

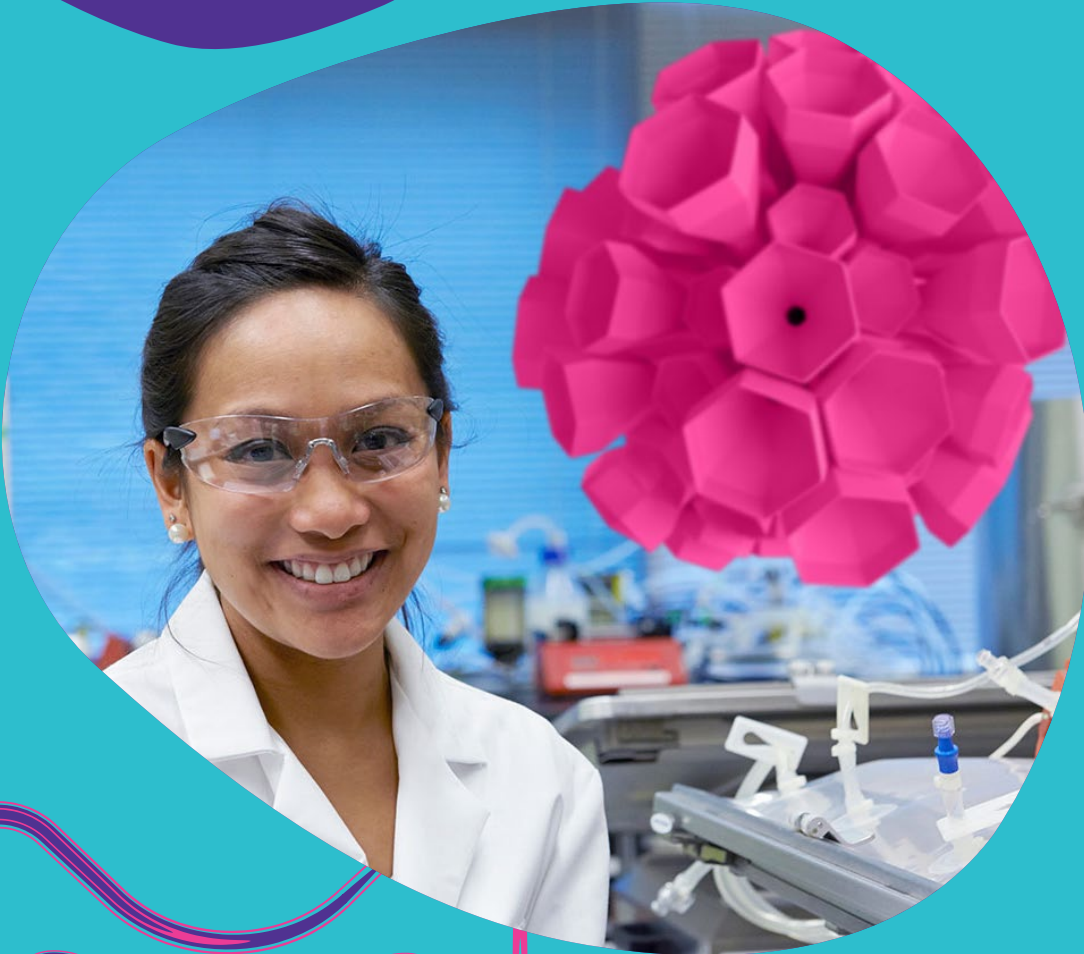
SOLID GROWTH AT THE START OF THE YEAR

Merck KGaA, Darmstadt, Germany Q1 2019 results

Stefan Oschmann, CEO
Marcus Kuhnert, CFO

– *Presentation for the media* –

May 14, 2019





Disclaimer

Publication of Merck KGaA, Darmstadt, Germany. In the United States and Canada the group of companies affiliated with Merck KGaA, Darmstadt, Germany operates under individual business names (EMD Serono, Millipore Sigma, EMD Performance Materials). To reflect such fact and to avoid any misconceptions of the reader of the publication certain logos, terms and business descriptions of the publication have been substituted or additional descriptions have been added. This version of the publication, therefore, slightly deviates from the otherwise identical version of the publication provided outside the United States and Canada.

Disclaimer

Cautionary Note Regarding Forward-Looking Statements and financial indicators

This communication may include “forward-looking statements.” Statements that include words such as “anticipate,” “expect,” “should,” “would,” “intend,” “plan,” “project,” “seek,” “believe,” “will,” and other words of similar meaning in connection with future events or future operating or financial performance are often used to identify forward-looking statements. All statements in this communication, other than those relating to historical information or current conditions, are forward-looking statements. We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements in the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to a number of risks and uncertainties, many of which are beyond control of Merck KGaA, Darmstadt, Germany, which could cause actual results to differ materially from such statements.

Risks and uncertainties include, but are not limited to: the risks of more restrictive regulatory requirements regarding drug pricing, reimbursement and approval; the risk of stricter regulations for the manufacture, testing and marketing of products; the risk of destabilization of political systems and the establishment of trade barriers; the risk of a changing marketing environment for multiple sclerosis products in the European Union; the risk of greater competitive pressure due to biosimilars; the risks of research and development; the risks of discontinuing development projects and regulatory approval of developed medicines; the risk of a temporary ban on products/production facilities or of non-registration of products due to non-compliance with quality standards; the risk of an import ban on products to the United States due to an FDA warning letter; the risks of dependency on suppliers; risks due to product-related crime and espionage; risks in relation to the use of financial instruments; liquidity risks; counterparty risks; market risks; risks of impairment on balance sheet items; risks from pension obligations; risks from product-related and patent law disputes; risks from antitrust law proceedings; risks from drug pricing by the divested Generics Group; risks in human resources; risks from e-crime and cyber attacks; risks due to failure of business-critical information technology applications or to failure of data center capacity; environmental and safety risks; unanticipated contract or regulatory issues; a potential downgrade in the rating of the indebtedness of Merck KGaA, Darmstadt, Germany; downward pressure on the common stock price of Merck KGaA, Darmstadt, Germany and its impact on goodwill impairment evaluations, as well as the impact of future regulatory or legislative actions.

The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included elsewhere, including the Report on Risks and Opportunities Section of the most recent annual report and quarterly report of Merck KGaA, Darmstadt, Germany. Any forward-looking statements made in this communication are qualified in their entirety by these cautionary statements, and there can be no assurance that the actual results or developments anticipated by us will be realized or, even if substantially realized, that they will have the expected consequences to, or effects on, us or our business or operations. Except to the extent required by applicable law, we undertake no obligation to update publicly or revise any forward-looking statement, whether as a result of new information, future developments or otherwise.

This presentation contains certain financial indicators such as EBITDA pre exceptionals, net financial debt and earnings per share pre exceptionals, which are not defined by International Financial Reporting Standards (IFRS). These financial indicators should not be taken into account in order to assess the performance of Merck KGaA, Darmstadt, Germany in isolation or used as an alternative to the financial indicators presented in the consolidated financial statements and determined in accordance with IFRS. The figures presented in this statement have been rounded. This may lead to individual values not adding up to the totals presented.

Disclaimer

Additional Important Information and Where to Find It

This communication does not constitute an offer to buy or solicitation of an offer to sell any securities. This communication relates to a proposal which Merck KGaA, Darmstadt, Germany has made for a business combination transaction with Versum Materials, Inc. ("Versum"). In furtherance of this proposal and subject to future developments, Merck KGaA, Darmstadt, Germany (and, if a negotiated transaction is agreed, Versum) intends to file relevant materials with the SEC, including a proxy statement on Schedule 14A (the "Proxy Statement"). This communication is not a substitute for the Proxy Statement or any other document Merck KGaA, Darmstadt, Germany, Versum or Entegris, Inc. may file with the SEC in connection with the proposed transaction. **STOCKHOLDERS OF VERSUM ARE URGED TO READ ALL RELEVANT DOCUMENTS FILED WITH THE SEC, INCLUDING THE PROXY STATEMENT, BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION.** Any definitive Proxy Statement will be delivered to the stockholders of Versum. Investors and security holders will be able to obtain free copies of these documents (if and when available) and other documents filed with the SEC by Merck KGaA, Darmstadt, Germany through the website maintained by the SEC at <http://www.sec.gov>.

Participants in Solicitation

Merck KGaA, Darmstadt, Germany and its directors and executive officers may be deemed to be participants in the solicitation of proxies from the holders of Versum common stock in respect of the proposed transaction. Information regarding the participants in the proxy solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the Proxy Statement and other relevant materials to be filed with the SEC in respect of the proposed transaction when they become available.

