



Merck KGaA, Darmstadt, Germany

Q2 2015 Roadshow Presentation

Investor Relations



September 2015

Disclaimer

Publication of Merck KGaA, Darmstadt, Germany. In the United States and Canada the subsidiaries of Merck KGaA, Darmstadt, Germany operate under the umbrella brand EMD.

To reflect such fact and to avoid any misconception 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.

Cautionary Note Regarding Forward-Looking Statements

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 relating to the proposed transaction with Sigma-Aldrich Corporation (“Sigma-Aldrich”) include, but are not limited to: the risk that regulatory or other approvals required for the transaction are not obtained or are obtained subject to conditions that are not anticipated; competitive responses to the transaction; litigation relating to the transaction; uncertainty of the expected financial performance of the combined company following completion of the proposed transaction; the ability of Merck KGaA, Darmstadt, Germany, to achieve the cost-savings and synergies contemplated by the proposed transaction within the expected time frame; the ability of Merck KGaA, Darmstadt, Germany, to promptly and effectively integrate the businesses of Sigma-Aldrich and Merck KGaA, Darmstadt, Germany; the effects of the business combination of Merck KGaA, Darmstadt, Germany, and Sigma-Aldrich, including the combined company's future financial condition, operating results, strategy and plans; the implications of the proposed transaction on certain employee benefit plans of Merck KGaA, Darmstadt, Germany, and Sigma-Aldrich; and disruption from the proposed transaction making it more difficult to maintain relationships with customers, employees or suppliers.

Additional 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, or Sigma-Aldrich; downward pressure on the common stock price of Merck KGaA, Darmstadt, Germany, or Sigma-Aldrich and its impact on goodwill impairment evaluations; the impact of future regulatory or legislative actions; and the risks and uncertainties detailed by Sigma-Aldrich with respect to its business as described in its reports and documents filed with the U.S. Securities and Exchange Commission (the “SEC”).

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, and the Risk Factors section of Sigma-Aldrich's most recent reports on Form 10-K and Form 10-Q. 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.

Agenda

Business overview

Transforming the company

Financial review

Guidance

The Group

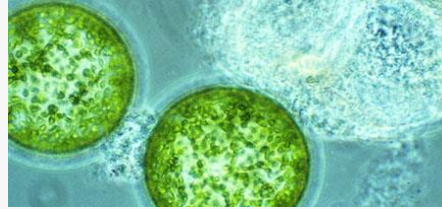
Healthcare



Leading in certain specialty pharma markets

- Life cycle management
- Biologics
- Emerging markets
- Over-the-counter medicine

Life Science



Top 3 in life science tools

- Global presence
- Innovation
- End-to-end solutions for pharma industry

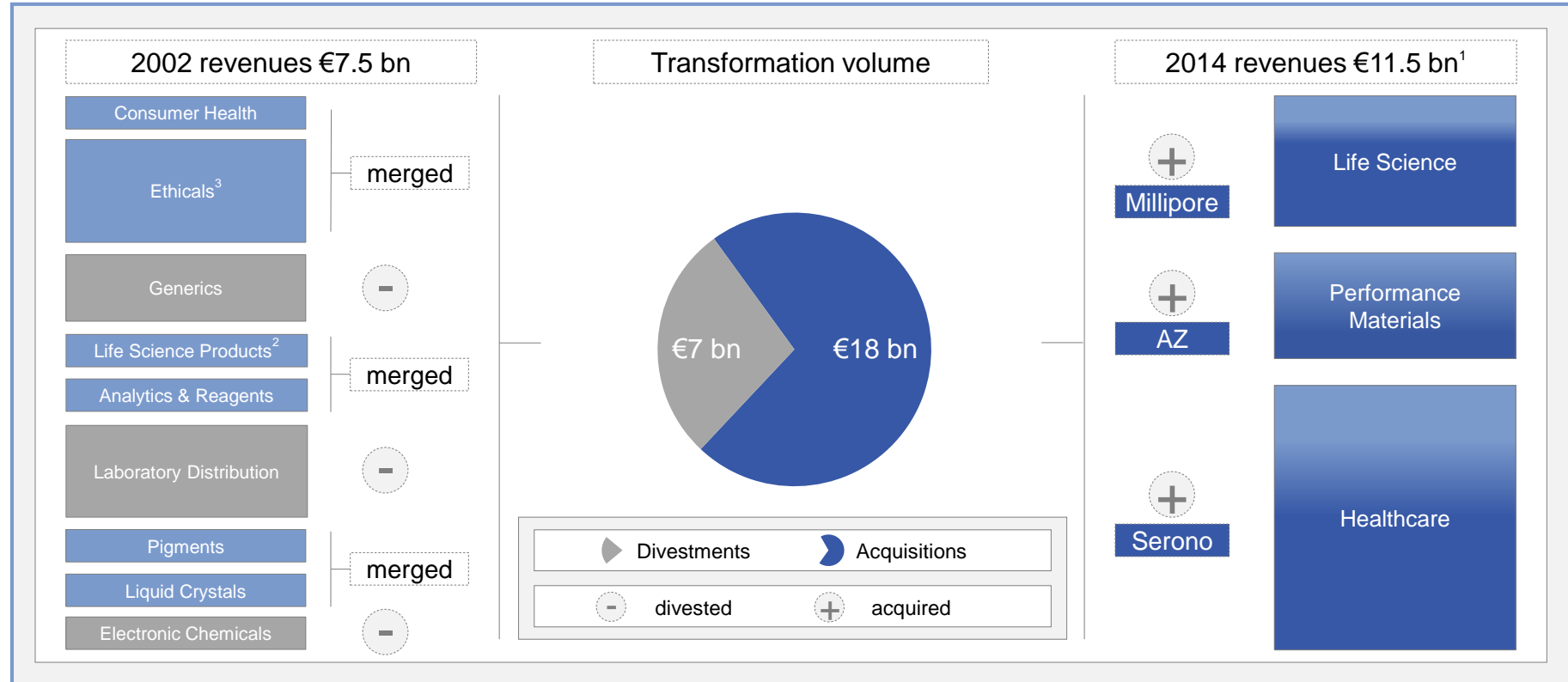
Performance Materials



No. 1 in display materials

- Customer intimacy
- Innovation power
- Cost and technology leadership

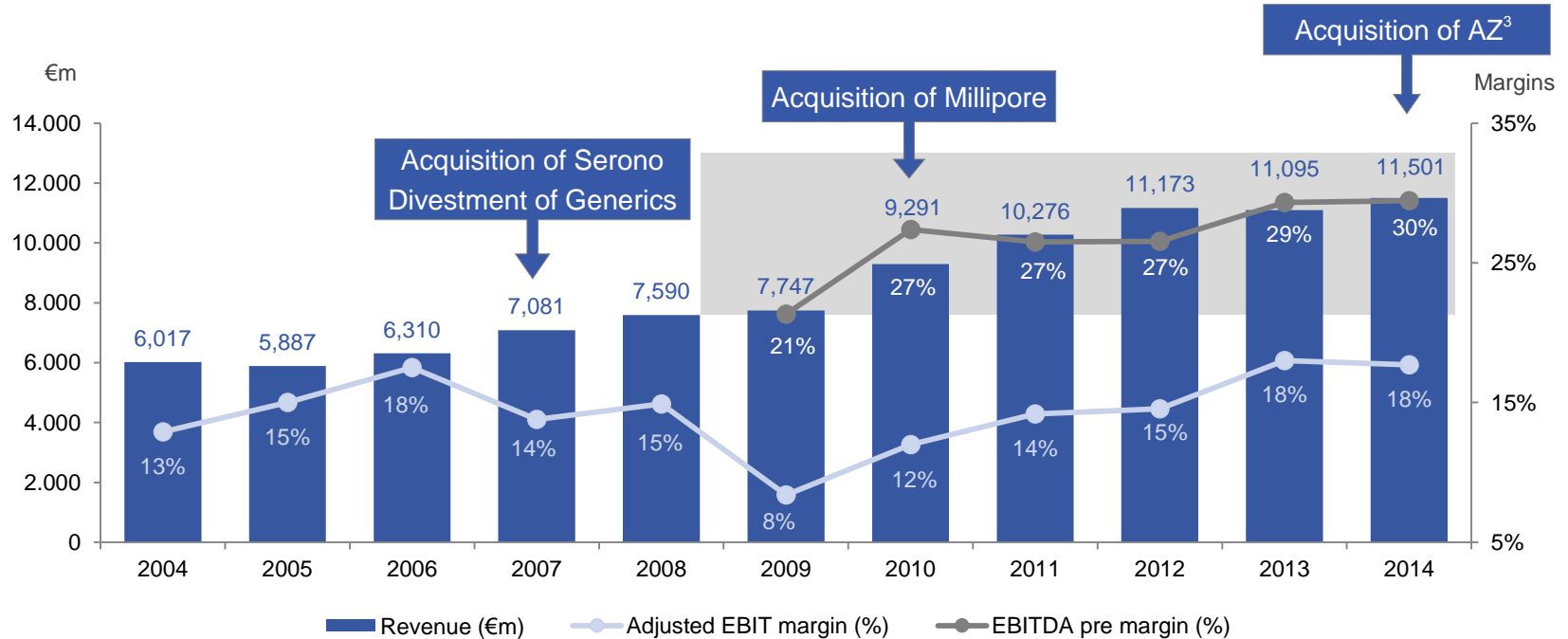
We have added scale while strengthening the attractiveness of its portfolio



¹Including sales contribution from AZ Electronic Materials acquired as of 2 May 2014, ²Excluding "Crop Bioscience", which was divested; ³Excluding "Theramex", which was divested

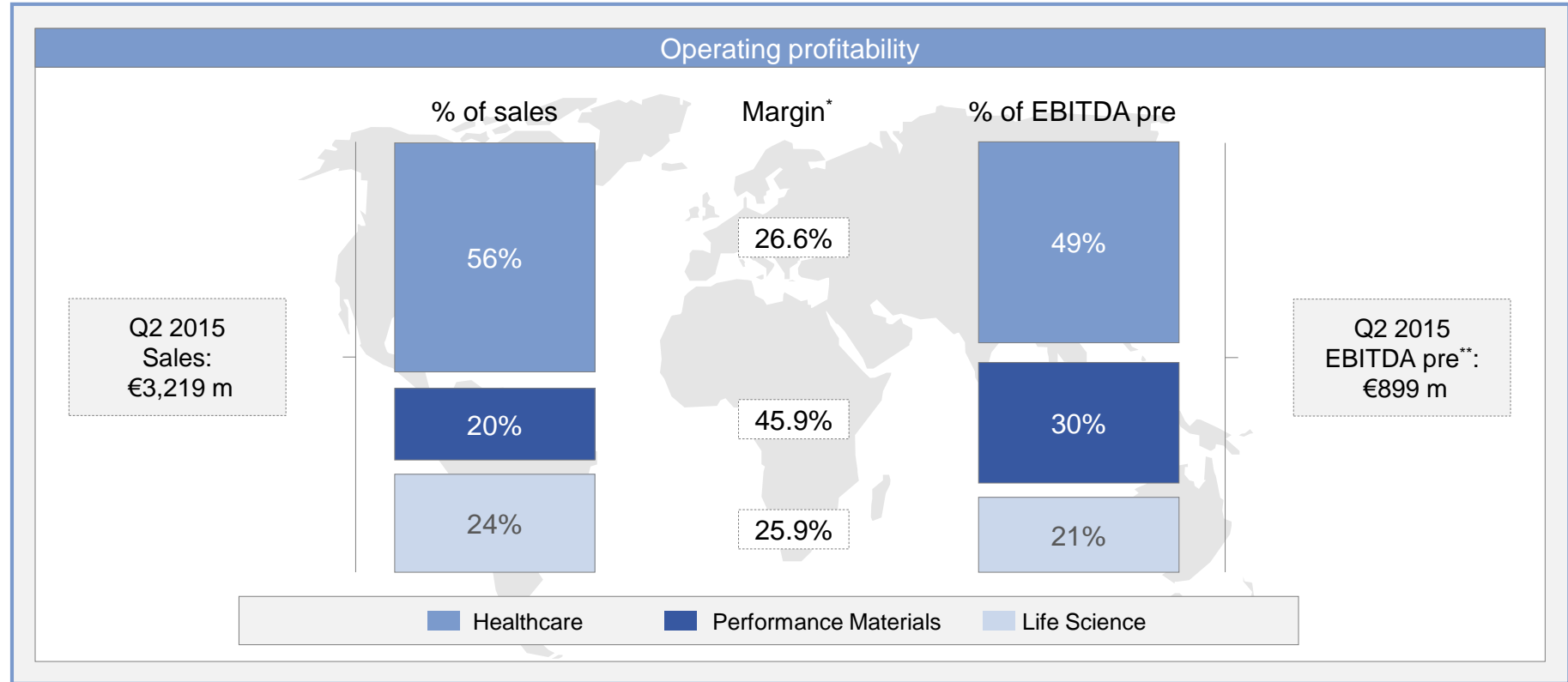
Growth initiatives have fundamentally improved profitability

Total revenues and adjusted EBIT and EBITDA pre margins¹ 2004-2014



¹adjusted EBIT² and EBITDA pre divided by total revenues; ²adjusted EBIT is EBIT less exceptional items (e.g. impairments, integration costs, restructuring costs); ³included since May 2, 2014

