

GOOD START INTO THE YEAR

Merck Q1 2016 results

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May 19, 2016



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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.

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Agenda

- **Executive summary**
- **©2** Financial overview
- **Guidance**





Highlights

Operations

- ▶ Healthcare good organic growth and first avelumab Phase III combination trial
- Life Science strong performance continues; Sigma integration on track
- Performance Materials healthy profitability amid first supply chain destocking

Financials

- Acquisition-driven sales growth of 20.5%; EBITDA pre up 27% to €1,084 m
- Deleveraging on track net financial debt decreases by nearly €600 m
- FY 2016 guidance net sales: €14.8 15.0 bn & EBITDA pre: €4,100 4,300 m

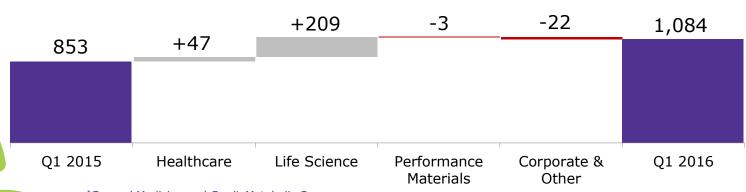


Life Science and Healthcare drive increase in EBITDA pre

Q1 2016 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	5.4%	-6.8%	-1.0%	-2.4%
Life Science	8.9%	-1.3%	81.6%	89.3%
Performance Materials	-2.4%	0.5%	2.7%	0.9%
Merck Group	4.7%	-4.0%	19.8%	20.5%

Q1 YoY EBITDA pre contributors [€ m]

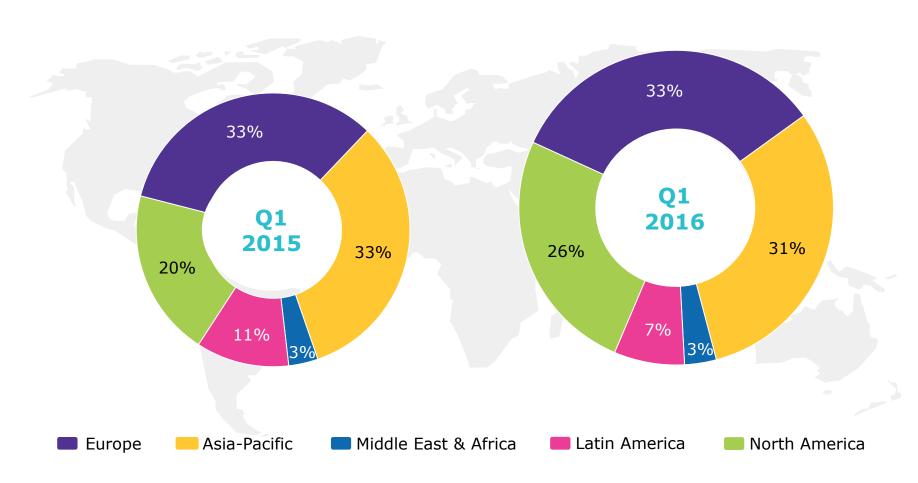


- Healthcare growth reflects strong Fertility,
 GM* and CH as well as Xalkori commissions
- Strong organic growth in Life Science driven by Process Solutions
- Slight organic decline in Performance Materials confirms expected destocking in display supply chain
- Portfolio reflects Sigma and Kuvan
- HC benefits from solid organic growth,
 Rebif commission savings and R&D phasing
- Life Science driven by Sigma, strong organic growth and positive product mix
- Performance Materials slightly lower due to product mix
- Corporate EBITDA pre contains hedging and investments in corporate initiatives



Q1 2016 sales split reflects Sigma's footprint in North America

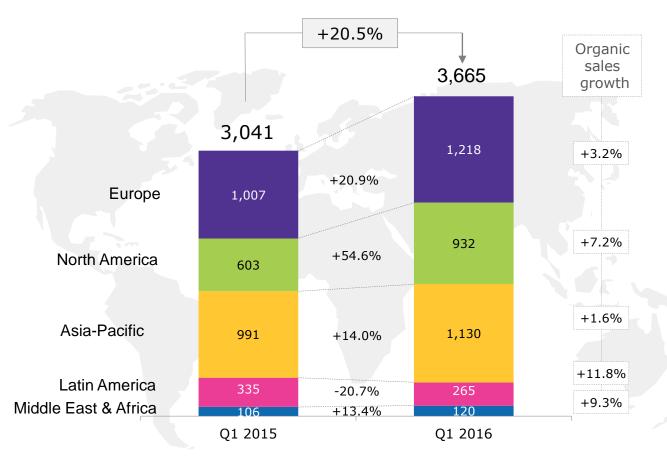
Merck Group Q1 2015 and Q1 2016 net sales by region [in %]





