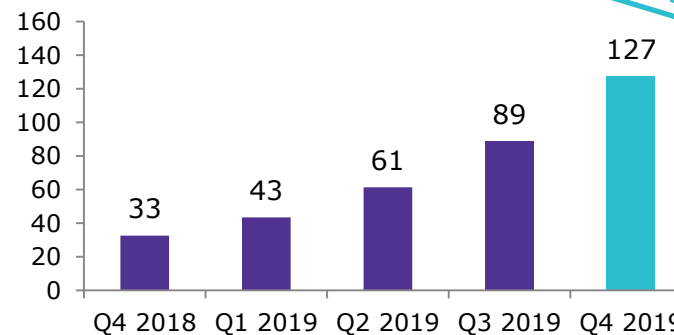


Rebif[®] net sales, [€m]



- Rebif[®] sales of €326 m in Q4 2019 reflect organic decline of -7.6%, mitigated by FX effect of +2.2%
- U.S. and European volume decline mainly due to competition
- Temporary deceleration of U.S. decline due to price increase and provision releases related to rebates

Mavenclad[®] net sales, [€m]



Mavenclad[®] ramp up accelerating across all regions

FY 2019 guidance of ~€300 m achieved

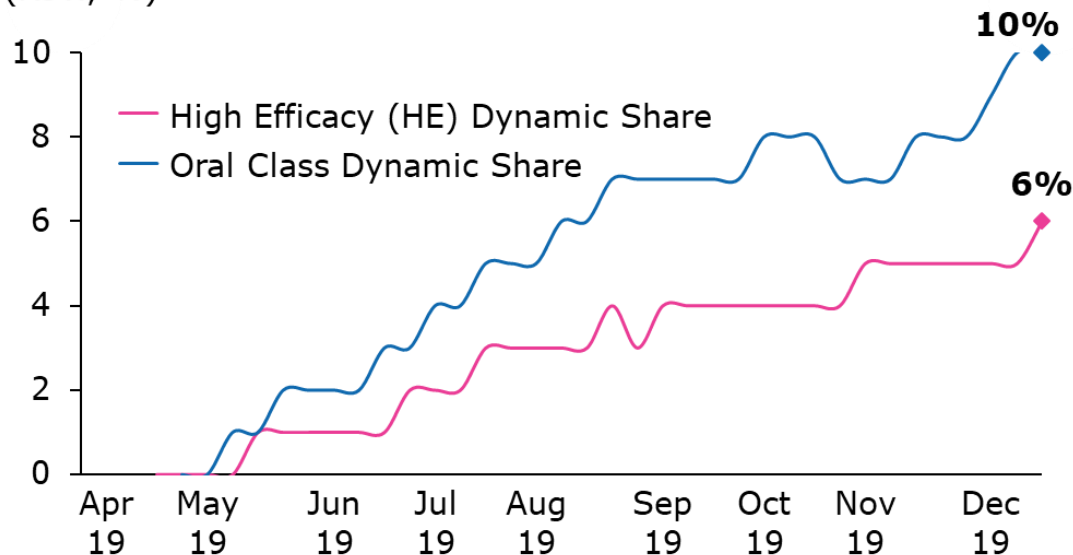
Neurology & Immunology: Mavenclad[®] Launch Update

Triple digit YoY growth (+€230 m, x3.5 vs FY 2018)



USA: Continued growth within High Efficacy and Oral market¹

Market share
(R3W, %)



Launch

Increased patient access exceeding recent oral benchmarks:
3 out of 4 US patients have access to MAVENCLAD with no NDC blocks⁴