Strong businesses with attractive margins

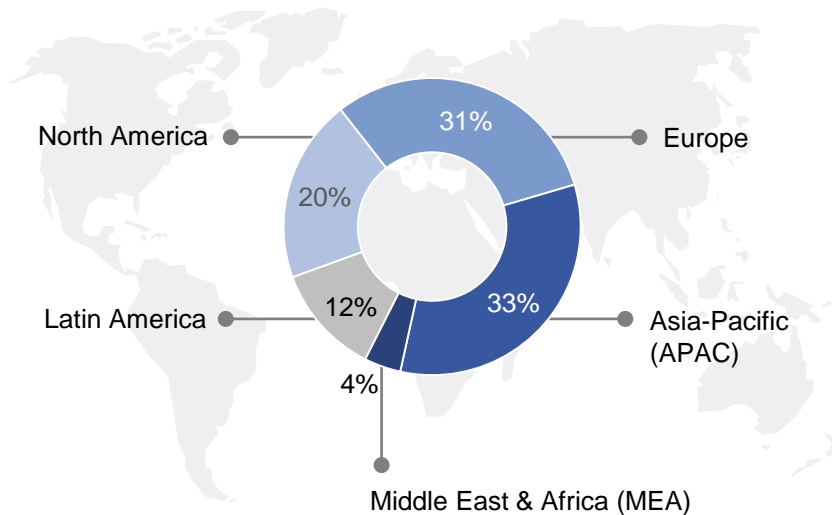


*EBITDA pre margin in % of sales

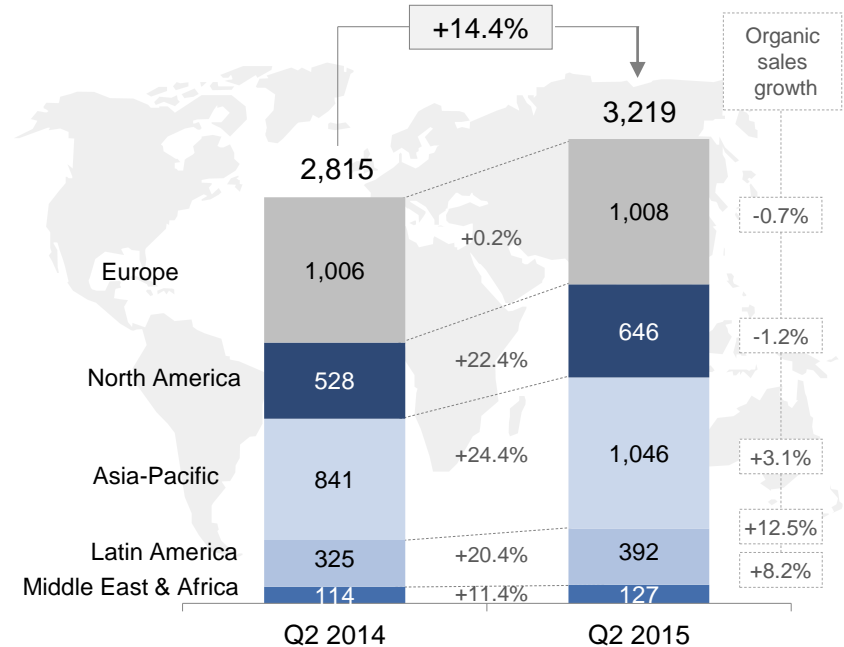
**Including Corporate/Others (-€76 m)

APAC and Latin America drive organic growth

Group Q2 2015 net sales by region



Regional development of net sales [€ m]



Totals may not add up due to rounding

Agenda

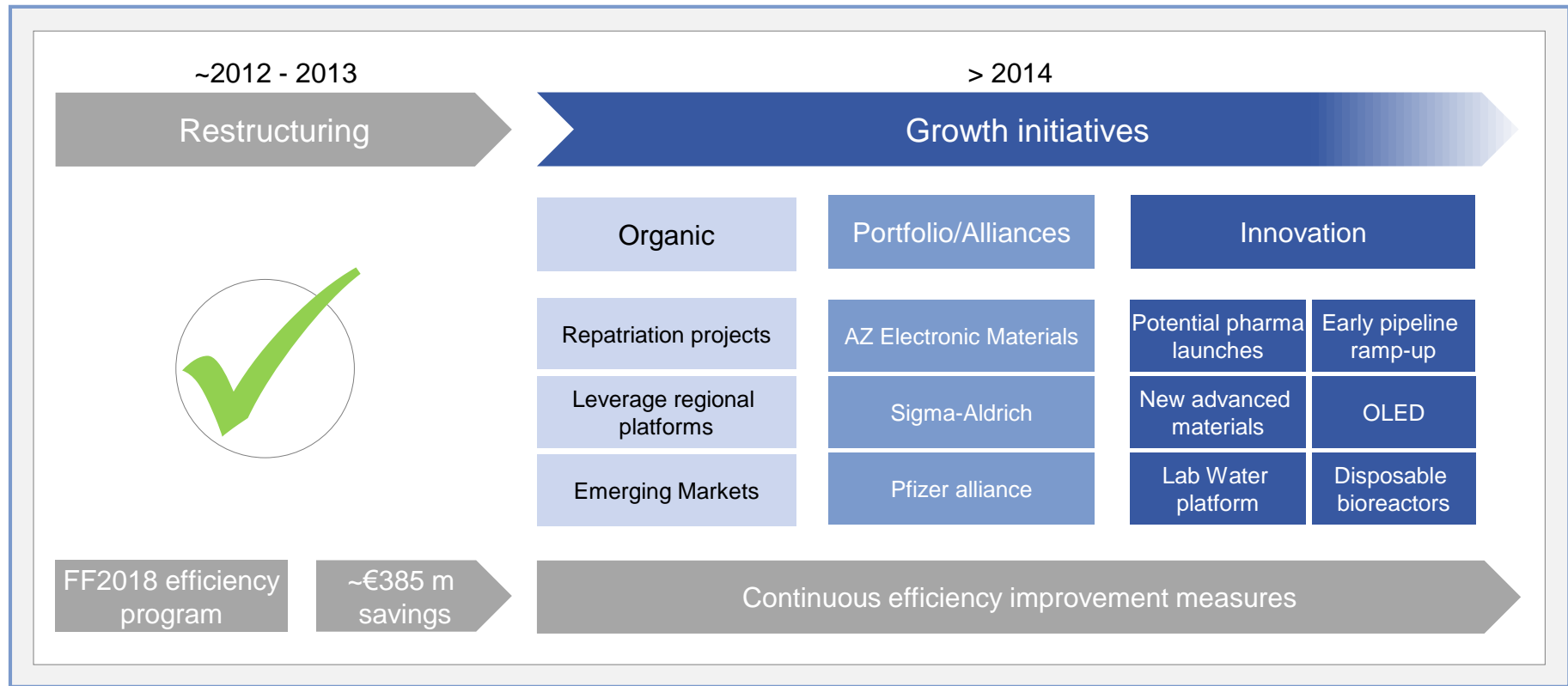
Business overview

Transforming the company

Financial review

Guidance

Strategic agenda 2018 – milestones achieved



AZ – Complementing Performance Materials, expanding innovation leadership in niche markets

Merck KGaA
Darmstadt · Germany

Healthcare

Life Science

Performance Materials

Merck KGaA,
Darmstadt, Germany



ELECTRONIC MATERIALS

Ongoing development in Liquid Crystals



- Launch of new UB-FFS* mode - enhancing light transmission and reducing energy consumption
- Further advancing future technologies e.g. liquid crystal windows

Research in advanced technologies



EPSON®

- Collaboration with EPSON on OLED progressing well
- Development of new proprietary OLED materials and LED phosphors - launch of a vivid green

R&D projects from AZ



- Si-tech materials for OLED encapsulant
- Graphene-based materials in Separators, Anodes and Cathodes

Successful integration of AZ completed in 2014

*Ultra brightness fringe field switching

Sigma-Aldrich – Next step to enhance Life Science business sector

Merck KGaA
Darmstadt · Germany

Healthcare

Life Science

Performance Materials

Merck KGaA,
Darmstadt, Germany

&



Broad and complementary
product fit in attractive segments



Expanding global reach and scale



Leveraging operational excellence
to deliver superior value to customers



Sigma Aldrich acquisition – A compelling transaction rationale

Pfizer collaboration – Acceleration and broadening of immuno-oncology pipeline

Merck KGaA
Darmstadt · Germany

Healthcare

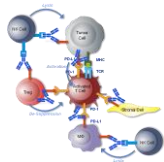
Life Science

Performance Materials

Merck KGaA, Darmstadt,
Germany

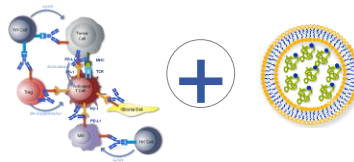


Leverage anti-PD-L1 asset



- Avelumab* with over 700 patients already enrolled in PI/II
- Initiation of several pivotal studies in 2015 e.g.:
 - Lung, bladder, renal, ovarian, gastric

Tackle combination therapies



- Enlarge pool of potential combinations
- Combination studies in 2015 e.g.:
 - Axitinib (Inlyta) in renal cancer
 - Crizotinib (Xalkori) ALK/ROS in lung cancer

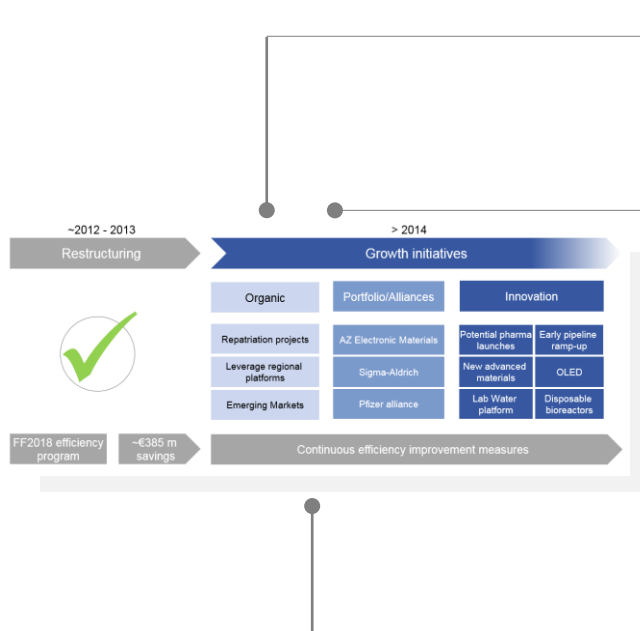
Build commercialization strength



- Co-commercialization of Xalkori in U.S. and other key markets
- Ramp-up of Oncology infrastructure and capabilities in 2015, especially in U.S.

*Avelumab = proposed International Non-proprietary Name (INN), formerly referred to as Anti-PD-L1 mAb (MSB0010718C)

Strategic agenda 2018 – milestones achieved



▪ Repatriation projects:

- Glucophage and Euthyrox from Takeda in Russia
- Co-promotion agreement with BMS¹ for Glucophage in China
- Transfer of full promotional responsibilities for Erbitux in Japan

▪ Leverage regional platforms:

- Transfer of Neurobion & Floratil to Consumer Health
- Strategic partnership with Lupin to broaden GM² portfolio

▪ Emerging Markets:

- Healthcare focus on strategic markets such as China & Brazil
- Investments in regional sites (Nantong – China)

▪ Portfolio and alliances:

- AZ closed and integrated in 2014
- Proposed Sigma acquisition expected to close in Q3 2015
- Strategic alliance with Pfizer in immuno-oncology

▪ Innovation:

- Launch of UB-FFS as well as progress in OLED
- New innovation center in corporate HQ

¹Bristol-Myers Squibb; ²General Medicine

Agenda

Business overview

Transforming the company

Financial review

Guidance

Q2 2015 overview

[€ m]	Q2 2014	Q2 2015	Δ
Net sales	2,815	3,219	14.4%
EBITDA pre	846	899	6.3%
<i>Margin (% of sales)</i>	<i>30.0%</i>	<i>27.9%</i>	
EPS pre [€]	1.16	1.30	12.1%
Operating cash flow	429	326	-24.0%
[€ m]	Dec 31, 2014	June 30, 2015	Δ
Net financial debt	559	-567	n.m.
Working capital	2,356	2,527	7.2%
Employees	39,639	40,192	1.4%

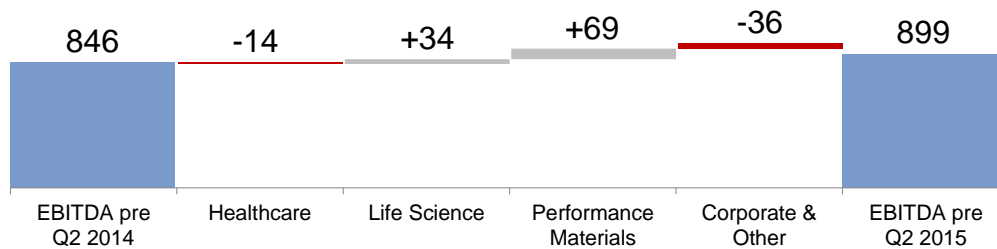
Q2 2015
<ul style="list-style-type: none"> ▪ Higher EBITDA pre, but margin softens due to royalty income loss, Rebif decline and higher R&D ▪ EPS pre increase supported by improved financial result* ▪ Cash flow impacted by higher tax and interest payments and cash-out for R&D terminations ▪ Net cash position driven by operating cash flow and cash-in from Sigma hedging ▪ Working capital increase mainly attributable to organic growth and FX