Organic growth in all regions

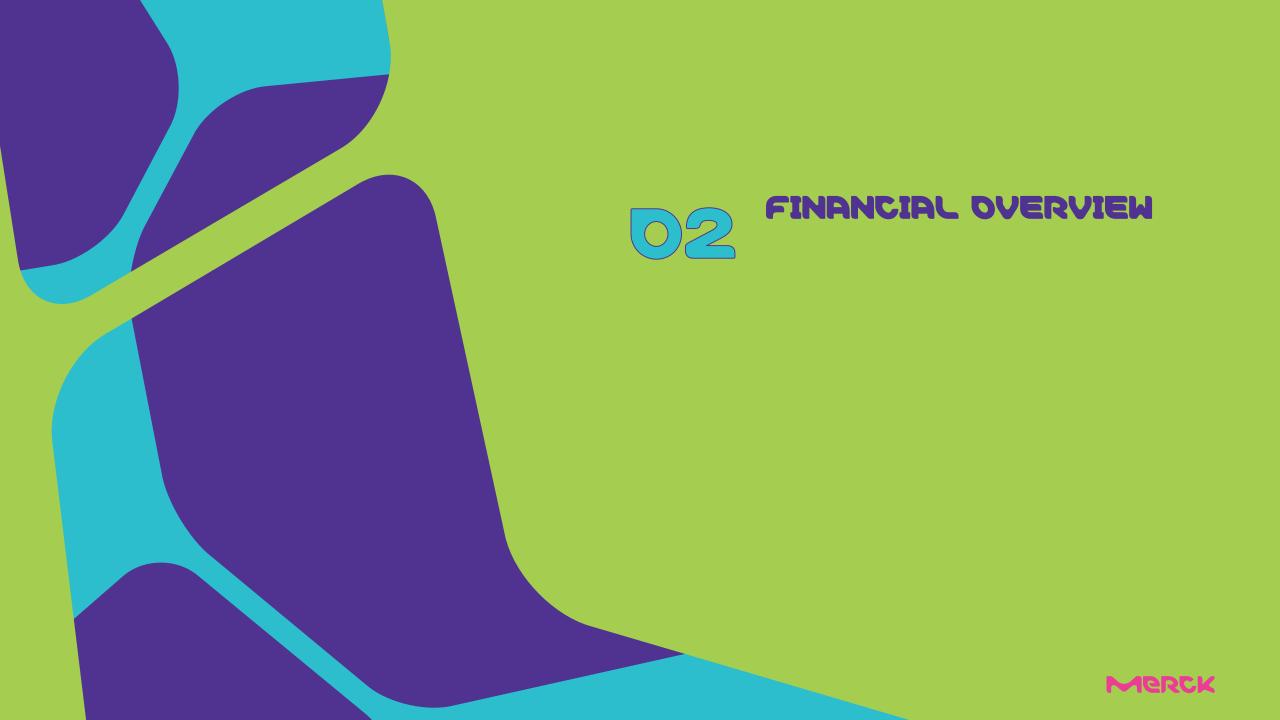
Regional breakdown of net sales [€ m]



Regional development

- Organic growth in Europe driven by Life Science, partially offset by Rebif
- North America benefits from strong
 Fertility franchise and Life Science as well as Rebif price increases
- Asia-Pacific shows slight organic growth as good demand in Fertility is offset by display supply chain destocking
- Strong organic growth in LatAm driven by Consumer Health and new reimbursement for Rebif in Brazil





Q1 2016: Overview

Key figures

[€m]	Q1 2015	Q1 2016	Δ
Net sales	3,041	3,665	20.5%
EBITDA pre Margin (in % of net sales)	853 <i>28.0%</i>	1,084 29.6%	27.0%
EPS pre	1.12	1.54	37.5%
Operating cash flow	279	352	26.5%
[€m]	Dec. 31, 2015	March 31, 2016	Δ
Net financial debt	12,654	12,072	-4.6%
Working capital	3,448	3,726	8.0%
Employees	49,613	50,262	1.3%

Comments

- EBITDA pre & margin increase driven by Sigma, end of Rebif commission expenses and organic performance
- •Strong EPS pre growth due to higher EBITDA pre; LY financial result burdened by LTIP* charges
- Operating cash flow reflects strong business performance; LY impacted by one-time tax payment
- Net financial debt reduction driven by cash-in for Kuvan & operating cash flow
- Working capital reflects increase in business activity



Reported figures reflect solid business performance and Kuvan divestment

Reported results

[€m]	Q1 2015	Q1 2016	Δ
EBIT	480	849	76.8%
Financial result	-101	-68	-32.1%
Profit before tax	379	780	>100%
Income tax	-94	-187	99.2%
Tax rate (%)	24.8%	24.0%	
Net income	282	591	>100%
EPS (€)	0.65	1.36	>100%

Comments

- EBIT reflects increased EBITDA pre and Kuvan disposal gain amid integration costs and D&A from Sigma
- Financial result contains Sigma financing interest expenses; last year adversely affected by LTIP
- •Tax rate within guidance range of ~23-25%

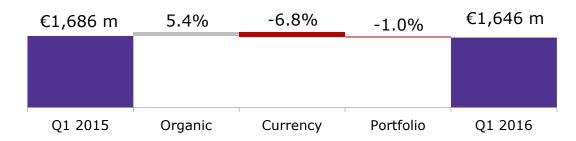


Healthcare: Good organic sales growth amid ramp-up in R&D investments

Healthcare P&L

[€m]	Q1 2015	Q1 2016
Net sales	1,686	1,646
Marketing and selling	-660	-613
Administration	-66	-71
Research and development	-348	-378
EBIT	268	641
EBITDA	449	829
EBITDA pre	461	508
Margin (in % of net sales)	27.3%	30.9%