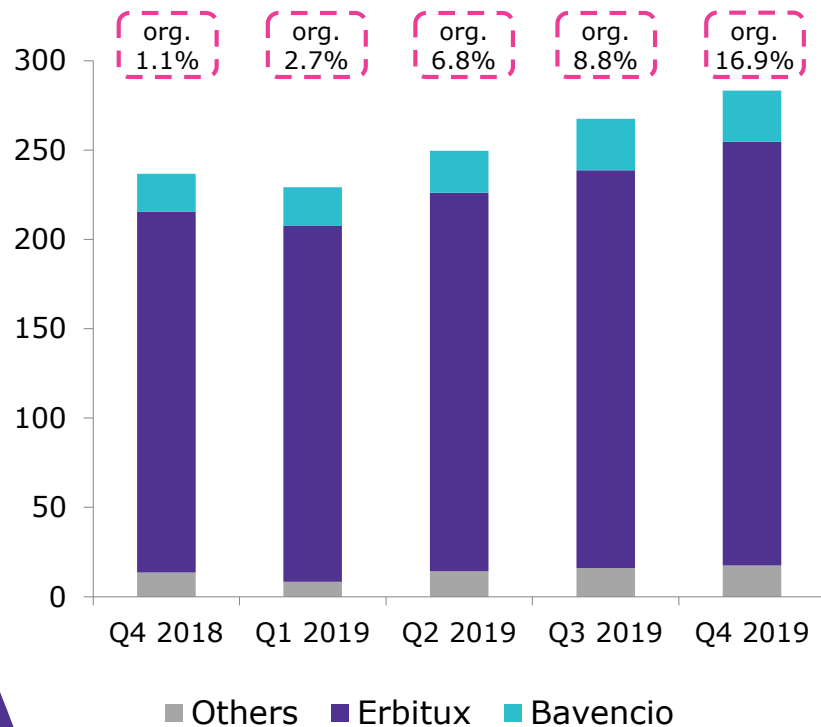
Ex-USA: Strong launch progress globally

- Approved in **75 countries²**
- **Leading clinical perception** among oral class in key markets (Germany, UK, Italy and Spain)³
- 2020 ex-USA growth to be driven by **continued demand acceleration and FY impact of H2 2019 market access wins**

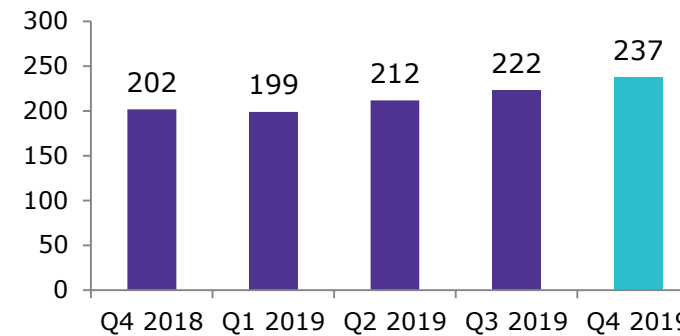
¹ IQVIA Projected National Claims weekly data; R3W = Rolling 3 Weeks; HE market comprises Ocrevus[®], Tysabri[®], Gilenya[®], Lemtrada[®] and Mavenclad[®]; Dynamic High Efficacy (HE) market describes share of patients starting on/switching to HE treatments; ² Internal data on file; ³ Global MAVENCLAD HCP Awareness, Trial, Usage, panel of ~140 physicians in EU4 ⁴ Driven by major plans incl. Prime Therapeutics and Optum PBM including United Healthcare

Oncology: Double-digit growth reflects strong demand for Erbitux[®] in China

Sales development Oncology, [€m]

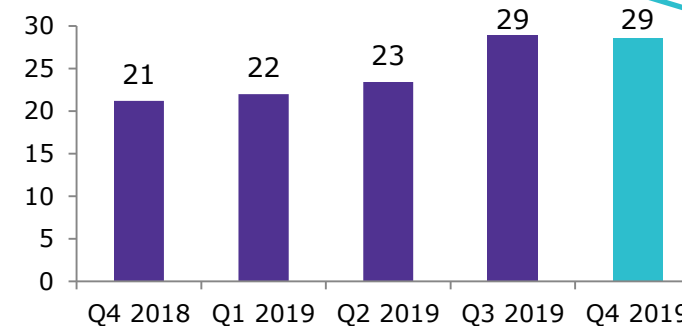


Erbitux[®] net sales, [€m]



- Absolute sales of €237 m reflect double-digit growth in Q4 (org. 14.5%; FX 3.1%)
- Strong APAC fueled by China reimbursement recognition
- MEA reflects tailwind from tender phasing
- Flat Europe amid ongoing competition, price reductions and declining market size

Bavencio[®] net sales, [€m]