Totals may not add up due to rounding; *YoY change mainly driven by swing in time value of Long-Term Incentive Program (LTIP)

A sound quarter

Q2 2015 YoY net sales	Organic	Currency	Portfolio	Total
Healthcare	1.5%	7.8%	0.0%	9.2%
Life Science	6.2%	11.2%	0.0%	17.3%
Performance Materials	-0.4%	16.8%	10.7%	27.2%
Group	2.2%	10.2%	1.9%	14.4%

Q2 YoY EBITDA pre contributors [€ m]

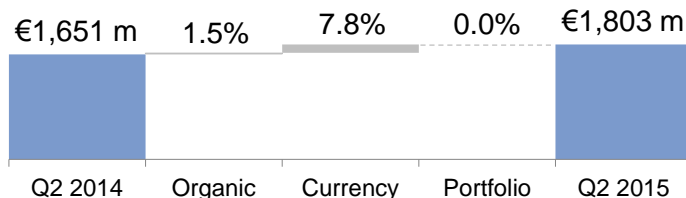


- Healthcare growth driven by General Medicine and Fertility, offsetting Rebif decline
- Biopharma demand in all regions supports Life Science growth
- Performance Materials growth driven by FX and AZ
- Healthcare affected by Humira royalty loss, Rebif decline and higher R&D costs
- Life Science increase supported by strong organic performance
- Performance Materials reflects FX benefits, AZ and favorable product mix
- Corporate EBITDA pre impacted by hedging losses

Healthcare: Organic growth driven by strong General Medicine and Consumer Health

[€ m]	Q2 2014	Q2 2015
Net sales	1,651	1,803
Marketing and selling	-660	-730
Admin	-63	-69
R&D	-316	-358
EBIT	277	267
EBITDA	484	461
EBITDA pre	493	480
<i>Margin (% of sales)</i>	<i>29.9%</i>	<i>26.6%</i>

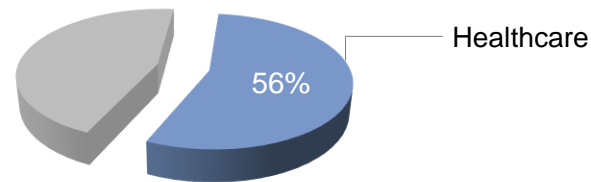
Net sales bridge



Comments

- Ongoing Rebif decline due to volume losses in Europe and U.S.
- Erbitux recovering – slight organic decline versus high prior year base
- General Medicine and Fertility remain key growth drivers
- CH driven by Neurobion in LatAm and local brands in Europe
- Marketing and selling expenses – mainly driven by FX
- R&D costs reflects ramp-up of Avelumab* and other focus programs as well as promising earlier stage pipeline candidates
- Profitability decreases due to loss of Humira royalties, Rebif decline and investments in R&D

Q2 2015 share of group net sales



Healthcare includes Biopharmaceuticals, Consumer Health, Biosimilars and Allergopharma;

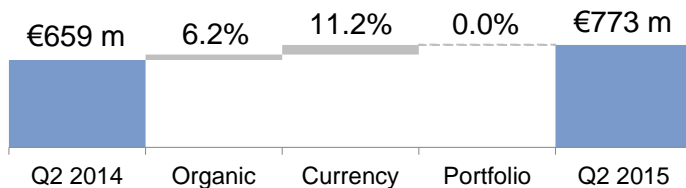
*Avelumab = proposed International Non-proprietary Name (INN), formerly referred to as Anti-PD-L1 mAb (MSB0010718C)

Life Science: Process Solutions fuels organic growth

Merck KGaA
Darmstadt · Germany

[€ m]	Q2 2014	Q2 2015
Net sales	659	773
Marketing and selling	-205	-244
Admin	-26	-28
R&D	-39	-49
EBIT	75	87
EBITDA	150	170
EBITDA pre	166	200
<i>Margin (% of sales)</i>	<i>25.2%</i>	<i>25.9%</i>

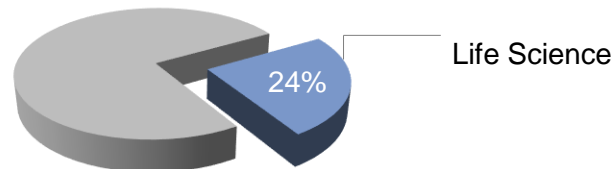
Net sales bridge



Comments

- Process Solutions with strong organic growth mainly driven by biopharma demand for viral clearance and purification products
- Lab water consumables and biomonitoring remain main drivers of solid organic performance of Lab Solutions
- Bioscience slightly negative as research content business remains soft across all regions
- Increase in cost base is mainly attributable to FX
- EBITDA pre benefits from volume growth in Process Solutions and price increases across the portfolio

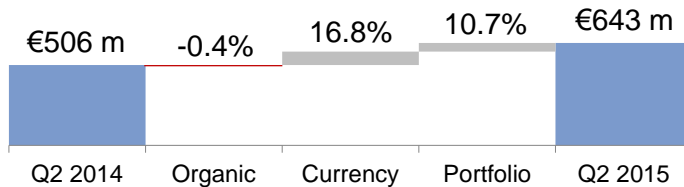
Q2 2015 share of group net sales



Performance Materials: Strong FX tailwinds support profitability

[€ m]	Q2 2014	Q2 2015
Net sales	506	643
Marketing and selling	-49	-53
Admin	-15	-14
R&D	-39	-49
EBIT	137	238
EBITDA	178	299
EBITDA pre	226	295
<i>Margin (% of sales)</i>	<i>44.7%</i>	<i>45.9%</i>

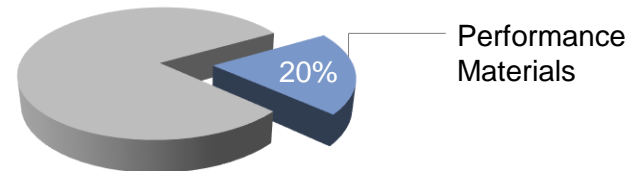
Net sales bridge



Comments

- Strong sales reflect FX tailwinds and portfolio effect
- Liquid Crystals with solid volumes in flagship technologies (PS-VA, IPS and UB-FFS), partially offset by shrinking TN-TFT market
- Integrated Circuits shows sound volume development driven by trend towards miniaturization & number of chips produced
- Significant EBITDA pre increase driven by FX, AZ and product mix

Q2 2015 share of group net sales



Agenda

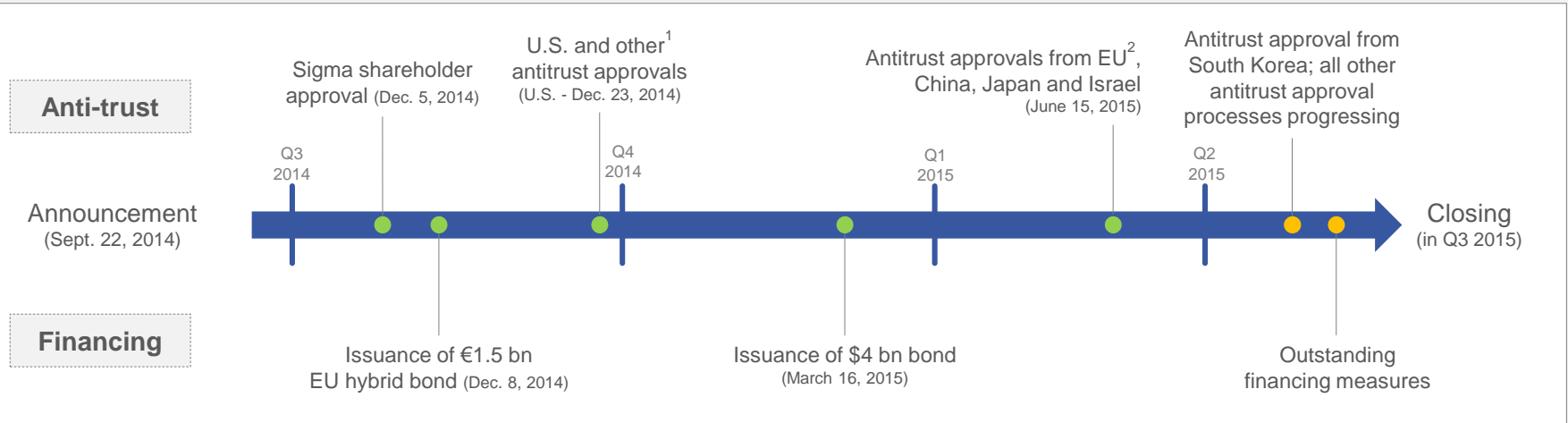
Business overview

Transforming the company

Financial review

Guidance

Merck KGaA, Darmstadt,
Germany



¹Russia, Serbia, Ukraine, Taiwan, South Africa; ²Subject to conditions and commitments as agreed with the EU

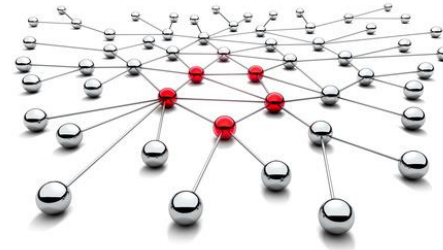
Sigma-Aldrich – thorough preparation bolsters integration plans

Integration Planning Office



- Preparation of integration has begun immediately after the announcement
- All work streams & functions in place for swift & smooth launch of integration

Organizational structures



- New business organization structure determined
- Future leadership team consisting of well-balanced mix between Sigma-Aldrich and Merck KGaA Darmstadt, Germany managers

Goal: Focusing on smooth and seamless integration without disruption

Full-year 2015 guidance confirmed

Group guidance for 2015, without Sigma-Aldrich



Net sales:

~ €12.3 – 12.5 bn



EBITDA pre:

~ €3,450 – 3,550 m



EPS pre:

~ €4.60 – 4.80



2015 business sector guidance

Healthcare



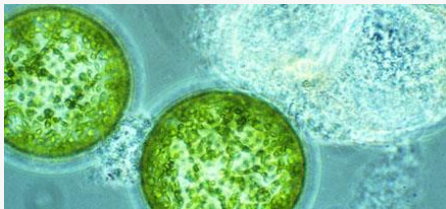
Net sales

Organically stable

EBITDA pre

~ €1.9 – 2.0 bn

Life Science*



Net sales

Moderate organic growth

EBITDA pre

~ €740 – 760 m

Performance Materials



Net sales

Slight organic growth

EBITDA pre

~ €1.06 – 1.1 bn

Merck KGaA

Darmstadt · Germany

Appendix

Guidance details

Sigma acquisition & pharma update

Financial details

Additional financial guidance 2015

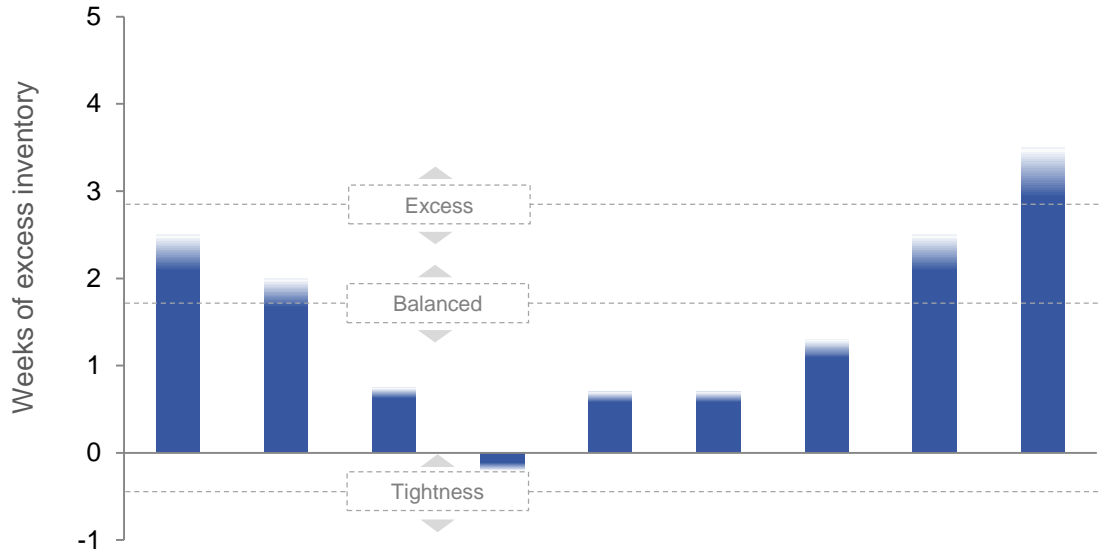
Further financial details

Group royalty, license and commission income in 2015	~€300 m
Corporate & Other EBITDA pre	~ -€300 – -350 m
Underlying tax rate	~23% to 25%
Capex on PPE	~€550 m
Hedging/USD assumption	2015 & 2016 hedge rate ~30% at EUR/USD ~1.22 to 1.26
2015 Ø EUR/USD assumption	~1.10 – 1.15