Agenda

01 Executive summary

02 Financial overview

03 Guidance



01 EXECUTIVE SUMMARY

Highlights

Operations

- ▶ Healthcare – Mavenclad[®] U.S. approval in March 2019, continued strong uptake in ex-US territories and M7824 alliance with GSK announced in February 2019
- ▶ Life Science – Very strong organic growth fueled by all businesses across all regions
- ▶ Performance Materials – Ongoing strong demand for LC and OLED; market demand driven softness in Semiconductor Solutions

Financials

- ▶ Q1 2019 organic sales growth of +5.7%; Q1 2019 organic EBITDA pre decline of -2.0%
- ▶ Full-year 2019 guidance – net sales: €15.3 to 15.9 bn; EBITDA pre: € 4,150 to 4,350 m; EPS pre: € 5.30 to 5.65
- ▶ Merger agreement with Versum Materials signed* – financing secured

*Merger agreement signed as of April 12th 2019.

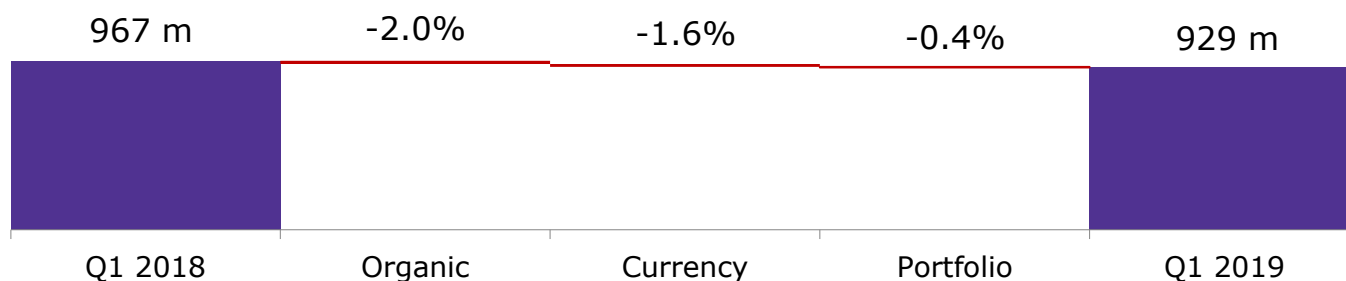
All business sectors drive organic growth supported by FX tailwinds

Q1 2019 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	2.9%	0.4%	0.0%	3.2%
Life Science	9.4%	2.8%	-0.5%	11.7%
Performance Materials	3.2%	3.9%	0.0%	7.1%
Group	5.7%	2.0%	-0.2%	7.5%

- Healthcare growth driven by General Medicine, Fertility, Mavenclad[®] and Bavencio[®], offsetting strong Rebif[®] decline
- Life Science with above-market growth driven by all business units
- Performance Materials still driven by temporary LC uptake and ongoing strong demand for OLED; softer market demand for Semiconductor Solutions

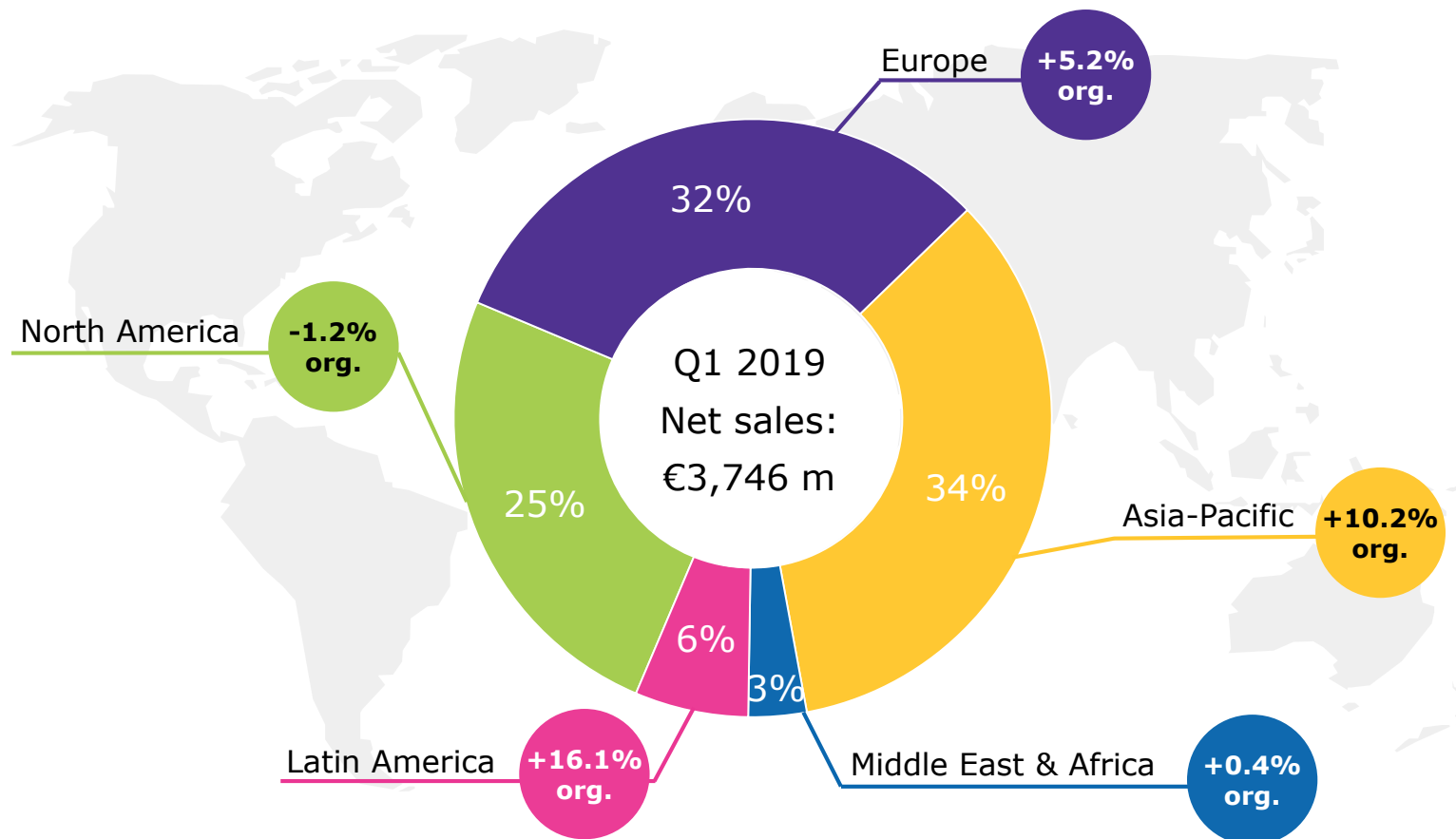
Q1 YoY EBITDA pre



- Lower organic EBITDA pre reflects strong performance of LS offset by last year milestone payment in HC and ongoing LC price decline
- Negative FX impact on EBITDA pre due to hedging losses related to EUR/USD development

Organic growth driven by Asia-Pacific, Europe and Latin America

Regional breakdown of net sales [€ m]



Regional organic development

- Strong growth in APAC fueled by double-digit growth of Life Science, Glucophage[®], Erbitux[®] and OLED; LC still benefitting from temporary capacity ramp-up in China
- Europe with solid growth due to ongoing strong demand in Life Science; strong Mavenclad[®] ramp-up offsets Rebif[®] decline
- North America reflects robust demand in Life Science offset by double-digit decline of Rebif[®]
- Double-digit growth in LATAM due to strong demand for General Medicine and Life Science
- About stable Middle East and Africa driven by solid demand in Life Science offsetting softer Healthcare

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



02 FINANCIAL OVERVIEW

Q1 2019: Overview

Key figures

[€m]	Q1 2018*	Q1 2019	Δ
Net sales	3,486	3,746	7.5%
EBITDA pre	967	929	-4.0%
Margin (in % of net sales)	27.7%	24.8%	
EPS pre	1.33	1.13	-15.4%
Operating cash flow	380	493	29.5%

[€m]	Dec. 31, 2018	March 31, 2019	Δ
Net financial debt	6,701	7,089	5.8%
Working capital	3,486	3,782	8.5%
Employees	51,749	52,140	1.0%

Comments

- Net sales reflect organic sales growth across all business sectors fueled by FX tailwinds
- EBITDA pre & margin decrease due to hedging losses and LC price decline; last year contained Peg-Pal milestone (€50 m)
- Lower EPS pre driven by impairment of asset from F-star collaboration (~€27 m) and D&A from IFRS 16 effect (~€32 m)
- LY operating cash flow driven by higher income tax payments
- Working capital reflects increased business activity
- Higher net financial debt mainly due to IFRS 16 reclassification