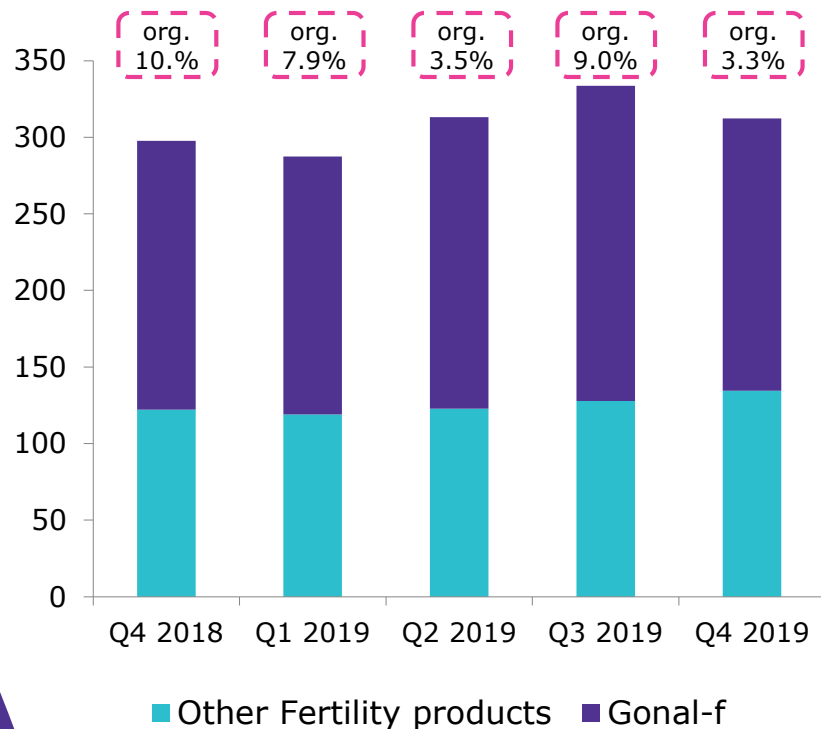
FY 19 net sales: €103 m

Bavencio[®] approved for RCC in U.S., Europe and Japan

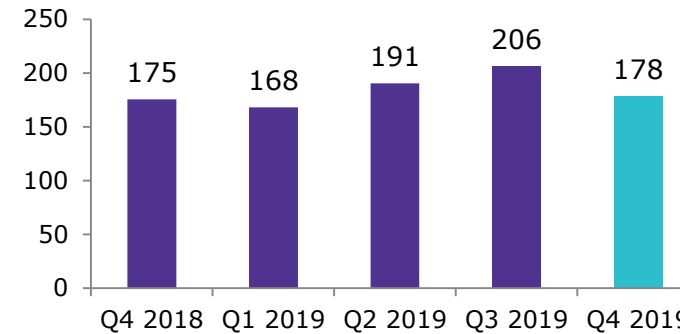
FY 2019 guidance of ~ €100 m achieved

Fertility: Organic growth driven by other Fertility products

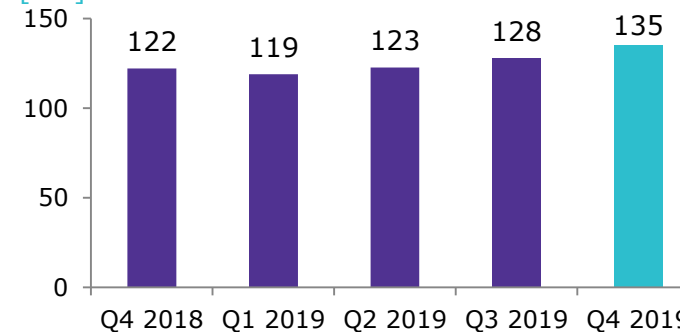
Sales development Fertility, [€m]



Gonal-f[®] net sales, [€m]



Other Fertility products net sales, [€m]