Display industry shows higher channel inventory levels

Quarterly weeks of inventory delta at panel / set makers over last two years*



Inventory dynamics

- Downstream inventory levels high
- Stock levels need to be monitored

**Inventories high but
underlying growth trends
remain intact**

*Illustration; Source: Merck KGaA, Darmstadt, Germany and GfK Research (May 2015)

High cost base in strong currencies and hedging losses partially offset FX tailwinds

Healthcare



Sales

- Global presence
- ~40% of sales in Europe

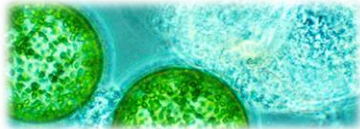
Costs

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

FX impact



Life Science



Sales

- Balanced regional sales split between EU, NA and RoW

Costs

- Extensive manufacturing and research footprint in the U.S.
- Global customer proximity requires broad-based sales force

FX impact



Performance Materials



Sales

- ~80% of sales in Asia-Pacific
- Industry is USD-driven

Costs

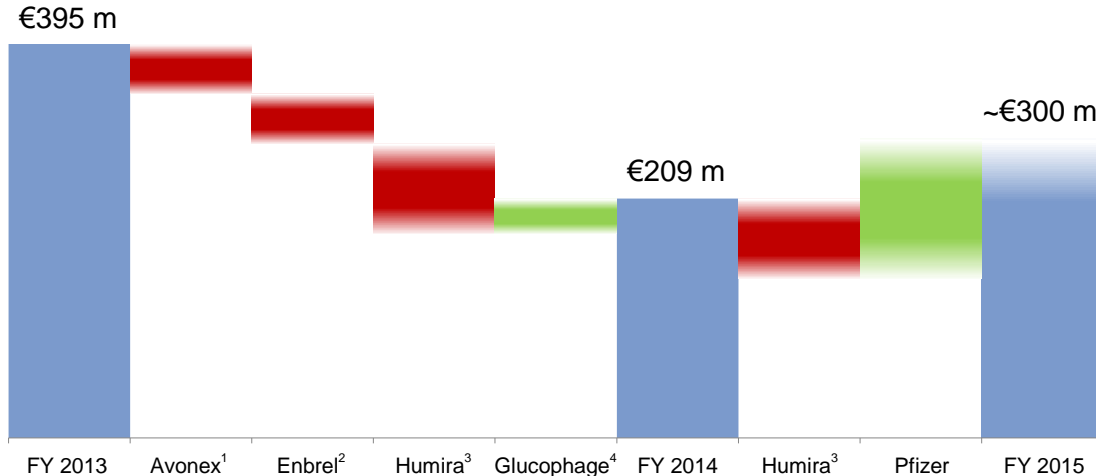
- Main production sites in Germany
- Several R&D and mixing facilities in Asia

FX impact



Food for thought on royalty, license and commission income

Royalty, license and commission income bridge 2013 - 2015



Details and future changes

- Pfizer deal contains release of upfront and Xalkori accruals
- New reporting starting 2015:
 - Net Sales will include commission and profit share income
 - Royalty & license income will be within Other Operating Income
 - Royalty, license and commission expenses will be allocated to individual functional lines

Illustration; ¹Avonex patent expired in May 2013; ²Enbrel patent expired in November 2013; ³Humira royalty income expired June 30, 2014; ⁴Commission income due to co-promotion agreement for Glucophage with BMS in China – shown in net sales in 2015

Appendix

Guidance details

Sigma acquisition & pharma update

Financial details

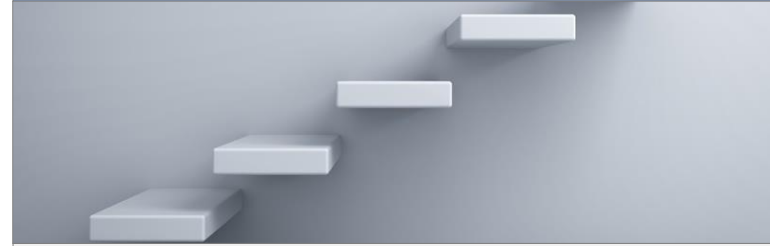
Sigma-Aldrich – Next step to become a leading life sciences company

Attractive life science industry



- Attractive industry driven by sustainable underlying market trends
- Stable growth pattern, offering additional growth opportunities
- Strong companies with healthy margins

Taking our life science business to the next level



- Strong track record of delivering profitable growth
- Adding scale with step change acquisition

Sigma Aldrich acquisition – A compelling transaction rationale

Merck KGaA
Darmstadt · Germany

Strategic and operational fit

- Increasing scale – expanding position in attractive life science industry
- Enhancing value for our customers
 - Broadens product range and ease of doing business for Laboratories & Academia
 - Complements Process Solutions product offering
- Closing the gap in U.S. – adequate presence in all geographies
- Leveraging existing platforms for global innovation rollout

Financial fit

- Further diversification of revenue stream
- Substantial synergy potential
- Immediately accretive to EPS pre* and EBITDA margin
- Solid investment grade rating will be maintained

*EPS pre one-time items and amortization, especially from purchase price allocation (PPA)

Sigma-Aldrich – A leading life science consumables supplier

Merck KGaA
Darmstadt · Germany

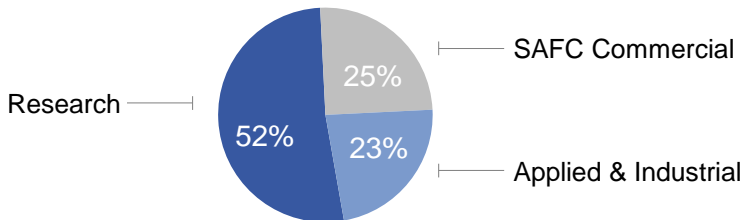
Business

- Total revenues of \$2.7 billion in 2013
- ~9,000 employees including ~3,000 scientists and engineers
- Headquartered in St. Louis, MO
- Chemical and biochemical products, kits and services provider to laboratories and pharma production
- No. 1 eCommerce platform in the industry; ~1,600 sales people

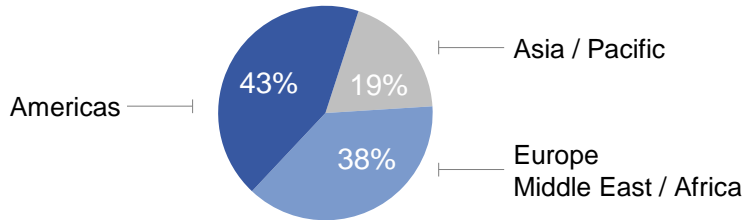
Footprint

- Balanced regional exposure; strength in North America
- Operations in ~40 countries; products available in ~160 countries