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

Reported figures

Reported results

[€m]	Q1 2018*	Q1 2019	Δ
EBIT	502	379	-24.6%
Financial result	-61	-113	83.9%
Profit before tax	441	266	-39.6%
Income tax	-108	-67	-37.8%
<i>Effective tax rate (%)</i>	24.5%	25.2%	
Net income	341	189	-44.7%
EPS (€)	0.78	0.43	-44.9%

Comments

- Lower EBIT reflects hedging losses and LC price decline; last year EBIT included Peg-Pal milestone
- Lower financial result driven by revaluation of F-Star purchase option (-€45 m)
- Effective tax rate within guidance range of ~24-26%
- Lower net income and EPS reflect lower financial result and lower EBIT

Healthcare: Solid core business and strong Mavenclad weighed down by last year's Peg-Pal milestone payment

Healthcare P&L

[€m]	Q1 2018*	Q1 2019
Net sales	1,435	1,481
Marketing and selling	-550	-550
Administration	-77	-88
Research and development	-379	-380
EBIT	195	128
EBITDA	379	329
EBITDA pre	381	332
Margin (in % of net sales)	26.6%	22.4%

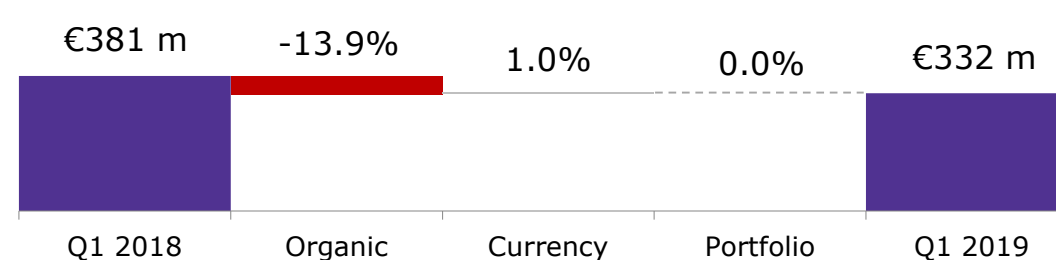
Net sales bridge



Comments

- Organic growth driven by double-digit growth of General Medicine and ongoing strong demand in Fertility
- Mavenclad[®] with continued strong uptake and U.S. approval in March 2019, mitigating ongoing Rebif[®] decline
- Bavencio[®] ramp-up on track; Erbitux[®] benefitting from China reimbursement, still facing ongoing competition and price pressure in major markets
- Flat M&S reflects pre-launch investments attributable to Mavenclad[®] and Bavencio[®] as well as investments to drive growth in China offset by lower investments in mature products
- Last year EBITDA pre higher due to Peg-Pal milestone payment (€50 m)

EBITDA pre bridge



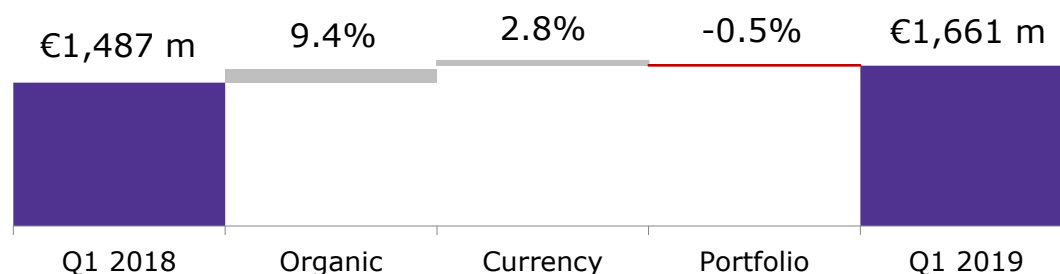
* Totals may not add up due to rounding;
 † LY numbers have been adjusted, due to Consumer Health disposal.

Life Science: Strong organic sales growth across all businesses drives margin expansion

Life Science P&L

[€m]	Q1 2018	Q1 2019
Net sales	1,487	1,661
Marketing and selling	-409	-470
Administration	-78	-88
Research and development	-59	-62
EBIT	273	313
EBITDA	442	507
EBITDA pre	455	516
Margin (in % of net sales)	30.6%	31.0%

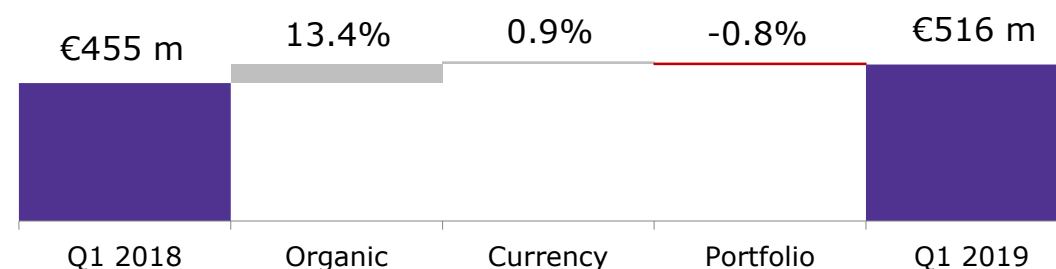
Net sales bridge



Comments

- Ongoing strong demand in Process Solutions with double-digit growth driven by all businesses and all major regions
- Applied Solutions shows high-single digit growth fueled by all businesses across all regions, especially Advanced Analytical and Lab Water
- Research Solutions posts moderate organic growth fueled 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 topline and IFRS 16 effect

EBITDA pre bridge



Performance Materials: Organic growth mainly driven by ongoing strong demand for OLED and support from LC capacity ramp-up and low comps

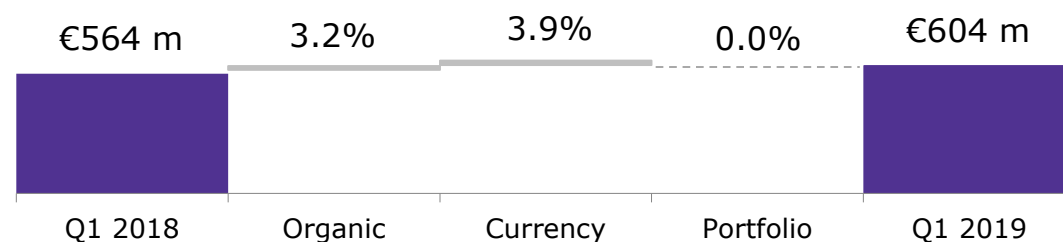
Performance Materials P&L

[€m]	Q1 2018	Q1 2019
Net sales	564	604
Marketing and selling	-60	-66
Administration	-22	-23
Research and development	-59	-72
EBIT	136	95
EBITDA	192	157
EBITDA pre	196	193
Margin (in % of net sales)	34.7%	31.9%

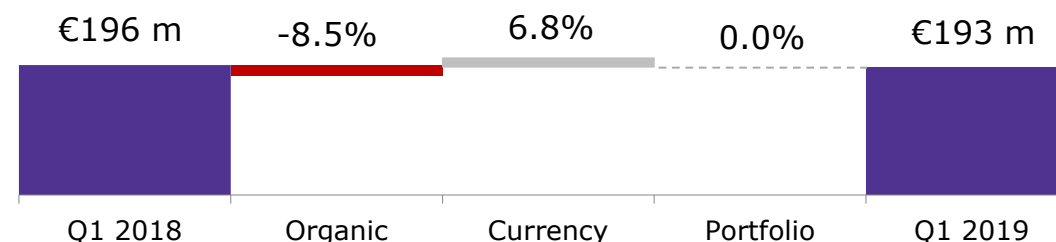
Comments

- Performance Materials with moderate organic growth reflecting strong demand for OLED, LC support from new panel plant ramp-up projects in China and low comps
- About stable Semiconductor Solutions reflects observed market slowdown
- Increased R&D due to provisions related to Bright Future program; underlying decrease in R&D reflecting cost control
- EBITDA pre reflects negative business mix and ongoing Liquid Crystals price decline