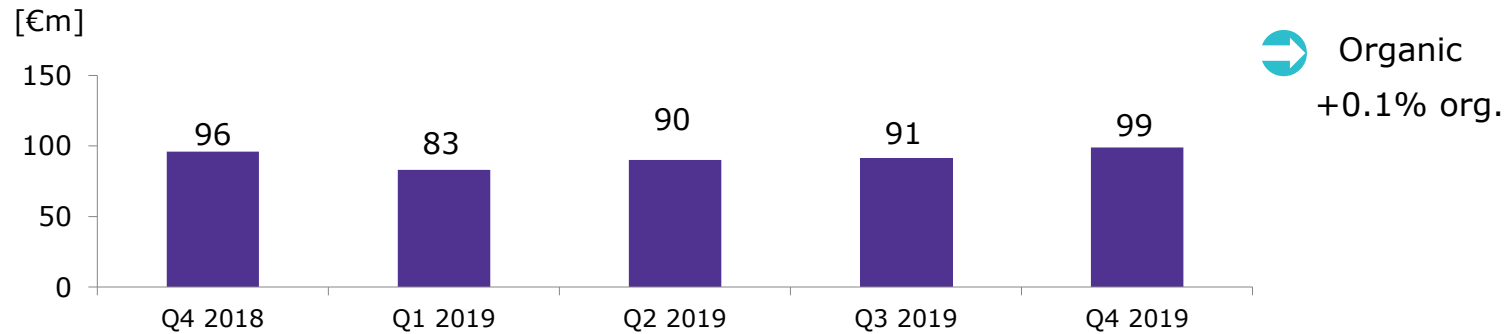


- Fertility posts moderate organic growth driven by Europe and North America
- Flat Gonal-f[®] results in €178 m absolute sales (org. -0.4%; FX 1.7%)
- Gonal-f[®] driven by ongoing strong demand in the U.S. overcompensated by price cut in France and tender phasing in Italy
- Other Fertility products with strong organic growth mainly driven by APAC and LATAM

Ongoing strong demand for Euthyrox[®] drives General Medicine growth

Sales evolution

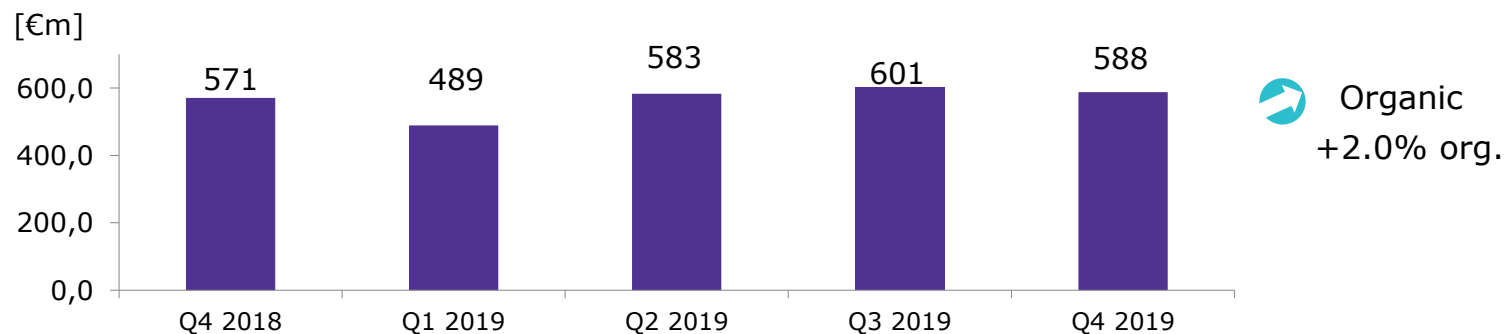
Endocrinology



Q4 2019 organic drivers

- Endocrinology reflects strong demand in South Korea, offsetting weaker North America and Europe

General Medicine*



- Moderate growth of GM driven by Euthyrox[®] demand; implementation of new ERP system in China paused growth of Glucophage[®] and Concor[®]

*includes CardioMetabolic Care & General Medicine and Others; ERP = Enterprise resource planning;

Clinical pipeline

December 31, 2019

Phase I

M3258
LMP7 inhibitor
Multiple myeloma

peposertib (M3814)
DNA-PK inhibitor
Solid tumors¹

M4344
ATR inhibitor
Solid tumors

M6620
ATR inhibitor
Solid tumors

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 tumors¹

M5049
TLR7/8 antagonist
Immunology

M6495
anti-ADAMTS-5 nanobody
Osteoarthritis

M5717
PeEF2 inhibitor
Malaria

Phase II

tepotinib
MET kinase inhibitor
Non-small cell lung cancer

peposertib (M3814)
DNA-PK inhibitor
Rectal cancer

abrituzumab
pan-αv integrin inhibiting mAb
Colorectal cancer 1L

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 1L

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

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

avelumab
anti-PD-L1 mAb
Solid tumors²

avelumab
anti-PD-L1 mAb
Non-small cell lung cancer²

avelumab
anti-PD-L1 mAb
Urothelial cancer²

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)³
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
Urothelial cancer 1L-M