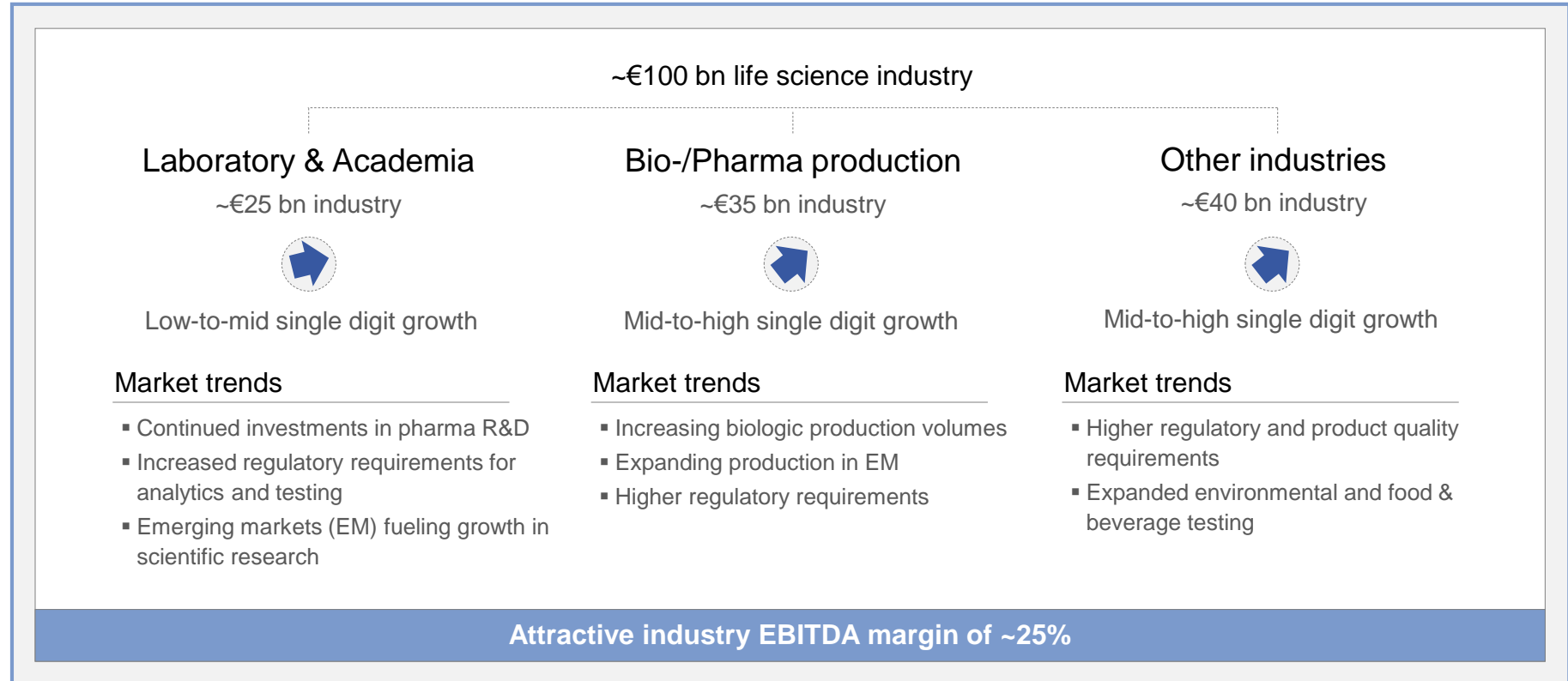
Sales by division FY 2013*



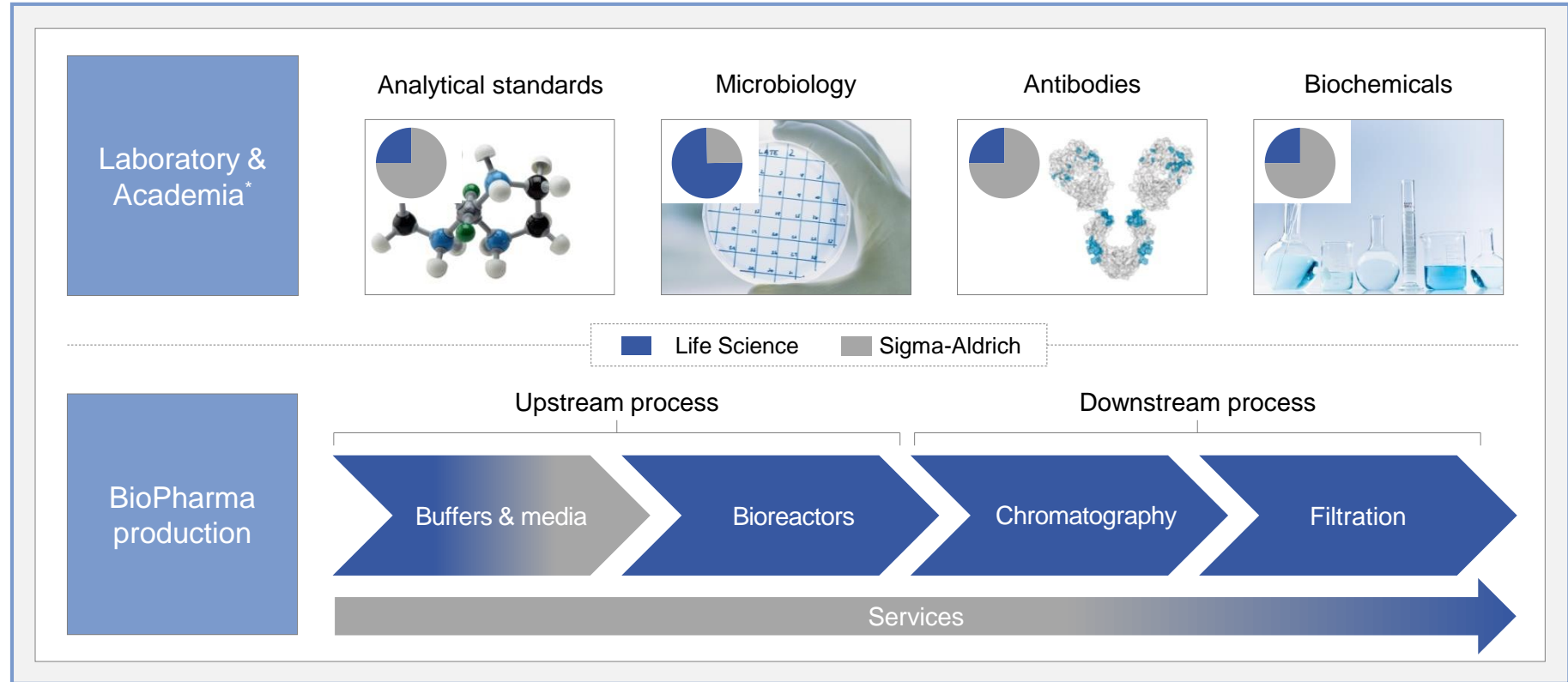
Sales by region FY 2013*



Together serving the attractive €100bn life science industry



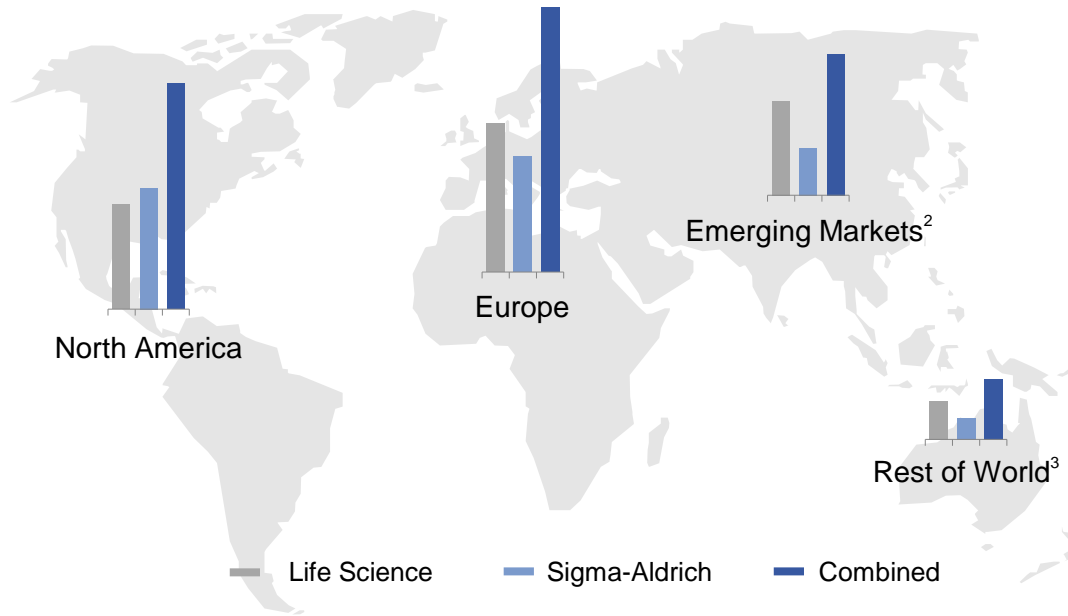
Broad and complementary product fit in attractive segments



*Key laboratory and academia areas illustrated

Expanding global reach and scale

Global sales¹ footprint of both businesses



Increased presence in North America

- Benefiting from a leading position in U.S. Laboratory sector
- Increased access to U.S. academia

Exposure to fast-growing Asia

- Accelerating growth momentum
- Opportunity to leverage eCommerce platform

¹Based on FY 2013 data in €m; ²Latin America, Asia w/o Japan; ³Japan, Australia/Oceania, Africa

Leveraging operational excellence to deliver superior value to customers

Merck KGaA
Darmstadt · Germany

Product innovation

- Delivering innovative workflow solutions to increase customers' efficiency
- Broad technology and platforms
- Recurring winners of renowned innovation awards



Process innovation

- Efficient supply chain for >300,000 products
- Best in class customer experience; e.g. 24 hour delivery in major markets
- Top-notch customer interface supported by eCommerce platform



Efficient work flow solutions and unique customer experience

Sigma-Aldrich – Business and transaction financials Merck KGaA Darmstadt · Germany

Overview of financial data¹

US\$ m	2012	2013	2014E ⁴
Revenue	2,623	2,704	2,796
% YoY at constant FX	+3%	+3%	n.a.
EBITDA (adjusted)	809	821	852
% of sales	31%	30%	30%
D&A	136	138	132
% of sales	5%	5%	5%
Net financial debt (period end)	-41	-357	-466 ⁵
No. of shares (diluted, m)	122	121	n.a.

Proposed transaction details²

- Equity value ~US\$17 bn (€13.1 bn)
- Enterprise value (EV) ~€12.7 bn including net cash ~€360 m
- Financing through cash and debt; no equity
- Assumed synergies: ~€260m
- In line with core acquisition criteria
 - Immediately accretive to EPS pre
 - Solid investment grade rating will be maintained

Implied forward transaction multiples³

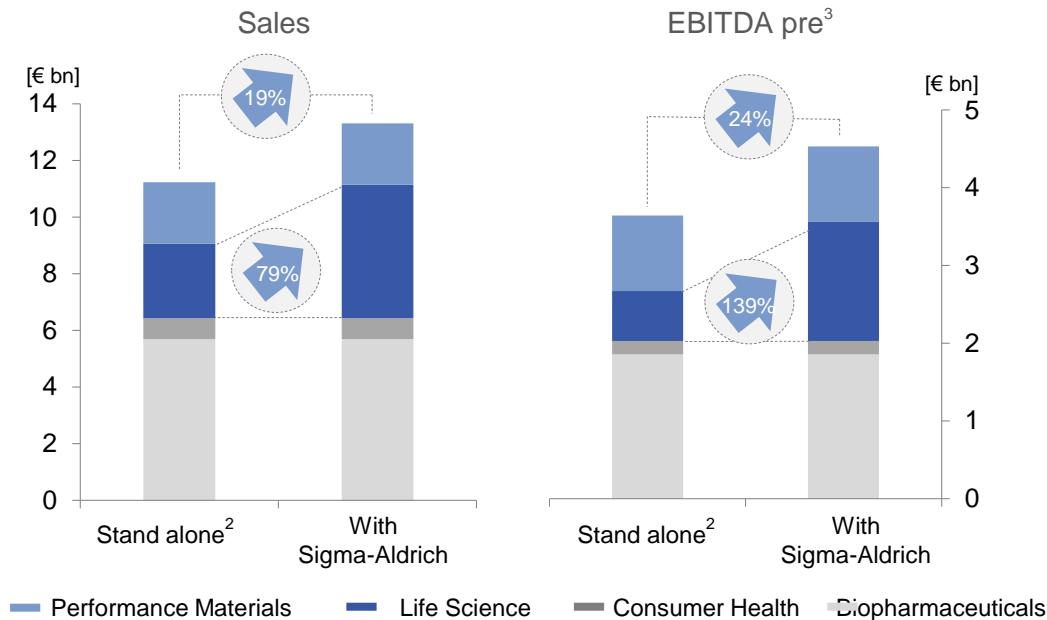
	2013	2014E ⁴
EV/Sales	6.1x	5.9x
EV/EBITDA	20.1x	19.4x
EV/EBITDA pro-forma incl. synergies ³	14.3x	13.9x

¹Source: Company reports; ²FX conversion: EUR/USD 1.30; ³"Pro-forma" calculation based on 100% expected synergies;

⁴Median consensus estimates from latest broker reports; ⁵Last reported as per H1 2014 report (June 30, 2014)

Transaction enhances financial profile

Pro-forma 2013¹



Pro-forma financial impacts

- Group sales¹ increase by ~19%
- Group EBITDA pre³ rises by ~24% with margin⁴ expansion from ~30% to ~33%
- Synergies: ~€260m p.a. fully implemented in 3rd full year after closing
- Expected PPA impact: Mid triple-digit €m p.a.
- Immediately EPS pre accretive

¹Pro-forma calculation based on published sales for FY 2013 for Merck KGaA, Darmstadt, Germany (including pro-forma AZ Electronic Materials) and Sigma-Aldrich; ²Pro-forma calculation based on published sales for FY 2013 for Merck KGaA, Darmstadt, Germany (including pro-forma AZ Electronic Materials); ³Pro-forma calculation based on 100% expected synergies; excluding Corporate & Other; ⁴Including Corporate & Other

Support from meaningful synergies

—Our experience



- Significant restructuring and integration experience
- Deep knowledge and understanding of the life science industry



Source of synergies



- Consolidate manufacturing footprint
- Increase conversion to eCommerce channels
- Optimize sales & marketing
- Streamline admin functions and infrastructure
- Save U.S. public company costs
- Optimize R&D portfolio



Planned delivery

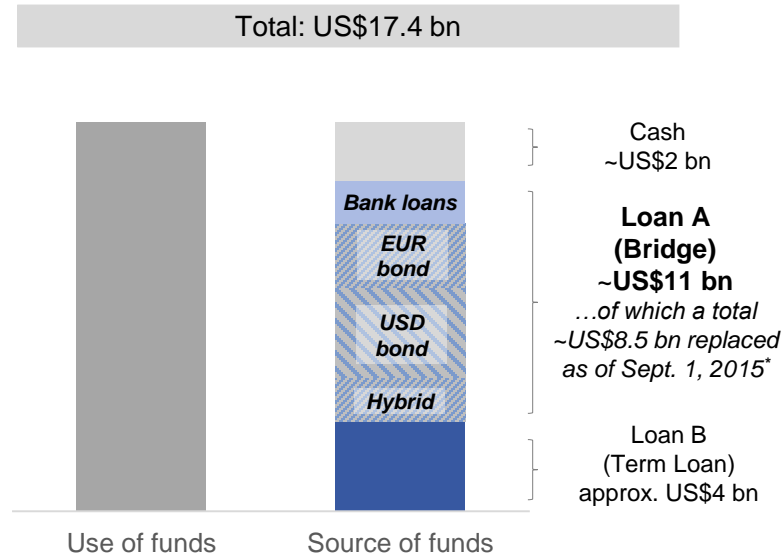


- Synergies: ~€260 m, i.e. ~12% of Sigma-Aldrich sales
- Fully implemented in third full year after closing
- Expected integration costs: ~€400 m; spread over 2015-2018

Solid structure to finance Sigma-Aldrich transaction

Merck KGaA
Darmstadt · Germany

Financing structure



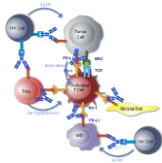
Update on funding structure

- Acquisition 100% cash & debt financed
- The bridge has been replaced through various capital markets transactions and bank loans
- Accomplished transactions:
 - Dec. 2014: ~US\$1.9 bn EUR-hybrid bond
 - March 2015: US\$4 bn USD bond
 - August 2015: ~US\$2.6 bn EUR bond
- Strong combined cash flows available for rapid deleveraging
- Strong investment grade rating maintained
- Expected financing costs well below 2%

*FX rate for hybrid bond EUR/USD 1.30 according to financing concept at signing

Merck KGaA, Darmstadt, Germany and Pfizer – Three strategic drivers for collaboration

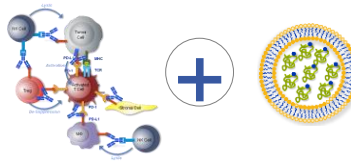
Leverage Anti PD-L 1 asset



- Combine our R&D and Pfizer's commercialization capabilities
- Speed up overall development process through joint R&D efforts
- Combine financial resources of two global pharma players
- Share development risk



Tackle combination therapies



- Enlarge pool of potential combinations through use of Pfizer's pipeline assets and existing products of Pfizer
- Leverage scientific expertise through joint research efforts
- Increase momentum to bring combinations to the market



Build new commercialization strength



- Co-commercialization of Xalkori in major markets
- Build up Oncology infrastructure and capabilities, especially in North America
- Broaden experience and knowledge base in advance of potential Avelumab launch
- Additional income stream to drive R&D activities



Financial implications of the deal with Pfizer

- ▶ \$850 m upfront cash payment, accrual to be released over several years
- ▶ ~50:50 R&D Cost split for drug development
- ▶ Milestone payments of up to \$2.0 bn based on filing/approval and commercialization of the compound across various indications & markets
- ▶ Co-commercialization of Xalkori – 2015 reimbursement for ramping up infrastructure and capabilities; followed by profit sharing agreement
- ▶ Following regulatory approval, first potential sales of Anti PD-L1 compound

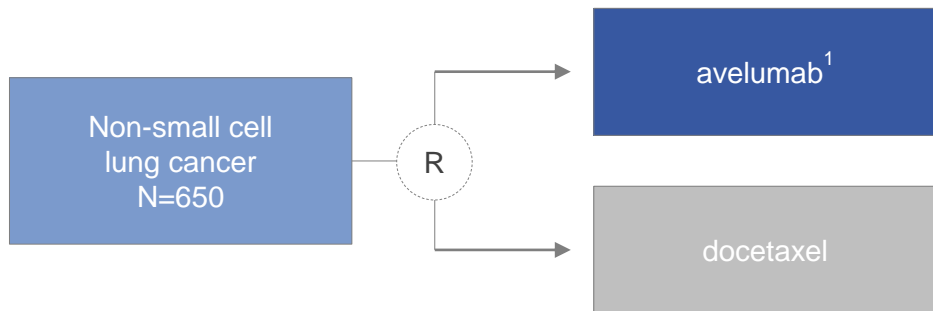


First avelumab Phase III initiated

Phase III (avelumab¹ NSCLC²) – Study design

JAVELIN Lung 200 avelumab¹ in non-small cell lung cancer

Open-label, multicenter trial in subjects with NSCLC that has progressed after a platinum-containing doublet



Study setup:

- Primary endpoint: Overall survival in patients with PD-L1+ stage IIIb/IV NSCLC
- Secondary endpoints include: Overall survival, progression-free survival, overall response rate and will be assessed across the entire study population irrespective of PD-L1 status
- Study recruitment across 290 sites in over 30 countries