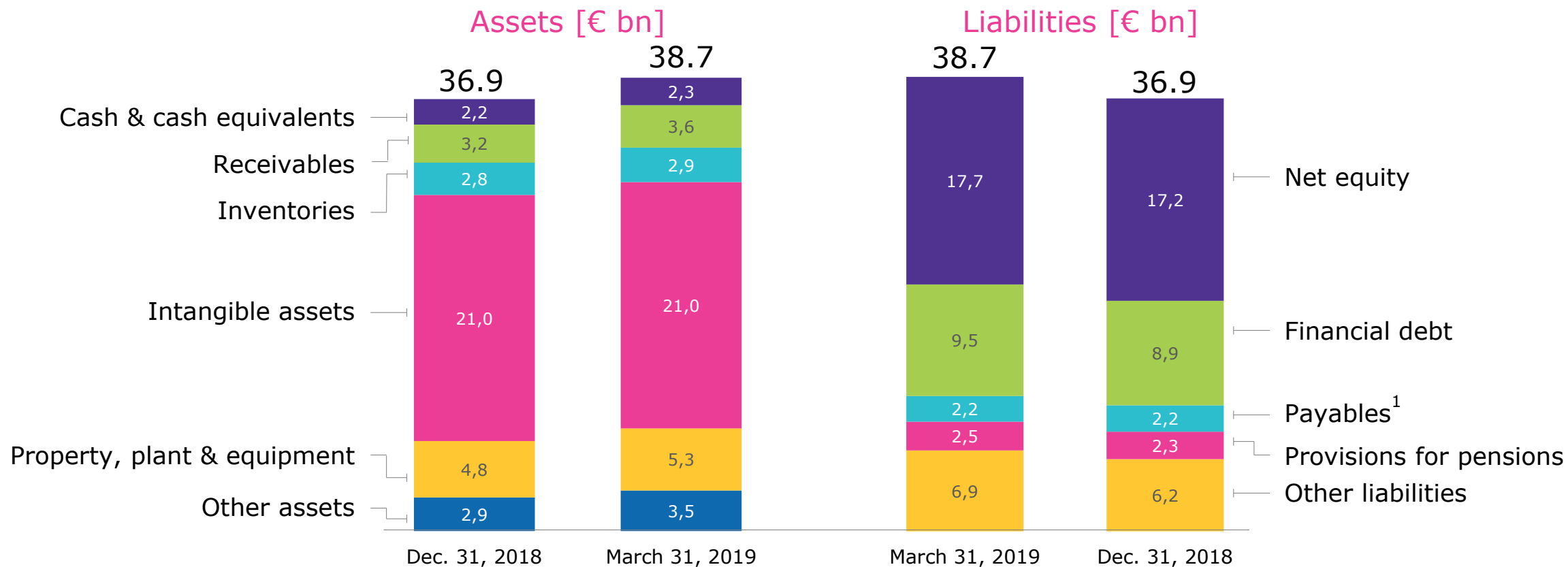
Net sales bridge



EBITDA pre bridge



Balance sheet – Changes due to IFRS 16 adoption



- Property, plant and equipment increase mainly driven by IFRS 16 adoption
- Other assets reflect temporary investment of cash proceeds from Consumer Health disposal
- GSK collaboration included in receivables and other liabilities
- Increase in equity driven by currency translation effects and profit after tax (equity ratio of 45.7%)
- Higher financial debt due to IFRS 16 reclassification of lease liabilities

¹Includes refund liabilities;
Totals may not add up due to rounding

Cash flow statement

Q1 2019 – cash flow statement

[€m]	Q1 2018	Q1 2019	Δ
Profit after tax	342	190	-152
D&A	428	474	46
Changes in provisions	17	100	83
Changes in other assets/liabilities	-235	-89	146
Other operating activities	-10	-5	5
Changes in working capital	-161	-178	-17
Operating cash flow	380	493	113
Investing cash flow	-213	-329	-116
thereof Capex on PPE	-228	-209	19
Financing cash flow	-3	-3	0

Cash flow drivers

- Profit after tax in line with lower EBIT
- D&A increase mainly due to IFRS 16 reclassification
- Changes in provisions driven by build up for transformation program
- Changes in other assets/liabilities reflects lower income tax payment
- Increased investing cash flow due to temporary investment of cash proceeds from Consumer Health disposal



03 GUIDANCE

Group

Full-year 2019 guidance¹

Net sales:

Organic +3% to +5% YoY

FX ~ 0% to +2% YoY

~ € 15.3 – 15.9 bn

EBITDA pre:

Organic +10% to +13% YoY²

FX 0% to +2% YoY

~ € 4,150 – 4,350 m³

EPS pre:

~ € 5.30 – 5.65

¹Merck KGaA, Darmstadt, Germany stand-alone, i.e. without acquisition of Versum Materials and Intermolecular Inc.; ²Incl. ~€130 m YoY contribution from adoption of IFRS 16 (Healthcare ~40%, Life Science ~40%, PM ~10%, CO ~10%); ³CO guidance 2019: -€420 m to -€480 m (assuming FX adjusted CO costs -€390 m to -€40 0m)



The background features a teal gradient with large, overlapping organic shapes in purple and pink. In the bottom-left corner, there is a white graphic of a waveform with a double-line border.

APPENDIX

Additional financial guidance 2019

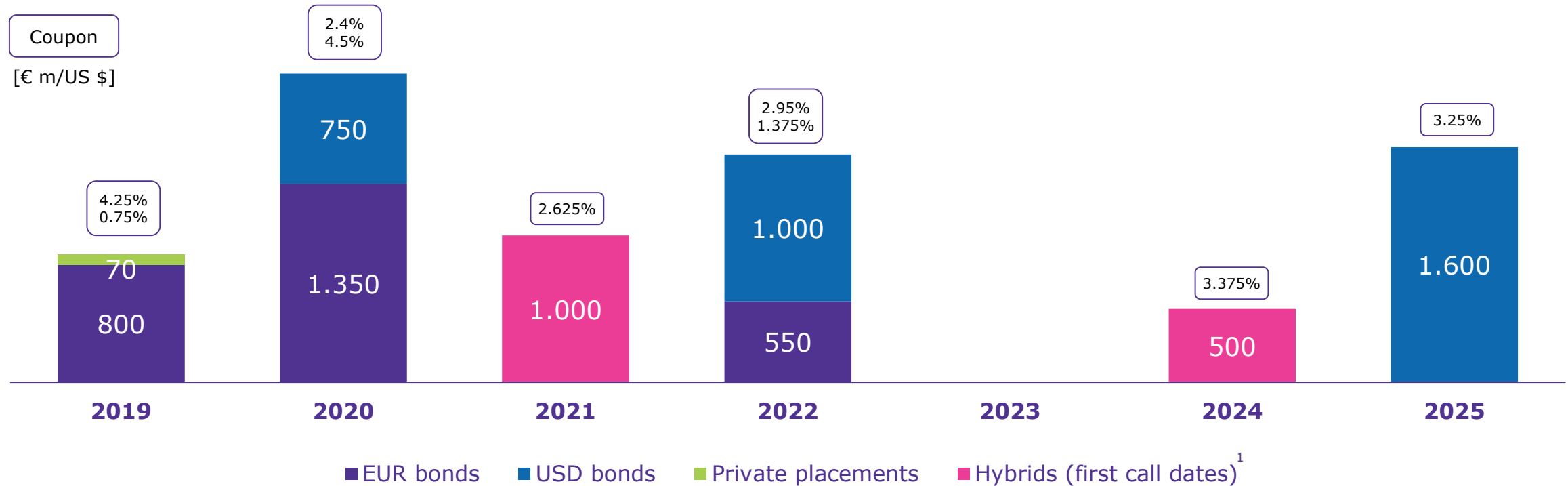
Further financial details

Corporate & Other EBITDA pre*	~ -€420 – -480 m
Interest result	~ -€220 – -240 m
Effective tax rate	~ 24% to 26%
Capex on PPE	~ €1.1 bn – 1.2 bn
Hedging/USD assumption	FY 2019 hedge ratio ~60% at EUR/USD ~1.20
2019 Ø EUR/USD assumption	~ 1.13 – 1.17