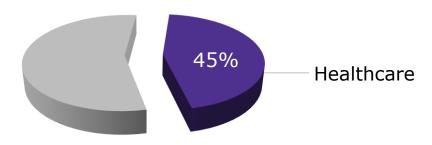
Net sales bridge



Comments

- Organic growth driven by strong Fertility, GM, CH and Xalkori
- Rebif still impacted by ramp-up of orals in Europe, while U.S. pricing and first contribution from PDP* in Brazil support performance
- Erbitux shows moderate organic growth benefiting from pick-up in Brazil, but also low comparables; EU remains competitive
- Marketing & selling reflect end of commission expenses for Rebif (U.S.) partially offset by reinvestments in sales force & launch preparations
- R&D spend starts to increase as avelumab Phase III trials progress
- EBIT reflects Kuvan disposal gain of €324 m
- Profitability improves mainly due to good organic growth, ceased Rebif commission expenses amid phased R&D cost ramp-up

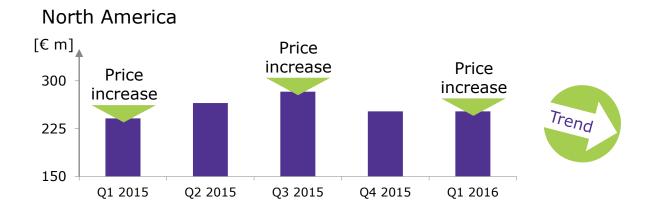
Q1 2016 share of group net sales

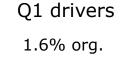




Rebif: Relief in the U.S. – competitive ramp-up in Europe ongoing

Rebif sales evolution

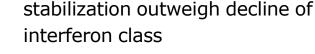












Rebif performance

•Rebif sales of €422 m in Q1 2016

negative FX effects from LatAm

Market shares within interferons.

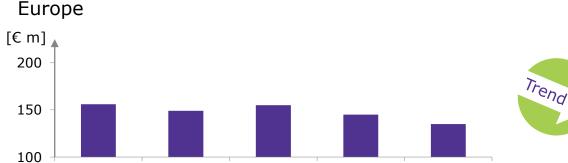
known long-term track record

reflect organic decline of -1.5% and

stable due to high retention rates and

•U.S. price increases and market share

- Phased market entry of orals in Europe causes ongoing volume decline
- Initiation of Productive Development Partnership (PDP) in Brazil supports Rebif growth



Q4 2015

Q1 2016

Q3 2015



Q1 drivers

-13.1% org.



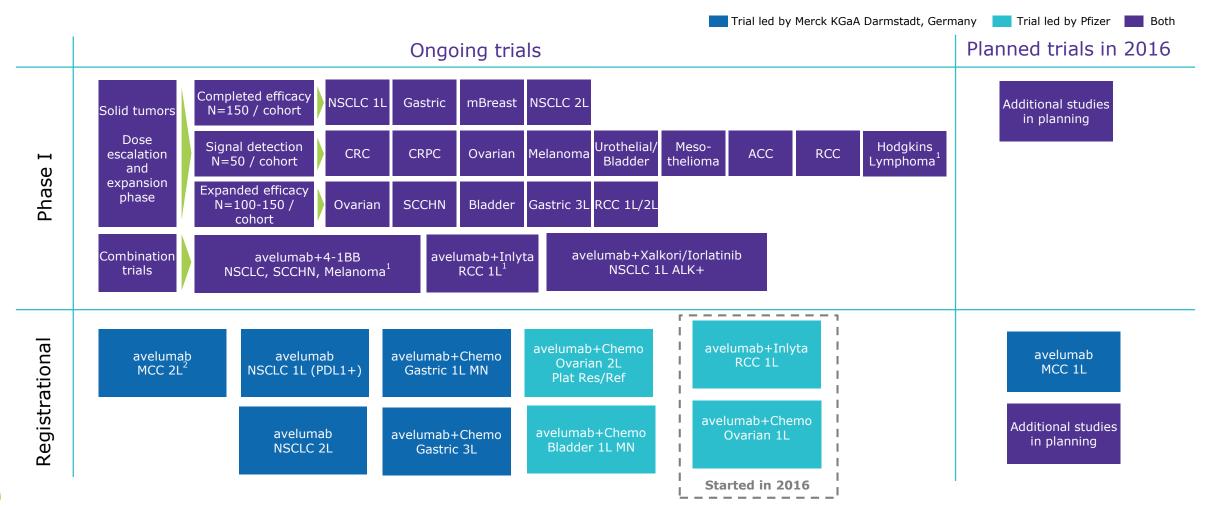


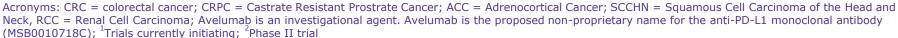


01 2015

Q2 2015

Avelumab: JAVELIN clinical development program initiated as of Oct 2015 and continuously expanded to further indications in 2016







ASCO: We look forward to presenting the results from our avelumab trials at the upcoming scientific meeting in further detail*



- Largest trial of a PD(L)1 agent in Merkel cell carcinoma as of today
- Clinical activity with durable responses in high unmet-need patient population (previously treated with chemotherapy)