Strategic rationale:

- High unmet medical need with a low 5-year patient survival rate
- Extensive market potential despite competitive environment
- Potential for future combinations

¹Avelumab = proposed International Non-proprietary Name (INN), formerly referred to as Anti-PD-L1 mAb (MSB0010718C); ²Non Small Cell Lung Cancer

Biopharmaceuticals has three different business models with specific strengths and requirements

Biopharmaceuticals proforma sales¹

1. Raise focus, scale and flexibility
2. Improve customer proximity
3. Develop into attractive growth platforms
4. Tailor innovation models to specific needs

Biologicals

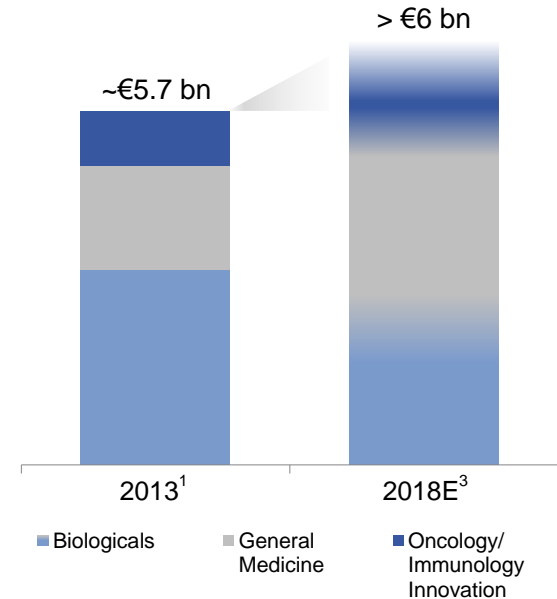
- Rebif
- Fertility
- Endocrinology
- Biosimilars²
- Allergopharma

General Medicine

- GM/CMC
- Thyroids

Oncology/Immunology Innovation

- Erbitux
- Other Oncology



¹Source: Proforma re-calculation based on 2013 data for Biopharmaceuticals; excluding Consumer Health; ²Gradual sales ramp-up expected from 2017 onwards

³Excluding contributions from R&D pipeline

The road to maximizing the existing franchises is clear



Continue to drive front-line mCRC share by increasing patient testing and expanding head and neck coverage



Capitalize on strong efficacy and new smart devices to maximize differentiation and defend franchise



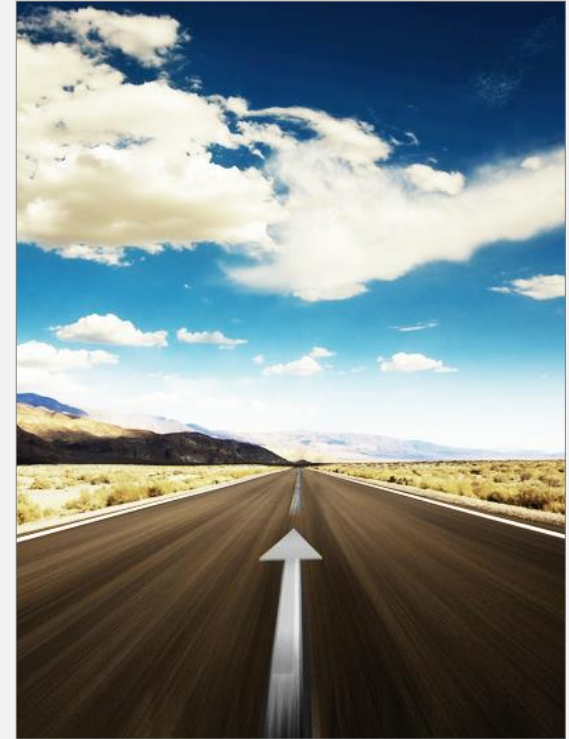
Build on No.1 position and ART¹ channel access with embryo diagnostics and other innovative technologies



Harness strengths of existing business and build a new focus area driven by innovative devices and services for patients



Build on existing track record in Emerging Markets, drive brand and life-cycle management and expand business including asset repatriation



¹ART = Assisted Reproductive Technology

Portfolio management: Differentiating across diverse business models

Merck KGaA
Darmstadt · Germany

General Medicine portfolio



- Limited risk with high cash generation
- Sustainable steady growth fueled by Emerging Markets



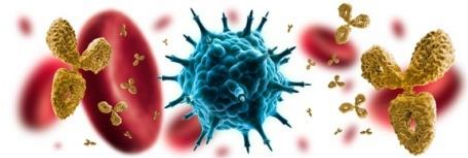
Biologicals portfolio



- Moderate risk and reward profile
- Economies of scale due to state-of-the-art production capabilities
- Emerging Markets gain importance



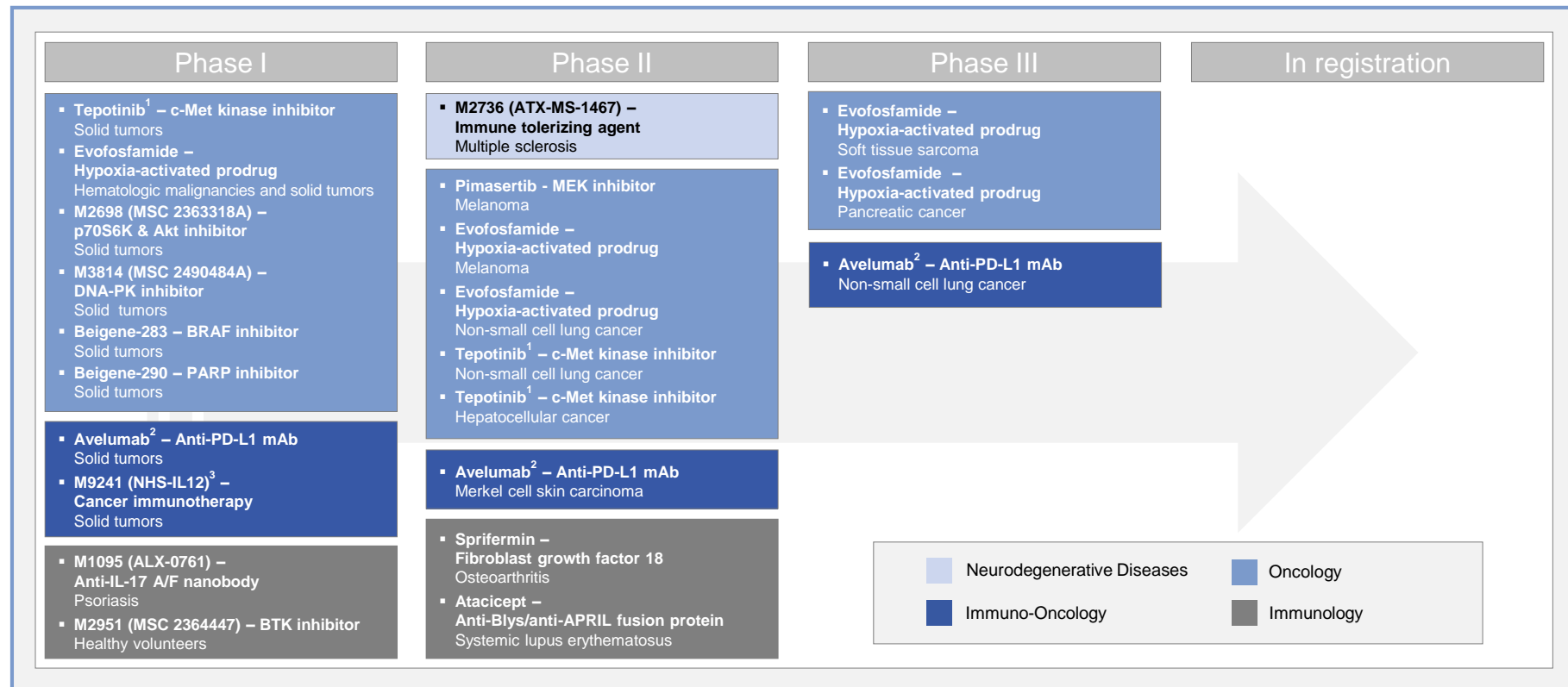
Oncology & Immunology innovation portfolio



- High reward at high risk
- Innovation key success factor – high R&D spend
- Promising pipeline projects



Mid-term, all parts of the portfolio need to earn their cost of capital



Pipeline as of 31 July, 2015; ¹Tepotinib is the proposed International Nonproprietary Name (INN) for the c-Met kinase inhibitor (MSC 2156119J); ²Avelumab = proposed International Non-proprietary Name (INN), formerly referred to as anti-PD-L1 mAb (MSB0010718C); ³Sponsored by the National Cancer Institute (USA)

Appendix

Guidance details

Sigma acquisition & pharma update

Financial details

H1 2015: Overview

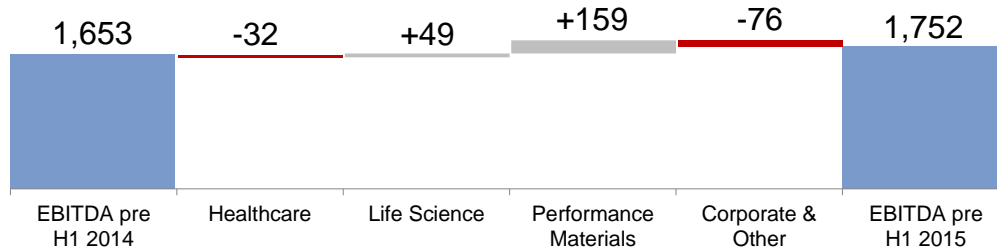
[€ m]	H1 2014	H1 2015	Δ
Sales	5,443	6,261	15.0%
EBITDA pre	1,653	1,752	6.0%
<i>Margin (% of sales)</i>	<i>30.4%</i>	<i>28.0%</i>	
EPS pre [€]	2.32	2.43	4.7%
Operating cash flow	838	605	-27.8%
[€ m]	Dec 31, 2014	June 30, 2015	Δ
Net financial debt	559	-567	n.m.
Working capital	2,356	2,527	7.2%
Employees	39,639	40,192	1.4%

H1 2015
<ul style="list-style-type: none"> ▪ Sales increase mainly driven by FX, AZ and organic performance ▪ EBITDA pre increases, while margin softens due to royalty loss, Rebif decline, higher R&D spending ▪ Operating cash flow burdened by higher tax and interest payments ▪ Net cash position driven by operating cash flow and cash-in from realization of Sigma hedging instrument ▪ Working capital increase mainly attributable to organic growth and FX

Top-line growth driven by FX, AZ and organic performance of Life Science

H1 2015 YoY net sales	Organic	Currency	Portfolio	Total
Healthcare	0.9%	7.5%	0.0%	8.4%
Life Science	4.8%	10.5%	-0.4%	14.9%
Performance Materials	0.5%	15.9%	22.4%	38.8%
Group	1.8%	9.6%	3.6%	15.0%

H1 YoY EBITDA pre contributors [€ m]



- Rebif and Erbitux declines are more than offset by other franchises driving organic stability of Healthcare
- Life Science benefits from ongoing biopharma demand
- Performance Materials driven by FX tailwinds, AZ and LC volume growth
- Healthcare affected by Humira royalty loss, Rebif decline and higher R&D costs
- Increase in Life Science softened by significant USD cost base
- Performance Materials contains FX benefits and AZ
- Hedging losses reduce Corporate EBITDA pre

Reported EPS benefits from higher EBIT and change in financial result

[€ m]	Q2 2014	Q2 2015	Δ
EBIT	441	501	13.7%
Financial result	-50	-41	-18.7%
Profit before tax	391	461	17.9%
Income tax	-85	-115	35.3%
<i>Tax rate (%)</i>	<i>21.7%</i>	<i>24.9%</i>	
Net income	303	343	13.2%
EPS (€)	0.70	0.79	12.9%

Reported results

- EBIT increases driven by higher EBITDA pre and AZ inventory step-up last year
- Tax rate in line with guidance range of 23-25%

Totals may not add up due to rounding

Reported EPS stable despite Sigma financing costs

Merck KGaA
Darmstadt · Germany

[€ m]	H1 2014	H1 2015	Δ
EBIT	909	981	7.9%
Financial result	-85	-141	-66.5%
Profit before tax	824	840	1.9%
Income tax	-191	-209	9.4%
<i>Tax rate (%)</i>	23.2%	24.9%	
Net income	628	625	-0.5%
EPS (€)	1.45	1.44	-0.7%

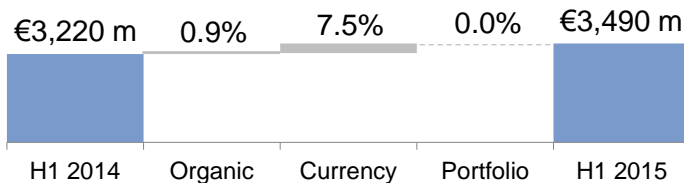
Reported results

- EBIT reflects increased EBITDA pre and higher exceptionals last year
- Financial result impacted by higher interest expenses (hybrid & USD bond)
- Tax rate in line with guidance range of 23-25%

Healthcare: Investments in future growth

[€ m]	H1 2014	H1 2015
Net sales	3,220	3,490
Marketing and selling	-1,269	-1,390
Admin	-121	-135
R&D	-620	-706
EBIT	549	536
EBITDA	951	910
EBITDA pre	973	941
<i>Margin (% of sales)</i>	<i>30.2%</i>	<i>27.0%</i>