Well-balanced maturity profile reflects Sigma-Aldrich financing transactions

Pre Versum Materials merger financing structure

Maturity profile as of Dec. 31, 2018

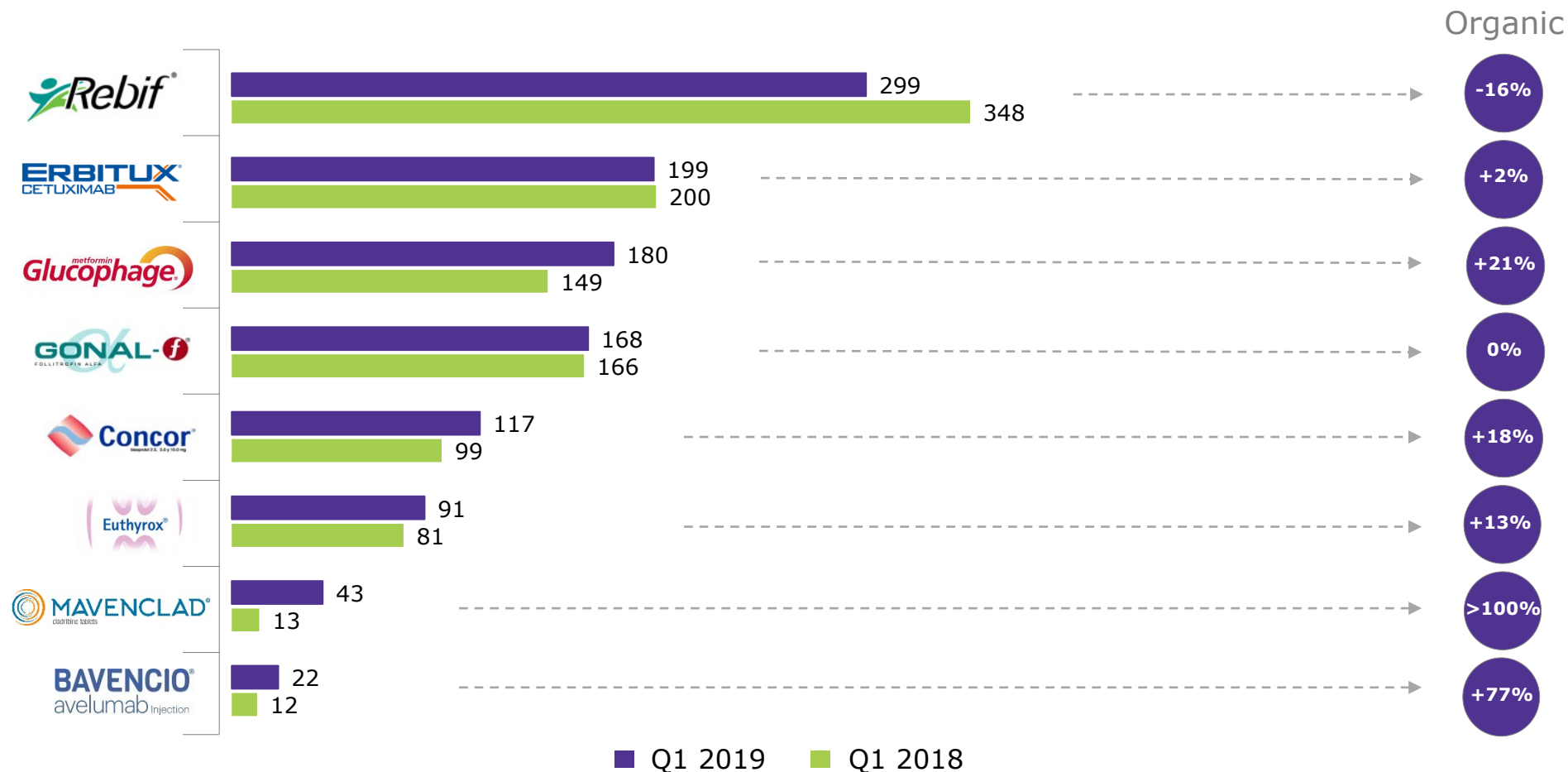


Financing structure enables flexible and swift deleveraging

¹No decision on call rights taken yet

Healthcare organic growth by franchise/product

Q1 2019 organic sales growth [%] by key franchise/products [€ m]



Mavenclad® and Bavencio® are on track and support the €2 bn pipeline target

Global launches gaining traction ...

MAVENCCLAD®

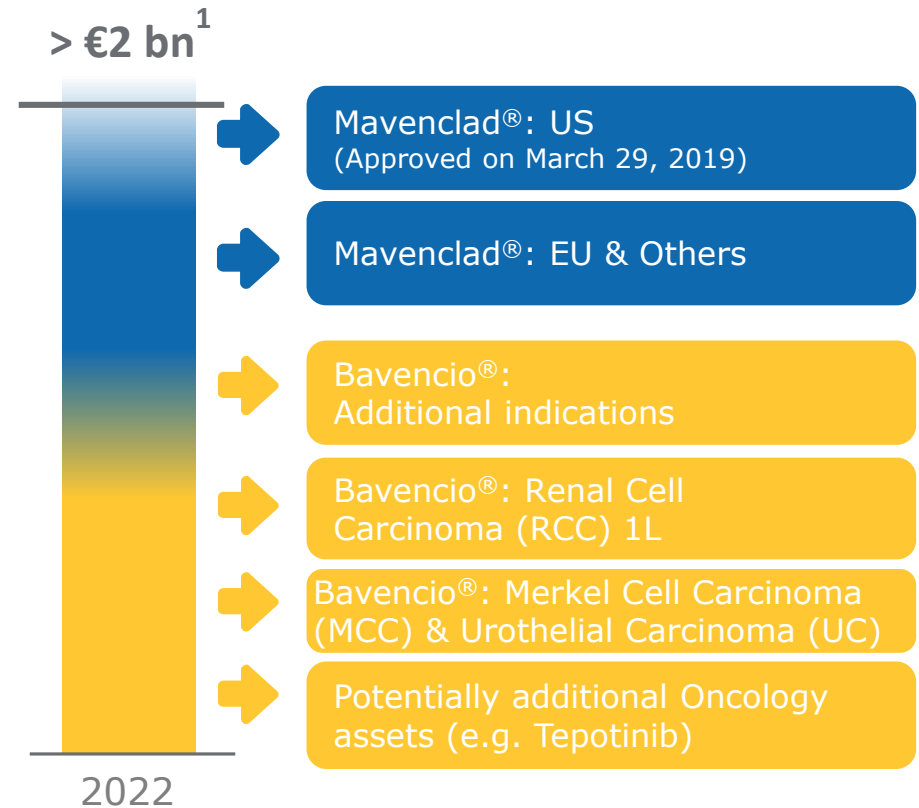
- ✓ **Approved in 55 countries** since 2017 (incl. USA, Canada, EU, Australia and Switzerland)
- ✓ **Reimbursed in approx. 50% of markets**, payer negotiations ongoing
- ✓ **Global peak sales: 1 – 1.4 bn €**
2019 sales: up to mid-triple-digit m €

UPDATE

BAVENCIO®

- ✓ **Approved:** Merkel cell carcinoma (US, EU, JP) and urothelial carcinoma (US)
- ➔ **Regulatory submission on track:** Priority Review granted by US FDA, filing validated by EMA, filing submitted in Japan
- ➔ **Upcoming Ph III read outs:** Gastric 1L and NSCLC 1L

... and supporting €2 bn pipeline sales ambition



Broad Multiple Sclerosis (MS) portfolio positions Merck KGaA, Darmstadt, Germany as a key player both now and in the future



Clinical Development

Evobrutinib
(BTK-inhibitor)

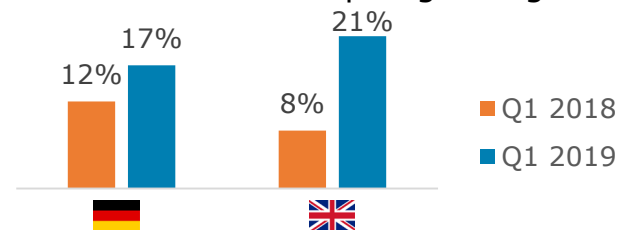
- ✓ **First BTKi demonstrating Proof-of-concept in MS:** 48 week data presented at AAN 2019 and published in the New England Journal of Medicine, demonstrating rapid lesion reductions on MRI maintained through week 48, with no new safety signals
- ➔ **Upcoming milestones:** Initiation of Ph III (MS) to follow in H2 2019



Launch

MAVENCLAD®
(cladribine) tablets 10 mg

- ✓ **US Approval:** Received US approval on March 29, 2019 for both RRMS and active SPMS
- ✓ **US Market Access:** Attained coverage by Express Scripts¹ (leading US pharmacy benefits manager) within just one week of approval
- ✓ **Ex-US Market Penetration:** Achieving increase in market shares despite growing competition²