- Single-agent avelumab showed clinical activity
- · Higher trend in PD-L1+ patients suggested
- Phase 3 trial is underway (JAVELIN LUNG 100)

3 Ovarian

- Single-agent avelumab showed clinical activity in heavily pre-treated patients
- Largest reported dataset of patients with advanced ovarian cancer treated with anti-PD-L1 as of today
- Phase 3 trials are underway (JAVELIN OVARIAN 100 and 200)

Gastric (1L MN & 2L)

- Treatment with avelumab as a 1st line maintenance and 2nd line treatment showed clinical activity
- Largest reported dataset of patients with advanced gastric cancer treated with anti-PD-L1 as of today
- Disease control rate was also observed in a SwM (switch-maintenance therapy) group

5Urothelial / Bladder

- Treatment with avelumab showed clinical activity
- Phase 3 trial is underway (JAVELIN BLADDER 100)

6 Mesothelioma

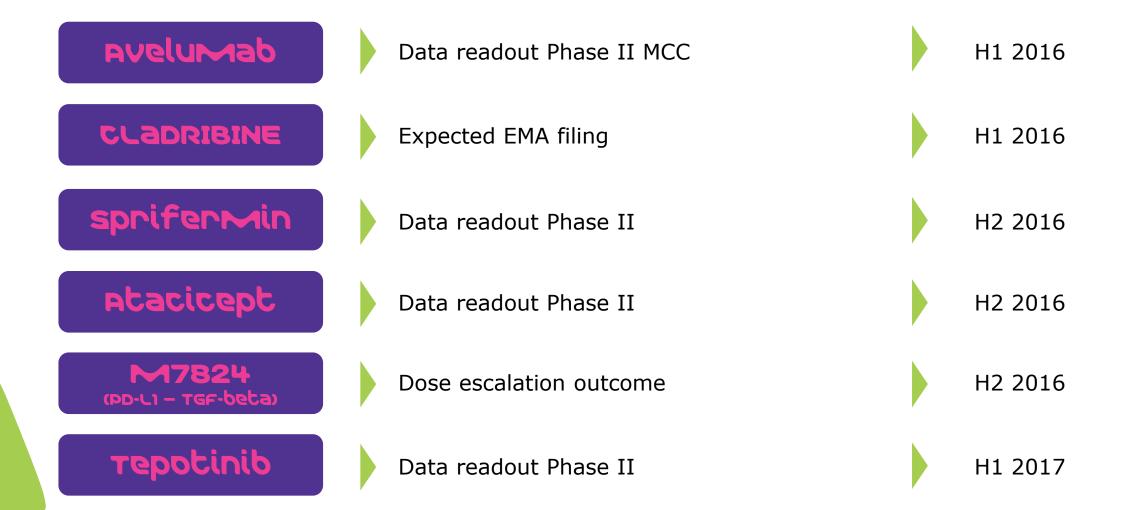
- Largest reported dataset of patients with advanced unresectable tumors treated with anti-PD-(L)1 as of today
- Treatment with avelumab showed clinical activity in pre-treated patients

7 mACC

- First study to date of an anti-PD-(L)1 agent in this rare tumor type (advanced adrenocortical carcinoma)
- · Treatment with avelumab showed clinical activity in pre-treated patients



Newsflow: Upcoming pipeline catalysts





Life Science: A strong start to 2016

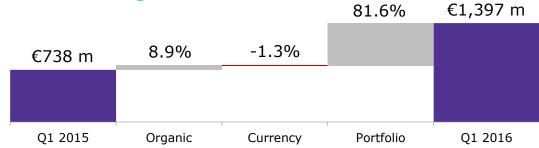
Life Science P&L

[€m]	Q1 2015	Q1 2016
Net sales	738	1,397
Marketing and selling	-233	-421
Administration	-31	-63
Research and development	-45	-62
EBIT	83	105
EBITDA	164	284
EBITDA pre	184	393
Margin (in % of net sales)	25.0%	28.1%

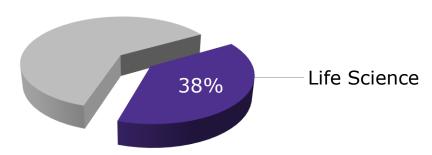
Comments

- Very strong growth of Process Solutions driven by increasing production of large molecules across global and regional accounts
- Applied Solutions shows moderate organic growth, driven by biomonitoring products for pharma & demand for analytical testing
- Research Solutions benefits from increased research on biologics as well as solid demand for high-value chemicals
- Absolute costs higher due to Sigma, but improve in relation to sales
- Profitability reflects Sigma, favorable product mix and synergies

Net sales bridge



Q1 2016 share of group net sales



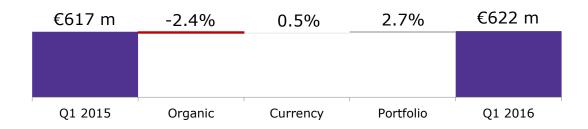


Performance Materials: Healthy profitability amid destocking of display industry inventories