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

evobrutinib
BTK inhibitor
Multiple sclerosis

Registration

tepotinib
MET kinase inhibitor
Non-small cell lung cancer,
*MET*ex14 skipping⁴

avelumab
anti-PD-L1 mAb
Renal cell cancer 1L⁵

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

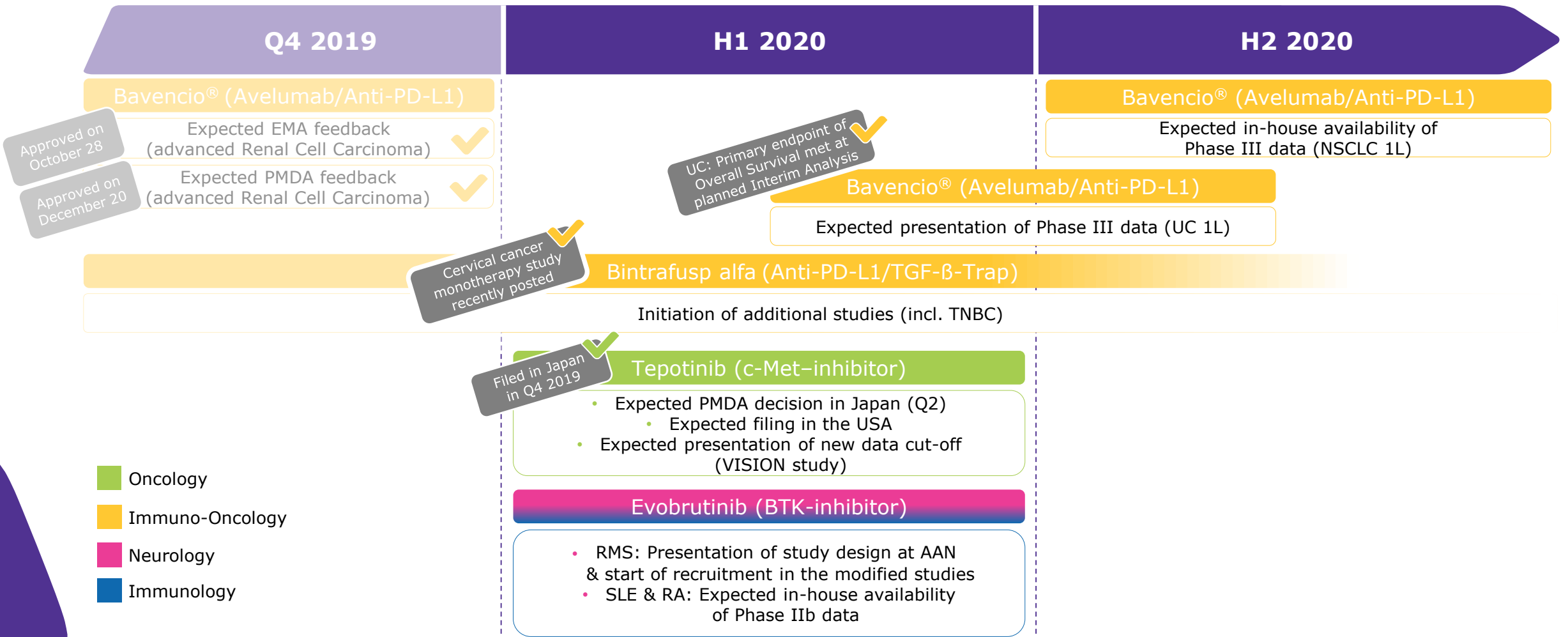
1L, first-line treatment; 1L-M, first-line maintenance treatment; 2L, second-line treatment.