Core Portfolio

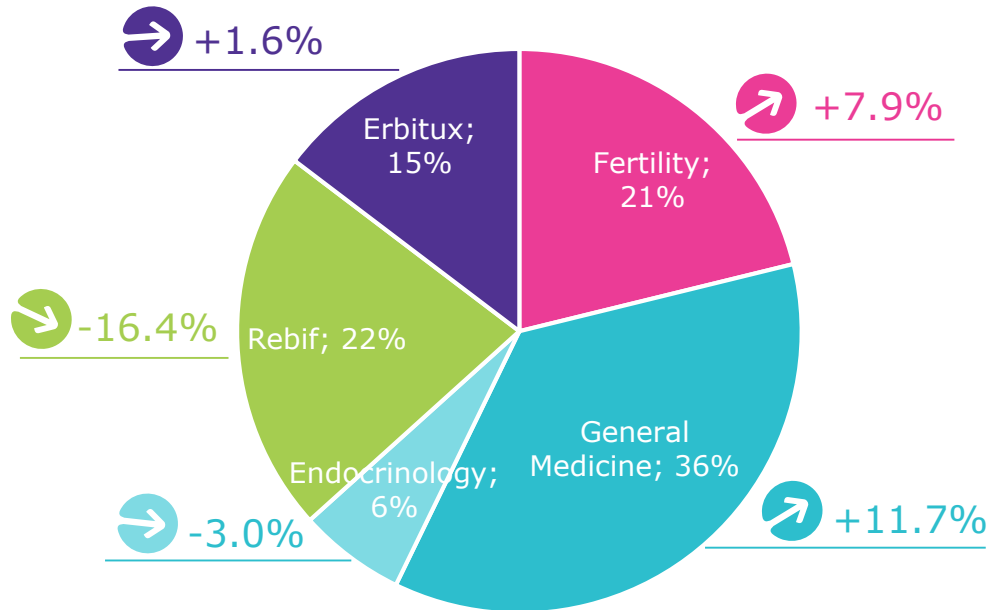
Rebif®

- ✓ **Stable market share:** within the declining interferon class
- ➔ **Expanding patient population:** Planned pregnancy label update (end of 2019) removes contraindication & need for contraception, allows use in pregnancy & lactation³

¹ >80 mn members nationally; ² share of dynamic high efficacy market, UK data source: HMSL, German data source: IQVIA; ³ relevant for ~40% of MS patients (women of childbearing age); Acronyms: AAN = American Academy of Neurology, BTKi = Bruton's tyrosine kinase inhibitor, MRI = Magnetic Resonance Imaging, RRMS = Relapsing Remitting MS, SPMS = Secondary Progressive MS

Highly resilient core business sustains impressive growth rates despite competitive landscape

Sales contribution of core business & organic growth rates¹



Emerging markets & innovative business models

Fertility

- **Market leader** posting strong growth in **Europe and APAC**
- Sustainable growth ensured through innovation (e.g. **successful launch of Pergoveris[®] pen** in 13 countries with **mid double-digit annual sales growth YoY**)

General Medicine & Endocrinology

- Glucophage's position reinforced through **pre-diabetes, now approved in 48 markets** vs 19 in Q1 2018
- **Concor and Euthyrox growth** (18.2% and 13.0% org. YoY) further boosting sales, especially in China and LATAM

Erbitux

- **Absolute sales almost stable** despite ongoing competition, price reductions and shrinking market
- Inclusion in China's NRDL (National Reimbursement Drug List) driving strong **growth in APAC of 29.8% (org.)**, mitigating decline in Europe and Middle East & Africa

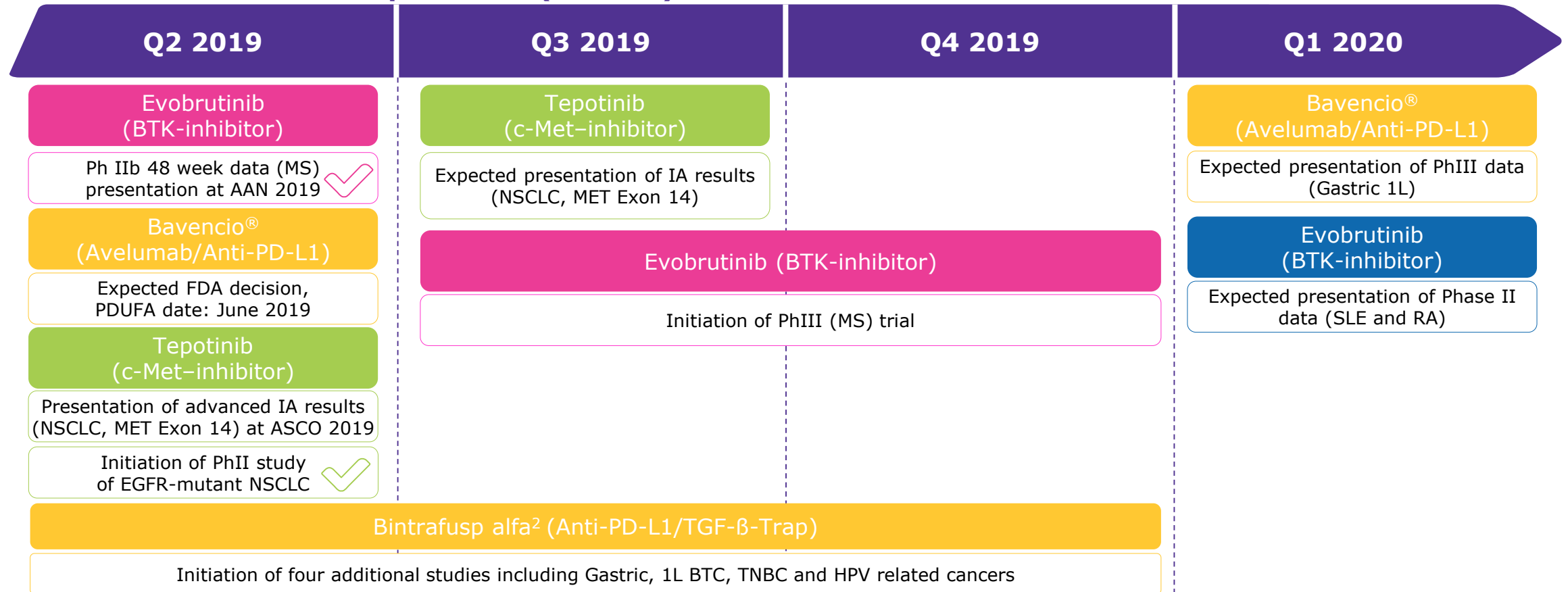
¹ pie chart excludes: pipeline products (Bavencio & Mavenclad), Xalkori, Consumer Health and Allergopharma

Upcoming catalysts

A year of continued pipeline development¹

- Oncology
- Immuno-Oncology
- Neurology
- ✓ Completed
- Immunology

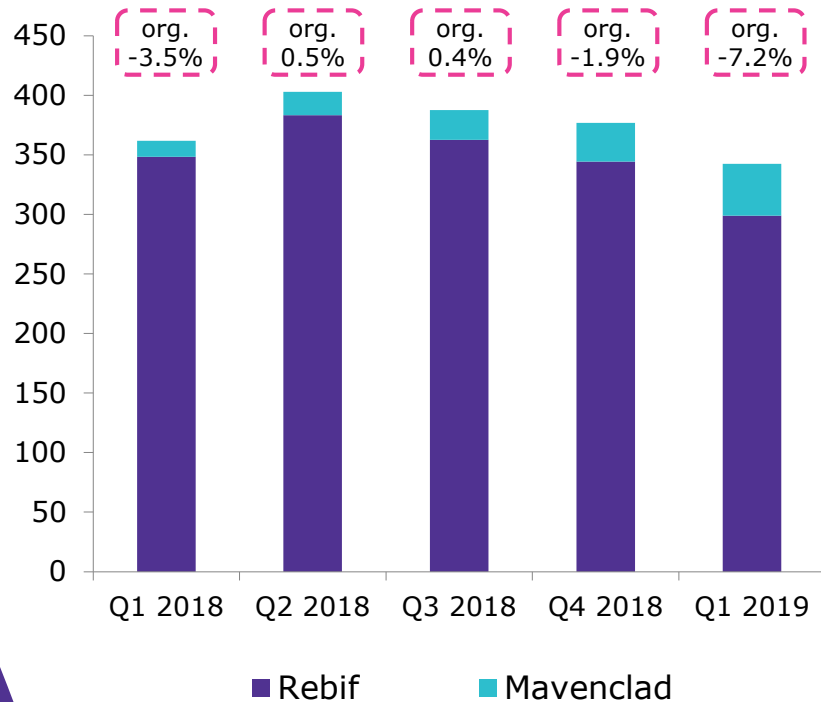
 **ASCO R&D Update Call (June 14)**



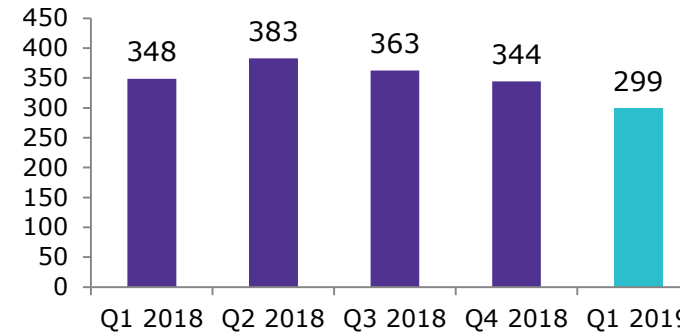
¹ Note: All timelines are event-driven and may be subject to change; ² proposed International Nonproprietary Name (INN); Acronyms: BTC = Biliary Tract Cancer, BTKi = Bruton's Tyrosine Kinase Inhibitor, FDA = US Food & Drug Administration, IA = Interim Analysis, MS = Multiple Sclerosis, NSCLC = Non-small Cell Lung Cancer, RCC = Renal Cell Carcinoma, RA = Rheumatoid Arthritis, SLE = Systemic Lupus Erythematosus, TNBC = Triple-Negative Breast Cancer