Performance Materials P&L

[€m]	Q1 2015	Q1 2016
Net sales	617	622
Marketing and selling	-46	-58
Administration	-18	-16
Research and development	-47	-48
EBIT	214	207
EBITDA	273	267
EBITDA pre	277	273
Margin (in % of net sales)	44.8%	43.9%

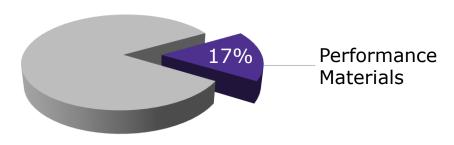
Net sales bridge



Comments

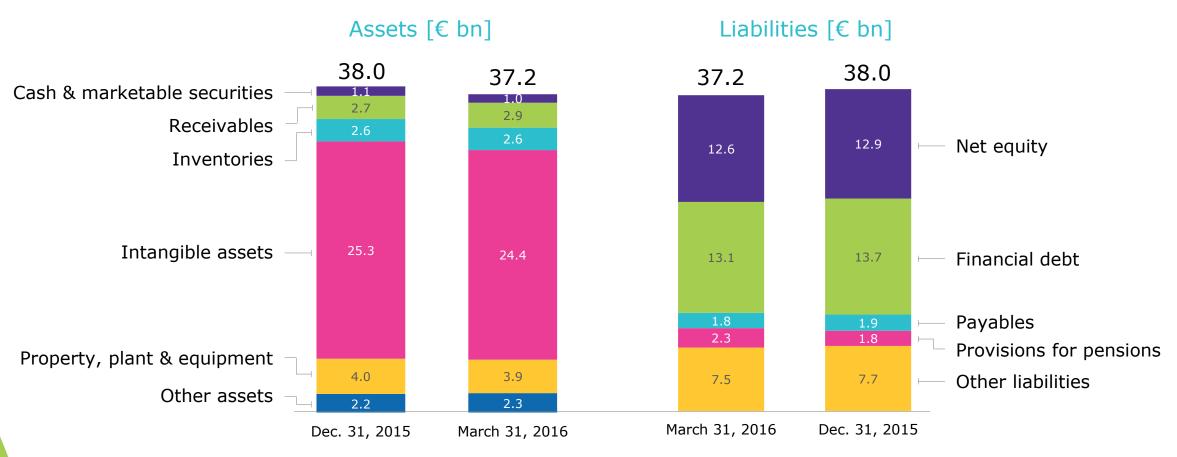
- Organic growth of OLED, ICM, and Pigments mitigates LC softness
- Liquid Crystals impacted by indicated inventory correction in supply chain
- OLED continues to grow on industry capacity expansion & investments
- Integrated Circuit Materials (ICM) show solid growth mainly driven by dielectric materials for chip production
- Pigments & Functionals post moderate growth esp. due to cosmetic API*
- Marketing & selling reflect contribution from Sigma's SAFC Hitech and sales force IT initiative
- Healthy profitability reflects leading market position with highly differentiated products, despite destocking and negative mix effects

Q1 2016 share of group net sales





Balance sheet – deleveraging initiated after Sigma acquisition



- Total assets decline by 2.2%, equity ratio remains at 33.8%
- Net financial debt reduced by €0.6 bn
- Reduction of intangible assets reflects D&A (€0.3 bn) and FX (€0.6 bn) Decline of interest rates increases pension provisions
- FX development accounts for ~€0.6 bn total equity decrease