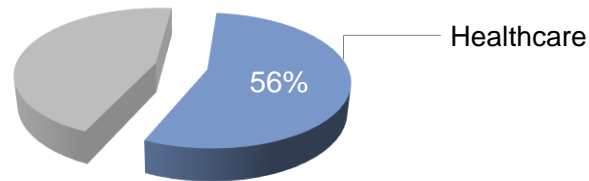
Net sales bridge



Comments

- Expected Rebif decline driven by volume losses in EU & U.S.
- Erbitux soft, mainly affected by tender phasing and mandatory EU pricing cuts as well as tough Q2 comparables
- General Medicine and Fertility remain key growth drivers
- Consumer Health with strong organic growth as new marketing concept fuels demand - especially for Neurobion in Latin America
- Investments in growth markets and FX drive higher M&S spending
- R&D reflects ramp-up of priority projects and earlier stage pipeline
- EBITDA pre and margin lower, as loss of Humira royalties, Rebif decline and investments in R&D outweigh currency tailwinds

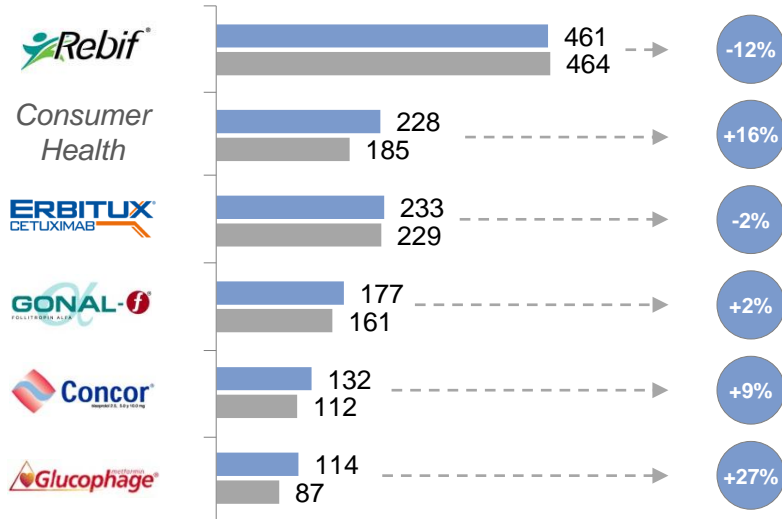
H1 2015 share of group net sales



Healthcare organic growth by franchise/product

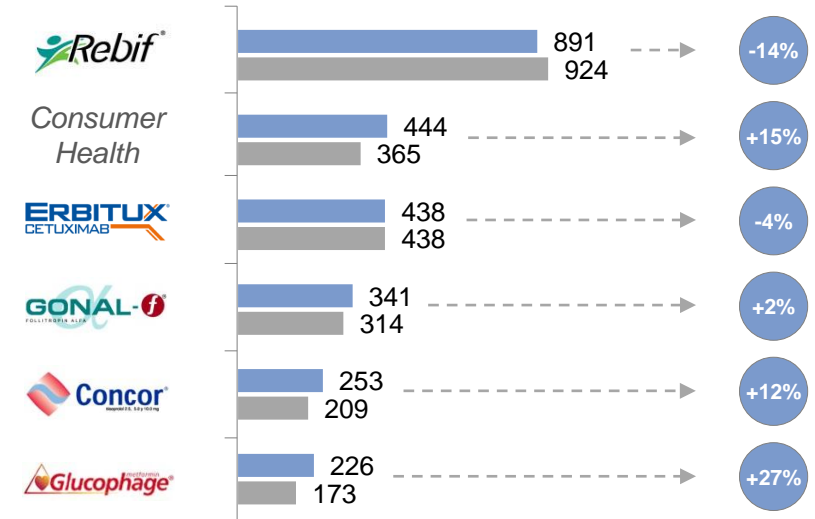
Merck KGaA
Darmstadt · Germany

Q2 2015 organic sales growth [%] by key products [€ m]



■ Q2 2015 ■ Q2 2014

H1 2015 organic sales growth [%] by key products [€ m]

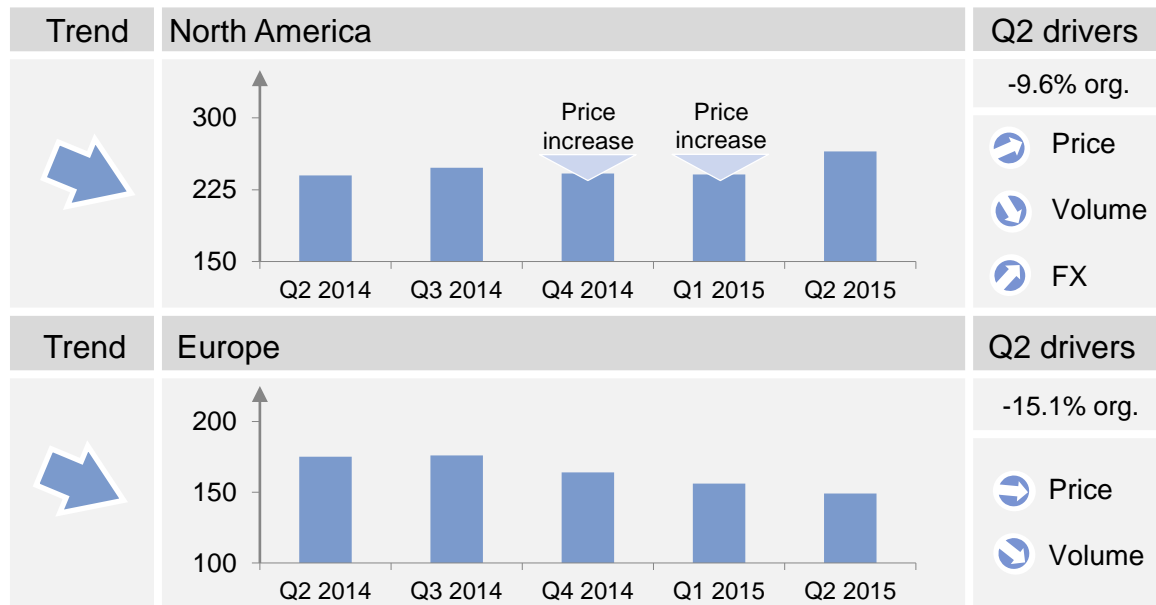


■ H1 2015 ■ H1 2014

Rebif: Defending the franchise – competitive pressure in the U.S. and Europe



- Regional sales evolution [€ m]

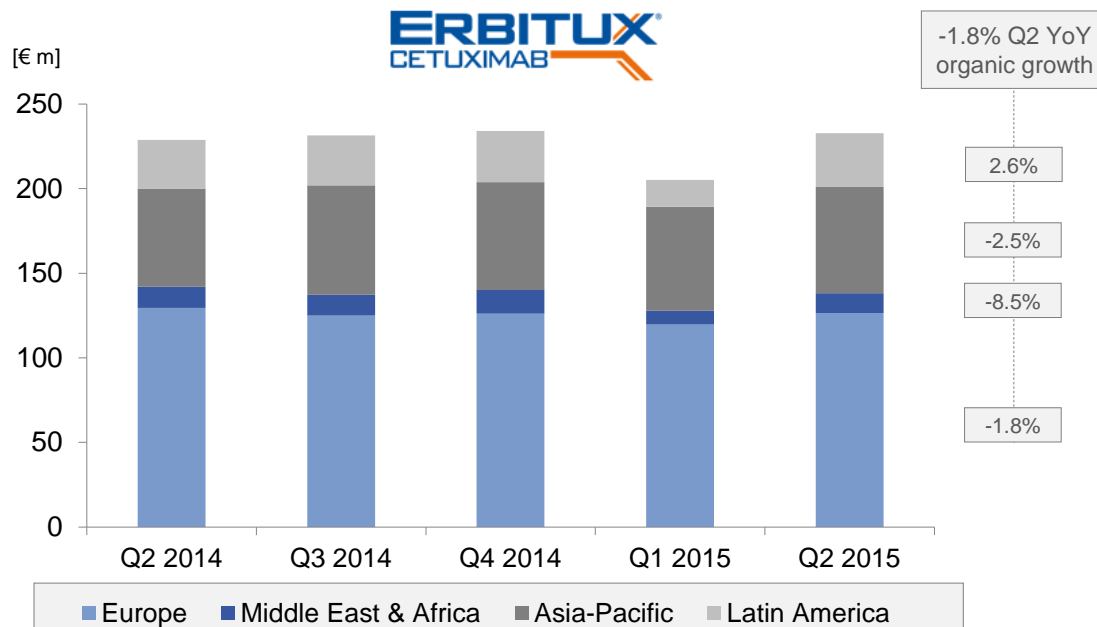


Rebif performance

- Rebif sales of €461 m in Q2 benefiting from FX tailwinds
- Organic decline of -12.0% due to lower volumes slightly mitigated by U.S. pricing
- Competition from orals main factor of U.S. and European volume decline
- Recent U.S. price increases supporting performance

Erbitux: Challenging market environment drives moderate performance amid tough base

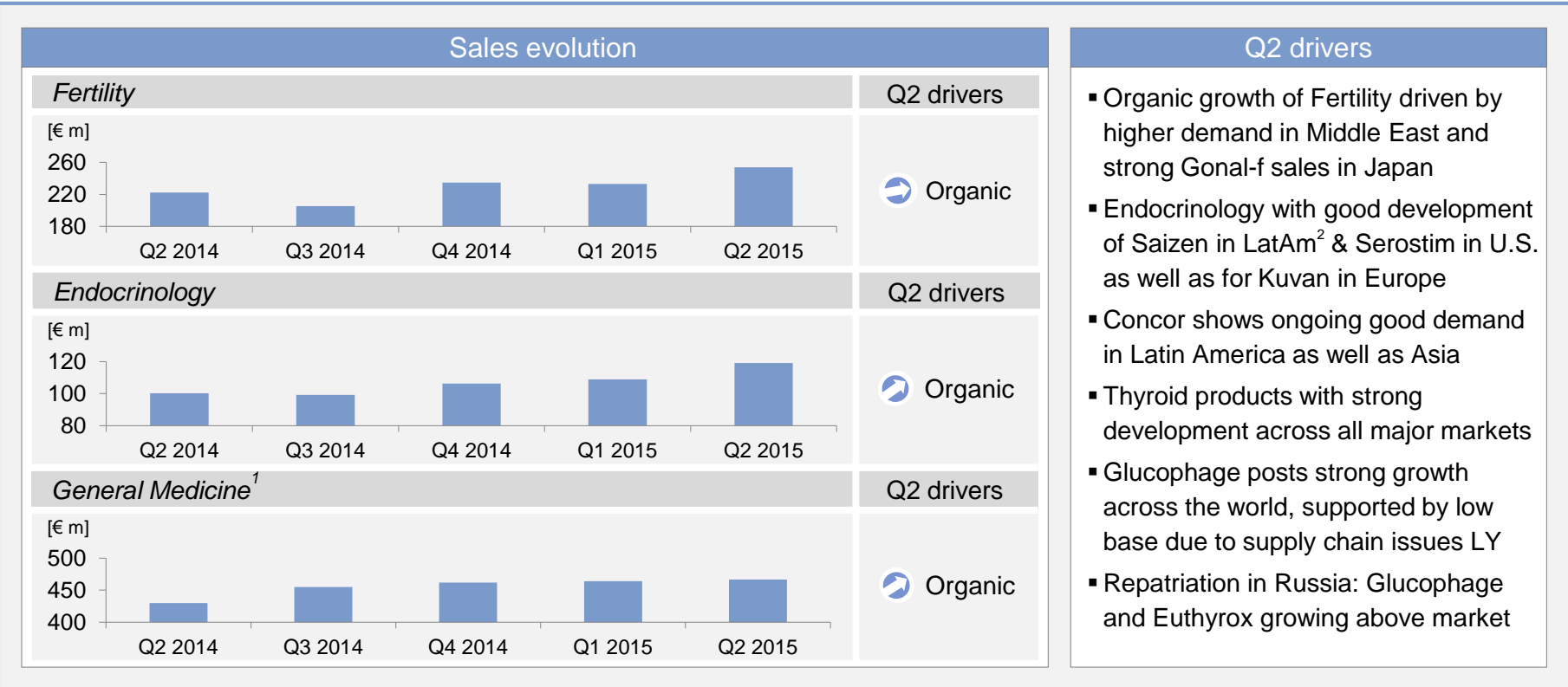
Erbitux sales by region



Erbitux performance

- Sales increase to €233 m as positive FX offsets moderate organic decline
- Ongoing price cuts in Europe (France and Turkey)
- Tender business partially picking up
- APAC decline mainly due to channel stock corrections in China, while in-market sales show healthy growth

Strong growth in General Medicine, Fertility and Endocrinology

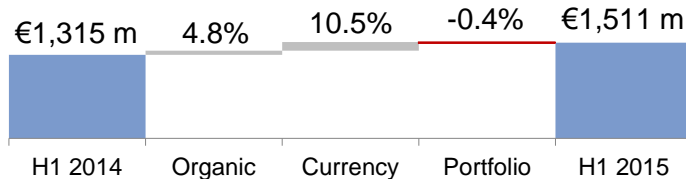


¹includes "Cardiometabolic Care & General Medicine and Others"; ²Latin America

Life Science: Sound organic performance fueled by ongoing demand for Process Solution products