¹ Includes studies in combination with avelumab. ² Avelumab combination studies with talazoparib, axitinib, ALK inhibitors, cetuximab, or chemotherapy. ³ 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. ⁴ In Q4 2019, tepotinib was filed in Japan for the treatment of patients with non-small cell lung cancer harboring *MET*ex14 skipping. ⁵ On December 20 2019, avelumab in combination with axitinib was approved in Japan for treatment of patients with curatively unresectable or metastatic renal cell carcinoma.

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.

Merck KGaA
Darmstadt, Germany

Pipeline: Upcoming Healthcare catalysts mark progress across all therapeutic areas



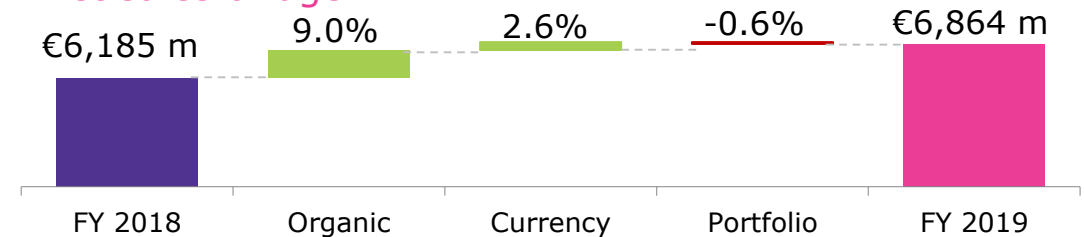
Acronyms: AAN – American Academy of Neurology, EMA – European Medicines Agency, NSCLC = Non-Small-Cell Lung Carcinoma, PMDA = Pharmaceuticals and Medical Devices Agency of Japan, RA = Rheumatoid Arthritis, RRMS = Relapsing Multiple Sclerosis, SLE = Systemic Lupus Erythematosus, TNBC = Triple-Negative Breast Cancer, UC = Urothelial Cancer

Life Science: All businesses across all regions drive ongoing strong top- and bottom-line performance

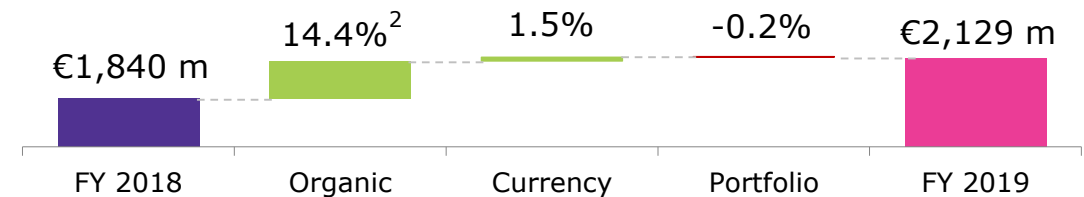
Life Science P&L

[€m]	FY 2018 ¹	FY 2019
Net sales	6,185	6,864
Marketing and selling	-1,777	-1,924
Administration	-335	-341
Research and development	-251	-276
EBIT	1,036	1,280
EBITDA	1,755	2,070
EBITDA pre	1,840	2,129
Margin (in % of net sales)	29.8%	31.0%

Net sales bridge



EBITDA pre bridge



Comments

- Process Solutions posts double-digit growth: BioProcessing as main contributor with ongoing strong demand across all major regions, especially in North America and China
- Solid organic growth of Applied Solutions driven by Advanced Analytical and Lab Water, fueled by all major regions
- Research Solutions closes year with moderate growth, driven by all businesses and regions, especially APAC and North America
- Higher M&S in line with volume growth
- EBITDA pre reflects operational leverage from strong top-line growth and IFRS 16 effect

¹LY numbers have been modified, due to disclosure changes of adjustments; ²Thereof IFRS 16 effect with +3.1 percentage points (~ €60 m); Totals may not add up due to rounding

Performance Materials: LC back to negative underlying trajectory amid softness in Semiconductor and Surface