Healthy operating cash flow enables first deleveraging measures

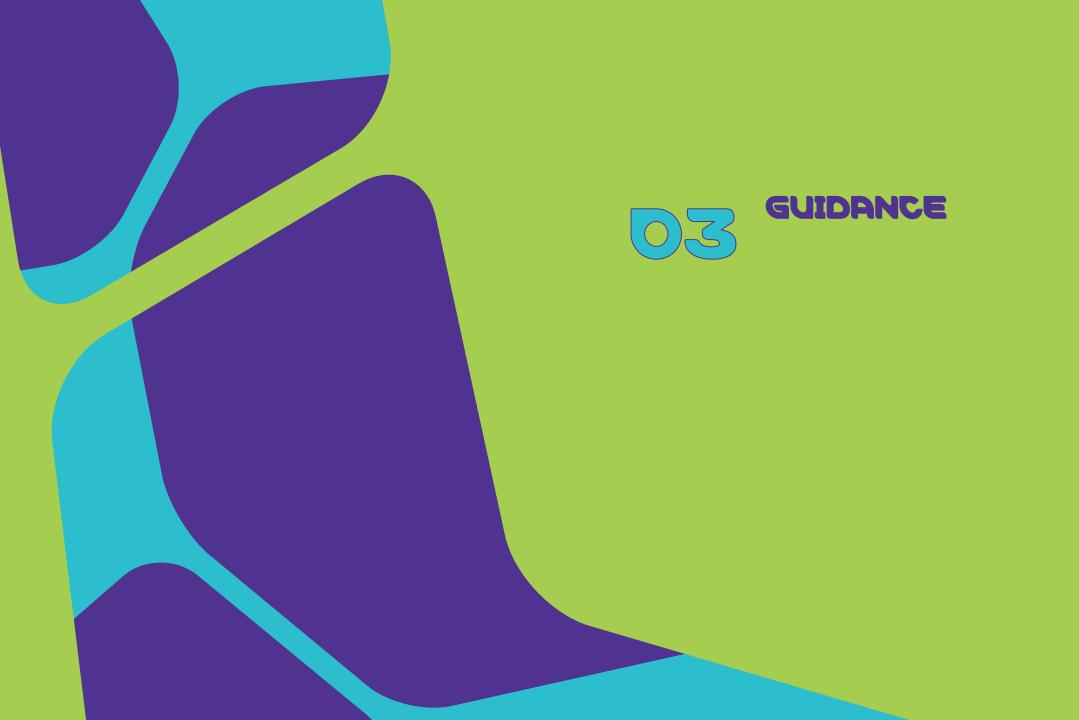
Q1 2016 – cash flow statement

[€m]	Q1 2015	Q1 2016	Δ
Profit after tax	285	593	308
D&A	325	433	108
Changes in provisions	90	21	-69
Changes in other assets/liabilities	-231	-34	197
Other operating activities	-20	-394	-374
Changes in working capital	-172	-266	-94
Operating cash flow	279	352	73
Investing cash flow	392	284	-108
thereof Capex on PPE	-75	-160	-85
Financing cash flow	2,288	-572	-2,860

Cash flow drivers

- Profit after tax includes gain from Kuvan divestment, which is neutralized in other operating activities
- •D&A increases due to Sigma
- Tax payment (Pfizer upfront) burdened changes in other assets/liabilities LY
- Changes in working capital reflect lower payables (Pfizer-Rebif) and higher R&D receivables from Pfizer (avelumab)
- Investing cash flow contains increased Capex and Kuvan divestment; LY with sale of financial assets
- Financing cash flow reflects first repayments of Sigma-related bank loans;
 LY contains USD bond issuance







Full-year 2016 guidance

Merck guidance for 2016, including Sigma-Aldrich

Net sales: ~ €14.8 – 15.0 bn

EBITDA pre: ~ €4,100 - 4,300 m

EPS pre: ~ €5.65 - 6.00





2016 business sector guidance



Net sales

- Slight organic growth
- Organic Rebif decline
- Other franchises growing

EBITDA pre

~ €1,800 - 1,900m



Net sales

- Mid single-digit organic growth
- Main driver Process Solutions
- High double-digit contribution from Sigma

EBITDA pre

~ €1,620 - 1,670m



Net sales

- Organically about stable
- Including moderate destocking in liquid crystals
- Growing demand in all businesses

EBITDA pre

~ €1,100 - 1,150m







Additional financial guidance 2016

Further financial details

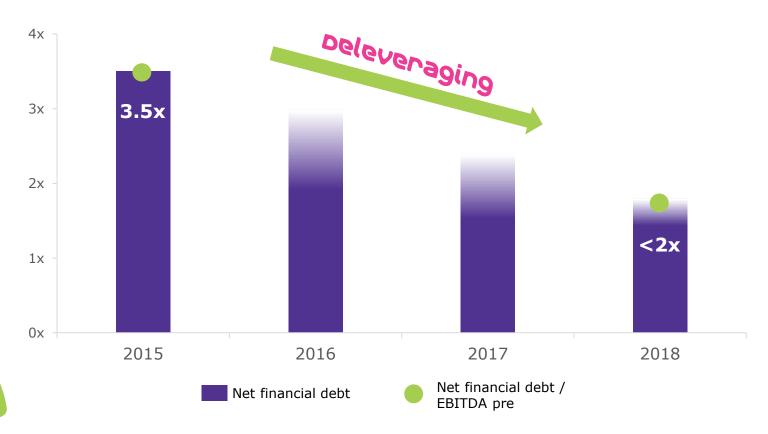
Corporate & Other EBITDA pre	~ -€370 – -400 m
Interest result	~ -€270 – -300 m
Intangibles amortization from Sigma P	PPA ~ €250 – 300 m p.a.
Underlying tax rate	~23% to 25%
Capex on PPE	~€750 – 800 m
Hedging/USD assumption	2016 & 2017 hedge rate ~40-45% at EUR/USD ~1.10 to 1.15
2016 Ø EUR/USD assumption	~1.07 - 1.12



Strong focus on cash generation to ensure swift deleveraging

Net debt and leverage development

[Net debt/ EBITDA pre]