Neurodegenerative Diseases: Strong growth of Mavenclad[®] mitigates Rebif[®] decline

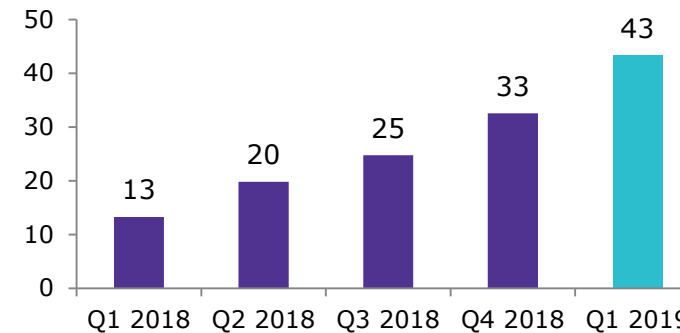
Sales development NDI, [€m]



Rebif[®] net sales, [€m]



Mavenclad[®] net sales, [€m]



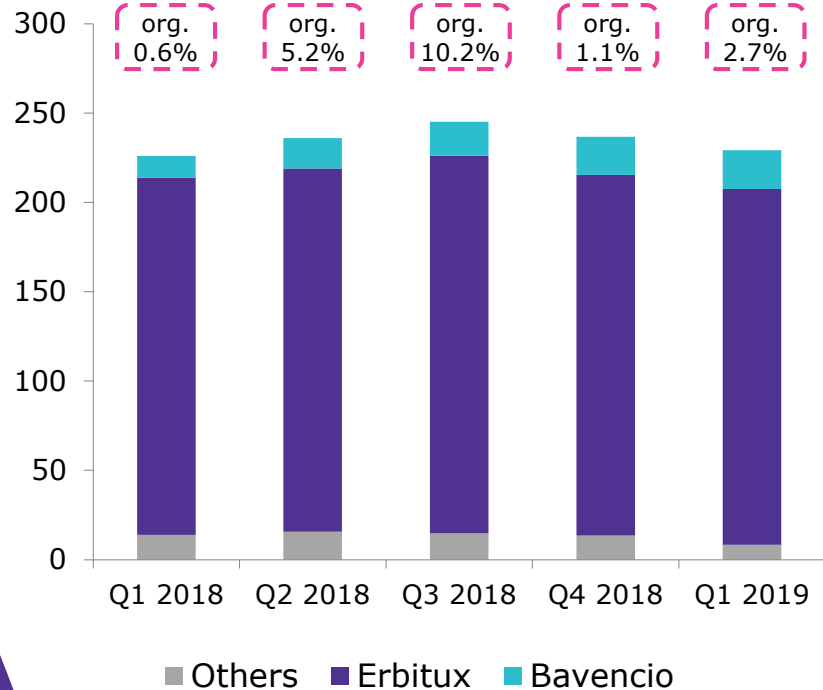
- Rebif[®] sales of €299 m in Q1 2019 reflects organic decline of -16.4% mitigated by FX effect of +2.1%
- U.S. and European volume decline mainly due to competition
- U.S. decline in line with IFN market dynamics

Mavenclad[®] launch on track with increasing contribution

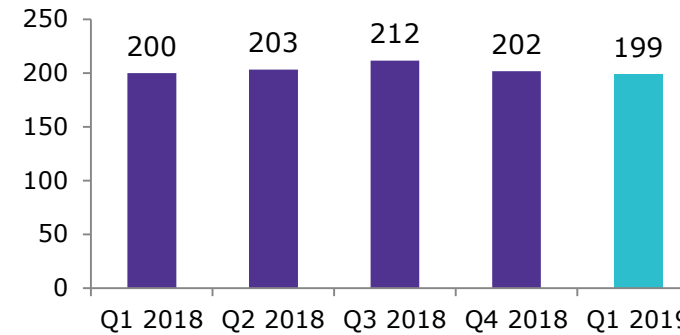
FY 2019 guidance of up to mid triple-digit €m

Oncology: Organic growth driven by Bavencio[®] ramp up and strong demand for Erbitux[®] in China

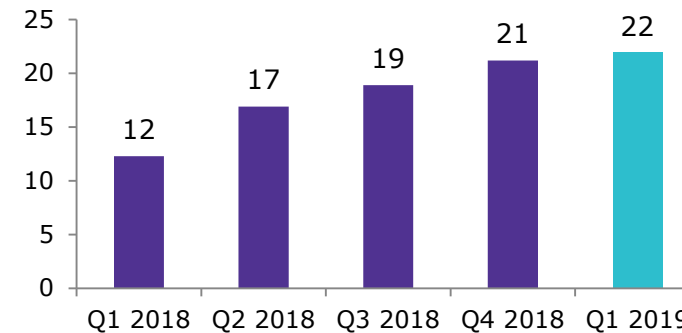
Sales development Oncology, [€m]



Erbitux[®] net sales, [€m]



Bavencio[®] net sales, [€m]



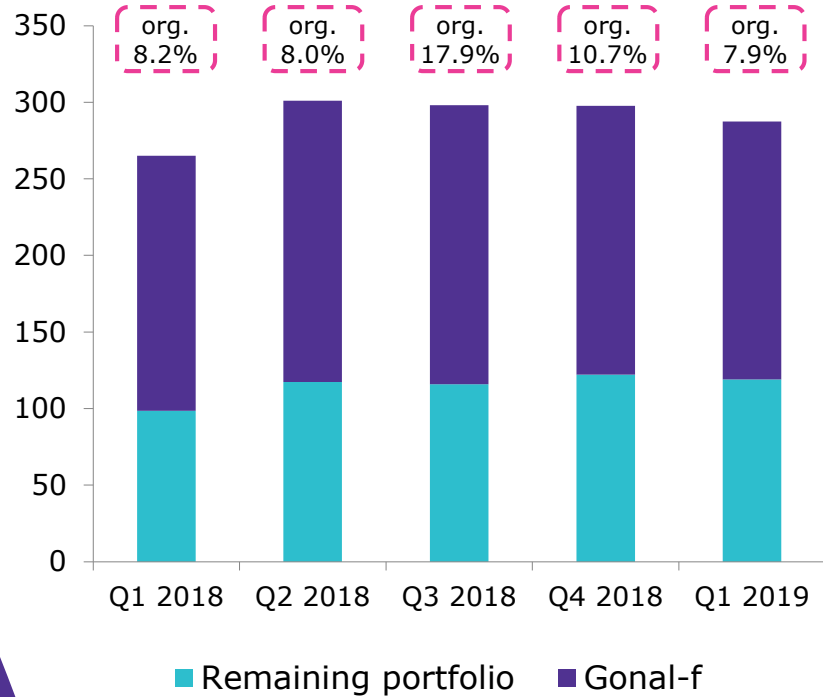
- Absolute sales almost stable with €199 m (org. 1.6%; FX -1.9%)
- Decline in Europe reflects ongoing competition, price reductions and shrinking market size
- MEA decline driven by tender phasing due to importation permit
- APAC with organic growth mainly driven by strong demand in China due to reimbursement recognition

Bavencio[®] with strong market position in MCC

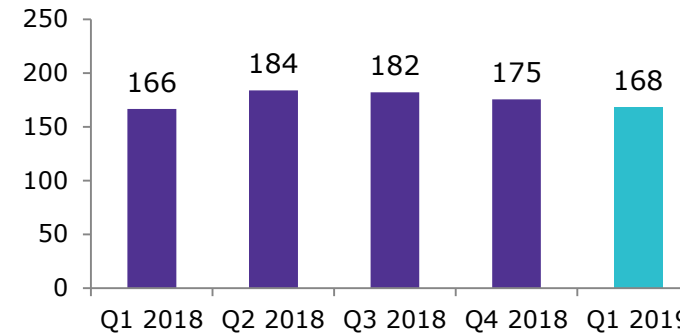
FY 2019 guidance of high double-digit €m