Performance Materials P&L

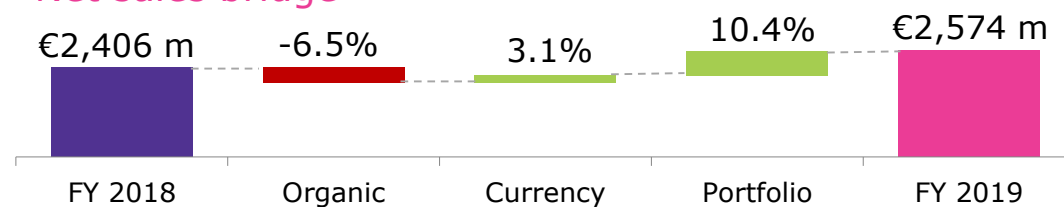
[€m]	FY 2018 ¹	FY 2019
Net sales	2,406	2,574
Marketing and selling	-255	-329
Administration	-107	-118
Research and development	-242	-267
EBIT	508	307
EBITDA	769	637
EBITDA pre	786	803
Margin (in % of net sales)	32.7%	31.2%

Comments

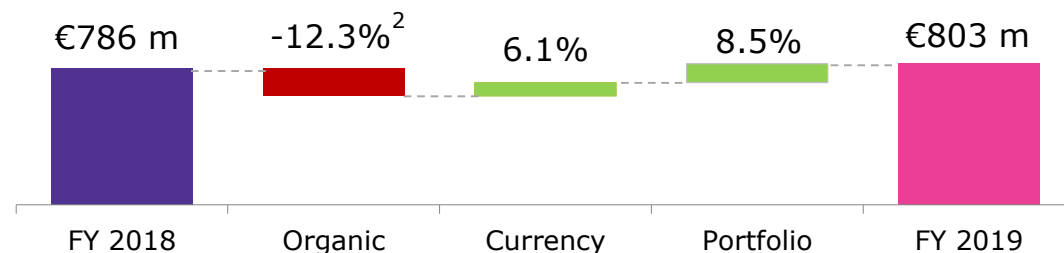
- Moderate sales growth reflects portfolio effect from Versum and positive FX, overcompensating organic decline
- Display Solutions as expected: LC back to negative underlying trajectory with high comparison last year base, OLED again strong
- Semiconductor Solutions perform above the ongoing temporarily weak market demand
- Surface Solutions reflects ongoing weak demand of automotive market

¹LY numbers have been modified, due to disclosure changes of adjustments; ²Thereof IFRS 16 effect with +1.3 percentage points (~ €10 m); Totals may not add up due to rounding

Net sales bridge



EBITDA pre bridge



- and increased industrials portfolio-focus amid Bright Future transformation
- M&S reflects Versum acquisition and diligent underlying cost management
- Provisions related to Bright Future program drives R&D increase; adjusted for EBITDA pre - decrease in R&D reflecting cost control
- Organic EBITDA pre due to reduced organic top line and negative business mix; Absolute EBITDA pre reflects Versum acquisition

Cash Flow Statement

FY 2019 – cash flow statement

[€m]	FY 2018	FY 2019	Δ
Profit after tax	3,396	1,324	-2,072
D&A	1,812	1,944	132
Changes in provisions	199	153	-45
Changes in other assets/liabilities	-288	-391	-103
Other operating activities	-2,722	-4	2,718
Changes in working capital	-178	-169	8
Operating cash flow	2,219	2,856	637
Investing cash flow	2,191	-6,153	-8,344
Thereof CAPEX on PPE	-879	-782	97
Financing cash flow	-2,825	1,902	4,727

Cash flow drivers

- Last year's profit after tax driven by Consumer Health disposal, which was neutralized in other operating activities
- D&A increase mainly due to IFRS 16 reclassification
- Changes in other assets/liabilities due to Versum (share based payment and severance payments)
- Investing cash flow driven by Versum acquisition and Consumer Health disposal last year
- Higher financing cash flow reflects the issuance of new bonds (€3.5 bn) partially offset by repayment of due bonds (€1.3 bn); last year is driven by repayment of bank loans and commercial paper

Adjustments in Q4 2019

Adjustments in EBIT

[€m]	Q4 2018		Q4 2019	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	23	11	21	1
Life Science	54	2	15	0
Performance Materials	28	20	93	-1
Corporate & Other	34	0	10	0
Total	138	33	139	1