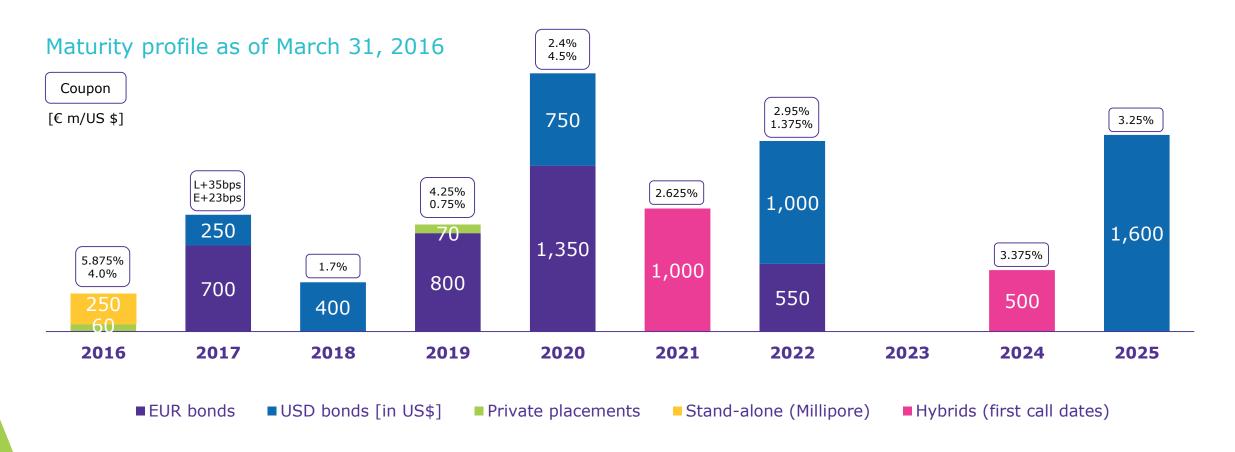


Focus on deleveraging

- Commitment to swift deleveraging to ensure a strong investment grade rating and financial flexibility
- Strong cash flow will be used to drive down leverage to expected <2x net debt/EBITDA pre in 2018
- Larger acquisitions (>€500 m) ruled out for the next two years
- •Interest result in 2016: ~-€270 - -300 m



Well-balanced maturity profile reflects capital markets transactions related to Sigma-Aldrich

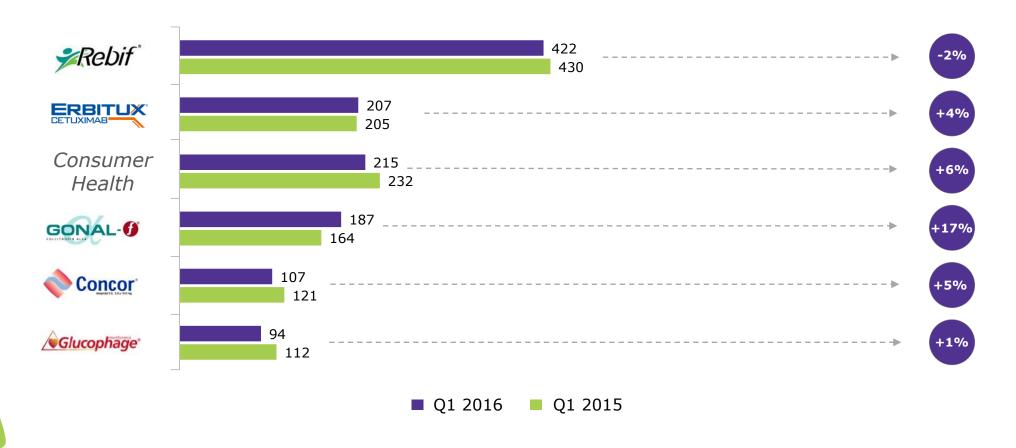






Healthcare organic growth by franchise/product

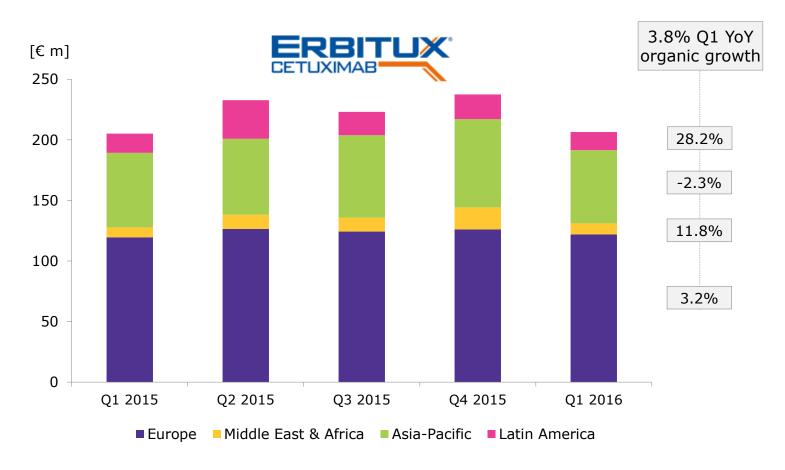
Q1 2016 organic sales growth [%] by key franchise/products [€ m]