[€ m]	H1 2014	H1 2015
Net sales	1,315	1,511
Marketing and selling	-415	-477
Admin	-54	-59
R&D	-78	-94
EBIT	162	170
EBITDA	314	334
EBITDA pre	335	384
<i>Margin (% of sales)</i>	<i>25.5%</i>	<i>25.4%</i>

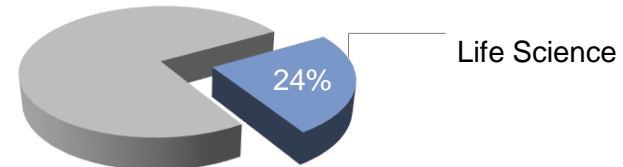
Net sales bridge



Comments

- Process Solutions drives divisional growth mainly due to strong demand from biopharma for single-use and purification products
- Lab Solutions with moderate organic growth especially in lab water consumables and biomonitoring
- Bioscience slightly negative as good development of protein detection is offset by softness for research content products
- Ongoing investments in R&D – several product launches in H1
- EBITDA pre benefits from FX tailwinds and organic growth, partially offset by investments in marketing and selling

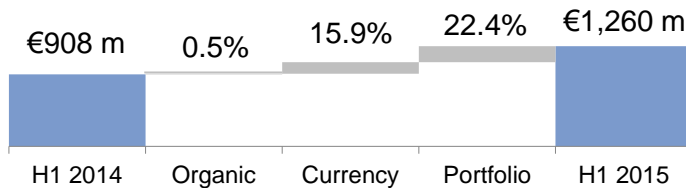
H1 2015 share of group net sales



Performance Materials: Healthy trends and strong currency tailwinds drive top-line growth

[€ m]	H1 2014	H1 2015
Net sales	908	1.260
Marketing and selling	-85	-99
Admin	-22	-32
R&D	-76	-95
EBIT	289	452
EBITDA	357	572
EBITDA pre	413	572
<i>Margin (% of sales)</i>	<i>45.5%</i>	<i>45.4%</i>

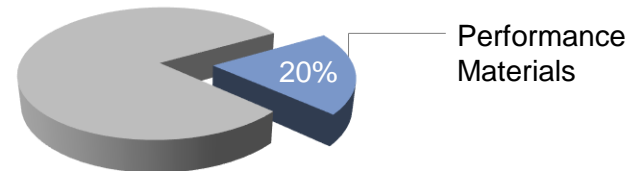
Net sales bridge



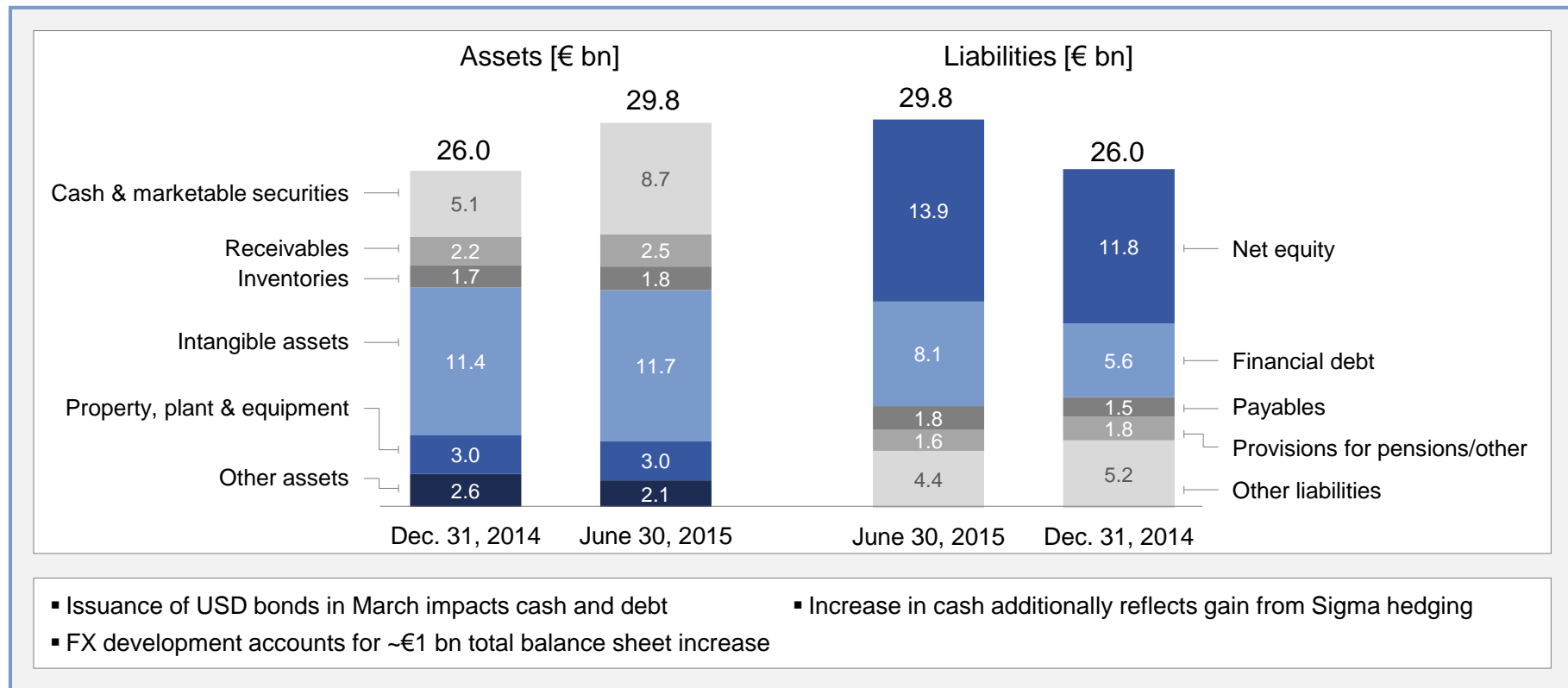
Comments

- Strong sales mainly reflect portfolio effect and FX tailwinds
- Liquid Crystals volume trends remain largest organic contributor
- Innovative UB-FFS mode main driver in LC*; ongoing demand for high-end TVs benefits flagship technologies (PS-VA & IPS)
- Pigments softer – lower volumes of Functional Materials more than offset good growth of automotive coatings (Xirallic)
- Integrated Circuits supports organic performance with sound volume development especially in dielectrics and silica business
- Significant EBITDA pre increase driven by AZ, currency tailwinds and positive product mix

H1 2015 share of group net sales



Balance sheet reflects Sigma financing measures



Totals may not add up due to rounding

Underlying operating cash flow remains solid

[€ m]	Q2 2014	Q2 2015	Δ
Profit after tax	306	346	40
D&A	326	343	17
Changes in provisions	-42	-70	-28
Changes in other assets/liabilities	-150	-270	-120
Other operating activities	-10	3	13
Changes in working capital	-1	-25	-24
Operating cash flow	429	326	-103
Investing cash flow	-1,233	1,860	3,093
thereof Capex on PPE	-85	-93	-8
Financing cash flow	-855	-174	682

Cash flow drivers

- Changes in provisions reflect payments for LY R&D terminations
- Changes in other assets/liabilities mainly attributable to higher tax and interest payments
- Investing cash flow contains cash-in from Sigma hedging; LY reflects purchase of AZ
- Financing cash flow Q2 2014 contains payment for outstanding AZ shares

Totals may not add up due to rounding

Operating cash flow burdened by tax payment for upfront payment from Pfizer

[€ m]	H1 2014	H1 2015	Δ
Profit after tax	633	631	-2
D&A	628	669	41
Changes in provisions	-89	20	109
Changes in other assets/liabilities	-182	-501	-319
Other operating activities	-4	-18	-13
Changes in working capital	-148	-197	-49
Operating cash flow	838	605	-233
Investing cash flow	-134	2,252	2,386
thereof Capex*	-142	-167	-25
Financing cash flow	-848	2,114	2,962

Cash flow drivers

- D&A increase due to AZ
- Changes in provisions reflect higher litigation provisions
- Higher tax payments and release of Pfizer accruals main drivers of changes in other assets/liabilities
- Changes in working capital driven by higher inventories due to increased business activity
- Investing cash flow contains cash-in from Sigma hedging instrument as well as sale of financial assets
- Financing cash flow includes U.S. dollar bonds and repayment of eurobond; LY reflects purchase of AZ

*Only PPE without intangibles
Totals may not add up due to rounding

Exceptionals in Q2 2015

Exceptionals in EBIT				
[€ m]	Q2 2014		Q2 2015	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	12	3	21	2
Life Science	15	0	30	0
Performance Materials	48	0	-3	0
Corporate & Other	5	0	9	0
Total	81	3	56	2

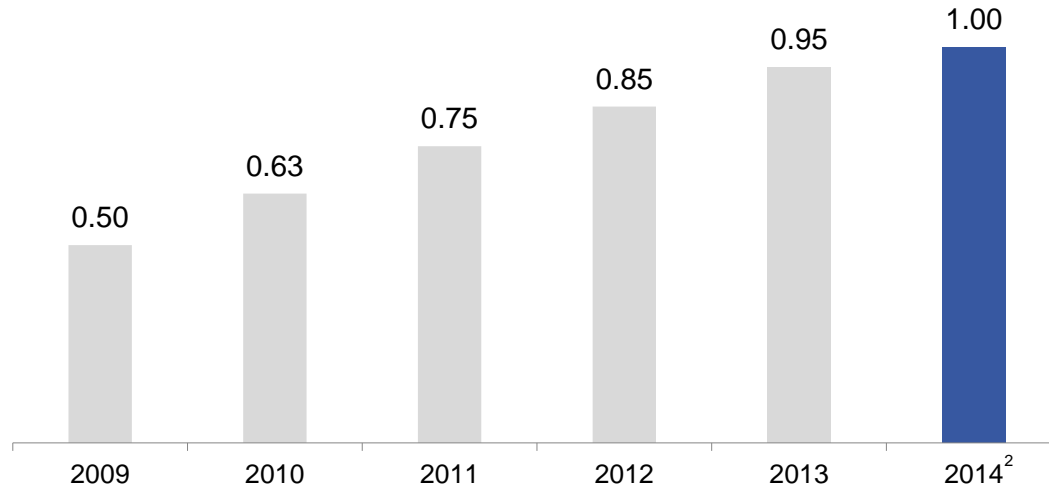
Totals may not add up due to rounding

Exceptionals in H1 2015

Exceptionals in EBIT				
[€ m]	H1 2014		H1 2015	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	26	4	32	2
Life Science	21	0	50	0
Performance Materials	56	0	0	0
Corporate & Other	16	0	21	0
Total	119	4	104	2

Totals may not add up due to rounding

Dividend¹ development 2009-2014²



2014 dividend and policy

- Dividend of €1 per share proposed¹ for 2014
- Dividend increase in line with earnings progression – 2014: +5.3% yoy
- Last years' dividend constitutes the minimum level³
- Aiming at corridor of 20-25% of EPS pre

¹Adjusted for share split, which has been effective since June 30, 2014; ²Proposal; final decision subject to Annual General Meeting approval; ³Assuming a stable economic environment

New allocation of royalty, license and commission income and expenses

2014 P&L structure

Sales

Royalty, license and commission income

Commission income

Royalty & license income

Revenues

Cost of Sales

Gross profit

Marketing & selling expenses

Royalty, license and commission expenses

Commission expenses

Royalty & license expenses

Administration expenses

Other operating expenses/income

Research & development expenses

EBIT

New 2015 P&L structure

Net sales

~~Royalty, license and commission income~~

~~Commission income~~

~~Royalty & license income~~

Revenues

Cost of Sales

Gross profit

Marketing & selling expenses

~~Royalty, license and commission expenses~~

~~Commission expenses~~

~~Royalty & license expenses~~

Administration expenses

Other operating expenses/income

Research & development expenses

EBIT

Date	Event
November 12, 2015	Q3 2015 Earnings release
March 8, 2016	Q4 2015 Earnings release
April 29, 2016	Annual General Meeting
May 19, 2016	Q1 2016 Earnings release



Investor Relations contact details

Merck KGaA
Darmstadt · Germany



Constantin Fest
Head of Investor Relations
+49 6151 72-5271
constantin.fest@emdgroup.com



Alessandra Heinz
Assistant Investor Relations
+49 6151 72-3321
alessandra.heinz@emdgroup.com



Annett Weber
Institutional Investors / Analysts
+49 6151 72-63723 annett.weber@emdgroup.com



Svenja Bundschuh
Assistant Investor Relations
+49 6151 72-3744
svenja.bundschuh@emdgroup.com



Julia Schwientek
Institutional Investors / Analysts
+49 6151 72-7434
julia.schwientek@emdgroup.com



Eva Sterzel
AGM, Capital Market Events, IR-Media
+49 6151 72-5355
eva.sterzel@emdgroup.com



Olliver Lettau
Institutional Investors / Analysts
+49 6151 72-34409
olliver.lettau@emdgroup.com

Email: investor.relations@emdgroup.com Web: www.emdgroup.com/investors Fax: +49 6151 72-913321