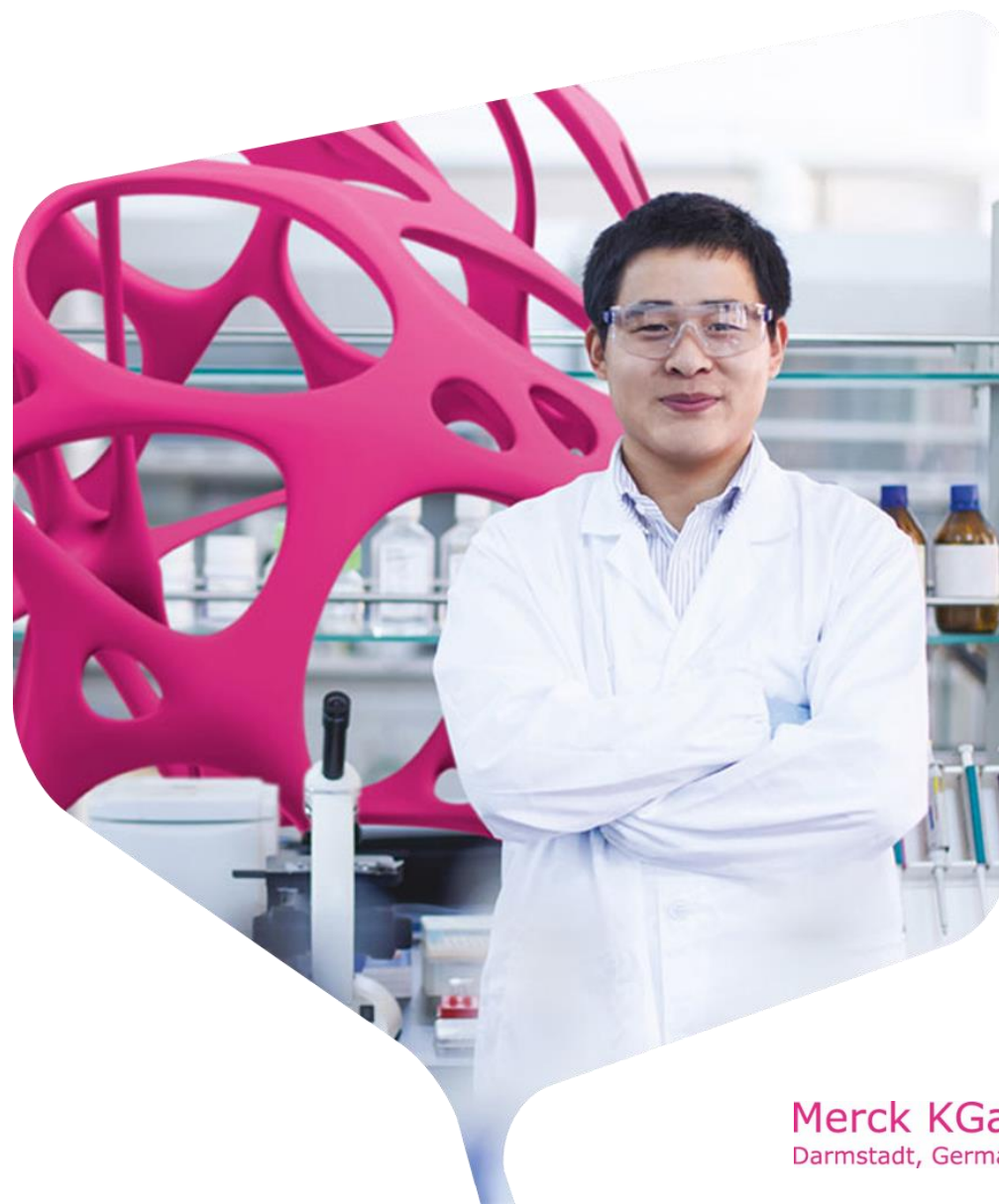
Adjustments in FY 2019

Adjustments in EBIT

[€m]	FY 2018		FY 2019	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	75	11	26	1
Life Science	108	23	59	0
Performance Materials	37	21	174	7
Corporate & Other	107	0	68	0
Total	327	55	328	9

Financial calendar

Date	Event
April 24, 2020	Annual General Meeting
May 14, 2020	Q1 2020 Earnings release
August 6, 2020	Q2 2020 Earnings release
November 12, 2020	Q3 2020 Earnings release



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