Erbitux: A challenging market environment

Erbitux sales by region

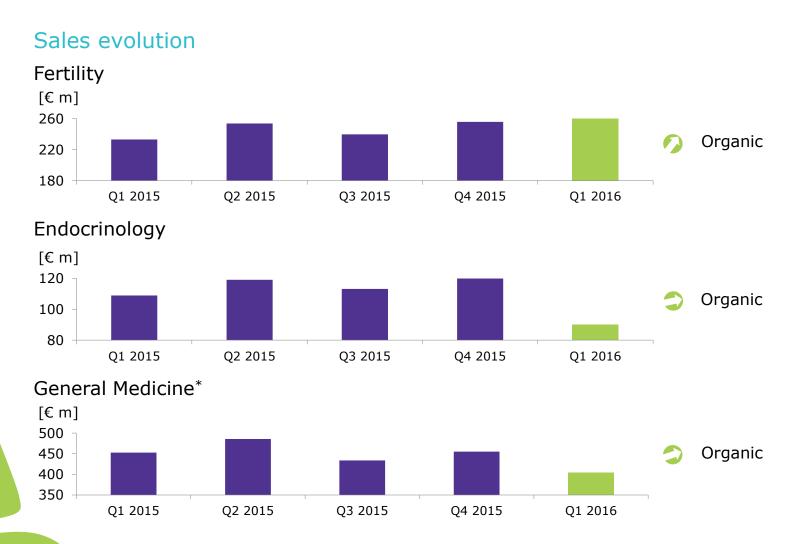


Erbitux performance

- •Sales increase to €207 m due to solid volume development, but low base last year
- •Europe impacted by mandatory price cuts & increasing competition offset by uptake in Russia
- Latin America shows strong growth esp. in Brazil after weak 2015
- •APAC mainly reflects reduction of patient population due to label change in Japan (April 2015)



Strong organic growth in Fertility, General Medicine and Endocrinology



Q1 drivers

- Record quarter for Fertility (17% org.) driven by favorable competitive situation in U.S. and strong China
- Sales drop in Endocrinology reflects
 Kuvan divestment; remaining portfolio
 (Saizen, Serostim) growing organically
- General Medicine sales burdened by FX headwinds from LatAM, organic performance sustainably healthy
- Euthyrox posts strong growth driven by ongoing demand from China
- Glucophage benefits from successful repatriation in Russia; very strong comparables last year



Merck pipeline

Phase I

Tepotinib c-Met kinase inhibitor

Solid tumors M2698

p70S6K & Akt inhibitor

Solid tumors

M3814

DNA-PK inhibitor

Solid tumors

Beigene-283 BRAF inhibitor

Solid tumors

Avelumab¹ Anti-PD-L1 mAb

M9241 (NHS-IL12)²
Cancer immunotherapy

Solid tumors

Solid tumors

M7824

Bifunctional immunotherapy

Solid tumors

M1095 (ALX-0761) Anti-IL-17 A/F nanobody Psoriasis

M2951

BTK inhibitor

Systemic lupus erythematosus

Phase II

M2736 (ATX-MS-1467) Immune tolerizing agent Multiple sclerosis

Tepotinib c-Met kinase inhibitor Non-small cell lung cancer Tepotinib

c-Met kinase inhibitor Hepatocellular cancer

Avelumab¹
Anti-PD-L1 mAb
Merkel cell carcinoma

Sprifermin
Fibroblast growth factor 18
Osteoarthritis
Atacicept
Anti-Blys/anti-APRIL fusion protein
Systemic lupus erythematosus

Phase III

Avelumab¹ - Anti-PD-L1 mAb Non-small cell lung cancer 1L³ Avelumab¹ - Anti-PD-L1 mAb Non-small cell lung cancer 2L⁴

Avelumab¹ - Anti-PD-L1 mAb

Gastric cancer 1L3

Avelumab1 - Anti-PD-L1 mAb

Gastric cancer 3L5

Avelumab1 - Anti-PD-L1 mAb

Bladder cancer 1L3

Avelumab1 - Anti-PD-L1 mAb

Ovarian cancer platinum resistant/refractory

Avelumab¹ - Anti-PD-L1 mAb Renal cell carcinoma 1L³

MSB11022 Proposed biosimilar of Adalimumab Chronic plaque psoriasis

Registration

Cladribine Tablets⁶ – Lymphocyte targeting agent

Relapsing-remitting multiple sclerosis

- Neurodegenerative Diseases
- Oncology
- Immunology
- Immuno-Oncology
- Biosimilars

Pipeline as of May 19, 2016

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.



¹Avelumab is the proposed International Non-proprietary Name (INN) for the anti-PD-L1 monoclonal antibody (previously known as MSB 0010718C); ²Sponsored by the National Cancer Institute (USA); ³1st line treatment; ⁴2nd line treatment; ⁵3rd line treatment

⁶As announced on September 11, 2015 Merck KGaA Darmstadt, Germany is preparing a regulatory submission to the European Medicines Agency

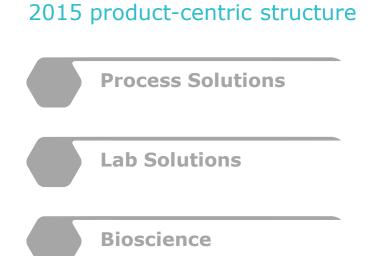
Exceptionals in Q1 2016

Exceptionals in EBIT

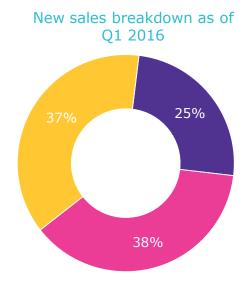
[€m]	Q1 2015		Q1 20	016
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	12	0	-321	0
Life Science	20	0	109	0
Performance Materials	4	0	6	0
Corporate & Other	12	0	7	0
Total	48	0	-198	0



Life Science: New reporting structure reflects customer-centric approach







Customer-centric business approach:

- Enhanced emphasis on customers' unique needs
- Customized solutions for the specific needs of each segment from the start of product development to its completion



Financial calendar

Date	Event
June 20, 2016	R&D Update Call
August 4, 2016	Q2 2016 Earnings release
November 15, 2016	Q3 2016 Earnings release



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