Fertility: High single digit organic growth reflects ongoing strong demand across the portfolio

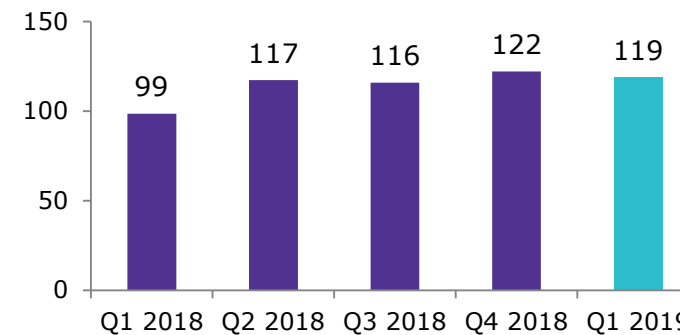
Sales development Fertility, [€m]



Gonal-f[®] net sales, [€m]



Remaining portfolio net sales, [€m]

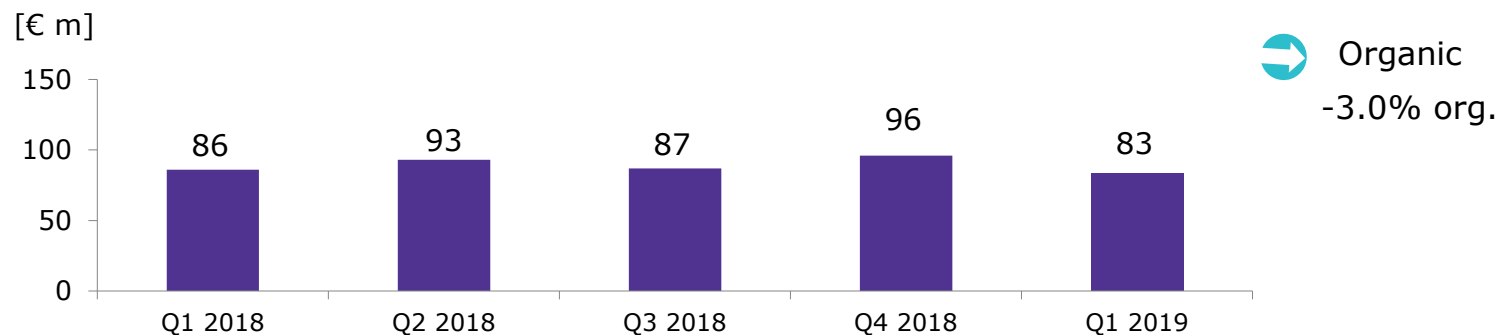


- Fertility posts high single digit growth driven by growth across all regions, mainly Europe and APAC
- Gonal-f[®] about stable reflecting tough comps last year
- Remaining portfolio shows ongoing strong demand, especially in China and Europe
- Continued and successful launch of Pergoveris[®] pen in 13 European countries

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

Sales evolution

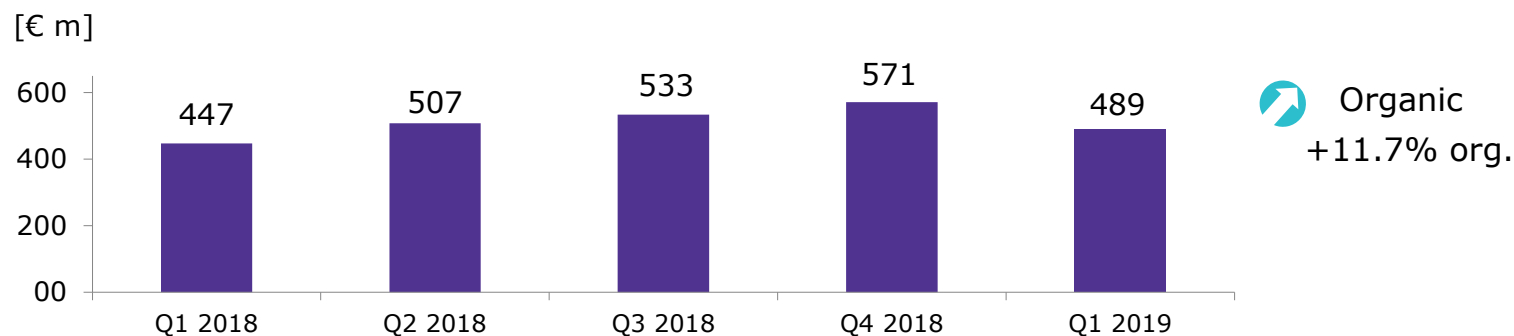
Endocrinology



Q1 2019 organic drivers

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

General Medicine*



- General Medicine reflects double digit growth of Glucophage[®], Euthyrox[®] and Concor[®] driven by China and LATAM

*includes CardioMetabolic Care & General Medicine and Others

Healthcare pipeline

Phase I

M2698
p70S6K & Akt inhibitor
Solid tumors

M3541
ATM inhibitor
Solid tumors

M3814
DNA-PK inhibitor
Solid tumors¹

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 tumors¹

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 cancer¹

abrituzumab²
pan-av integrin inhibiting mAb
Colorectal cancer 1L

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

avelumab
anti-PD-L1 mAb
Solid tumors³

avelumab
anti-PD-L1 mAb
Non-small cell lung cancer³

avelumab
anti-PD-L1 mAb
Urothelial cancer³

evobrutinib
BTK inhibitor
Multiple sclerosis

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)⁴
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

Registration

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 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. ³ Avelumab combination studies with talazoparib, axitinib, ALK inhibitors, cetuximab, chemotherapy, or novel immunotherapies. ⁴ 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. ⁵ The US Food and Drug Administration (FDA) accepted for Priority Review the supplemental Biologics License Application (sBLA) (February 11 2019) and the European Medicines Agency (EMA) validated for review the Type II variation application (March 8 2019) for avelumab in combination with axitinib for patients with advanced 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.

Group

Key earnings drivers to remember for 2019



EBITDA¹-supporting factors

- Strong sales contribution from Mavenclad[®] ramp-up and Bavencio[®]; first contribution from Mavenclad[®] US by Q2 2019
- Ongoing strength in Life Science with 6% to 7% 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 starting Q2 2019
- Income from milestones and management of pipeline (part of operating business in Healthcare) starting to materialize as of Q2 2019
- Lower expected license payments for Erbitux[®]
- High level of cost consciousness and prioritization
- Adoption of IFRS 16 contributes ~€130 m² to organic growth YoY
- Positive FX impact: Emerging market currencies remain weak but offset by favorable EUR/USD development (range 2019: 1.13-1.17)



EBITDA¹-reducing factors

- Slight absolute increase in R&D costs budgeted for Healthcare but decrease as % of sales (actual development will be subject to clinical data outcome of priority projects and prioritization decisions)
- Healthcare underlying margins negatively impacted by product mix
- Performance Materials sales and earnings reaching trough due to expected decline in Liquid Crystals

¹EBITDA pre; ²~€130m contribution from IFRS 16 (Healthcare ~40%, Life Science ~40%, PM ~10%, CO ~10%)

Group

2019 business sector guidance¹



Healthcare

Net sales

- Moderate organic growth +4% to +6%
- Base business at least stable organically
- Strong contributions from launches incl. Mavenclad® US

EBITDA pre²

- Organic +19% to +23% YoY
- FX -2% to +3% YoY
- ~ €1,820 – 1,950 m



Life Science

Net sales

- Organic growth +6% to +7% above expected market growth
- All businesses contributing; Process Solutions remains main growth driver

EBITDA pre²

- Organic +10% to +12% YoY
- FX +0% to +3% YoY
- ~ €2,000 – 2,100 m with 20-30 bps³ underlying margin progression



Performance Materials

Net sales

- Moderate organic decline -3% to -6%
- Liquid Crystals benefiting from temporary capacity ramp-up in China

EBITDA pre^{2, 4}

- Organic -7% to -11% YoY
- FX +0% to +4% YoY
- ~ €700 – 760 m

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

Adjustments in Q1 2019

Adjustments in EBIT

[€m]	Q1 2018		Q1 2019	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	3	0	3	0
Life Science	13	0	9	0
Performance Materials	3	0	35	0
Corporate & Other	24	0	28	0
Total	43	0	76	0

Financial calendar

Date	Event
August 8, 2019	Q2 2019 Earnings release
November 14, 2019	Q3 2019 Earnings release
March 5, 2020	FY 2019 Earnings release

