



# Q3 2015 ROADSHOW

Investor Relations

November 2015



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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.

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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”).

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# Agenda

- 01 Business overview**
- 02 Transforming the company**
- 03 Financial review**
- 04 Guidance**



01

## **BUSINESS OVERVIEW**

## Portfolio of three high-tech businesses



**Leading in specialty  
pharma markets**

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



**Leading life science  
company**

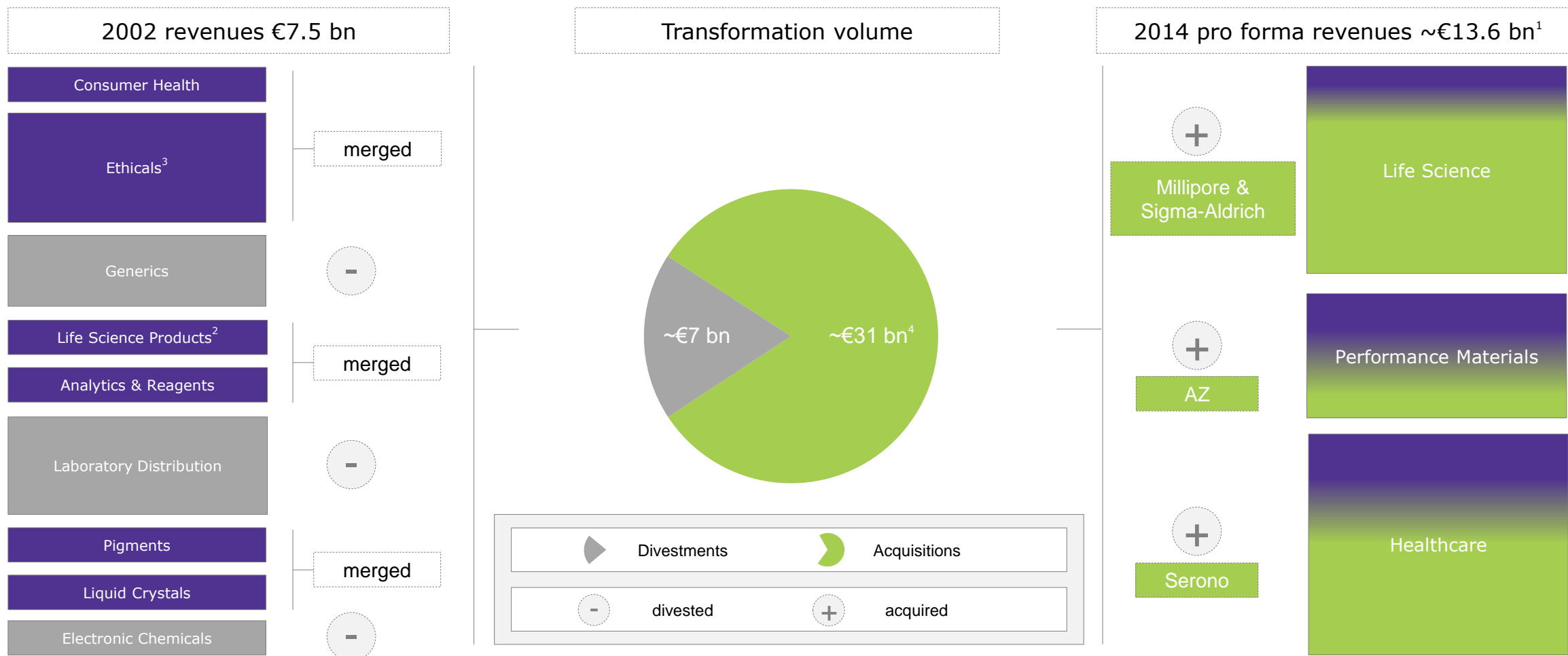
- Consumables & equipment for biotech research & production
- Tools and laboratory supply for the life science industry



**Market leader in  
display materials**

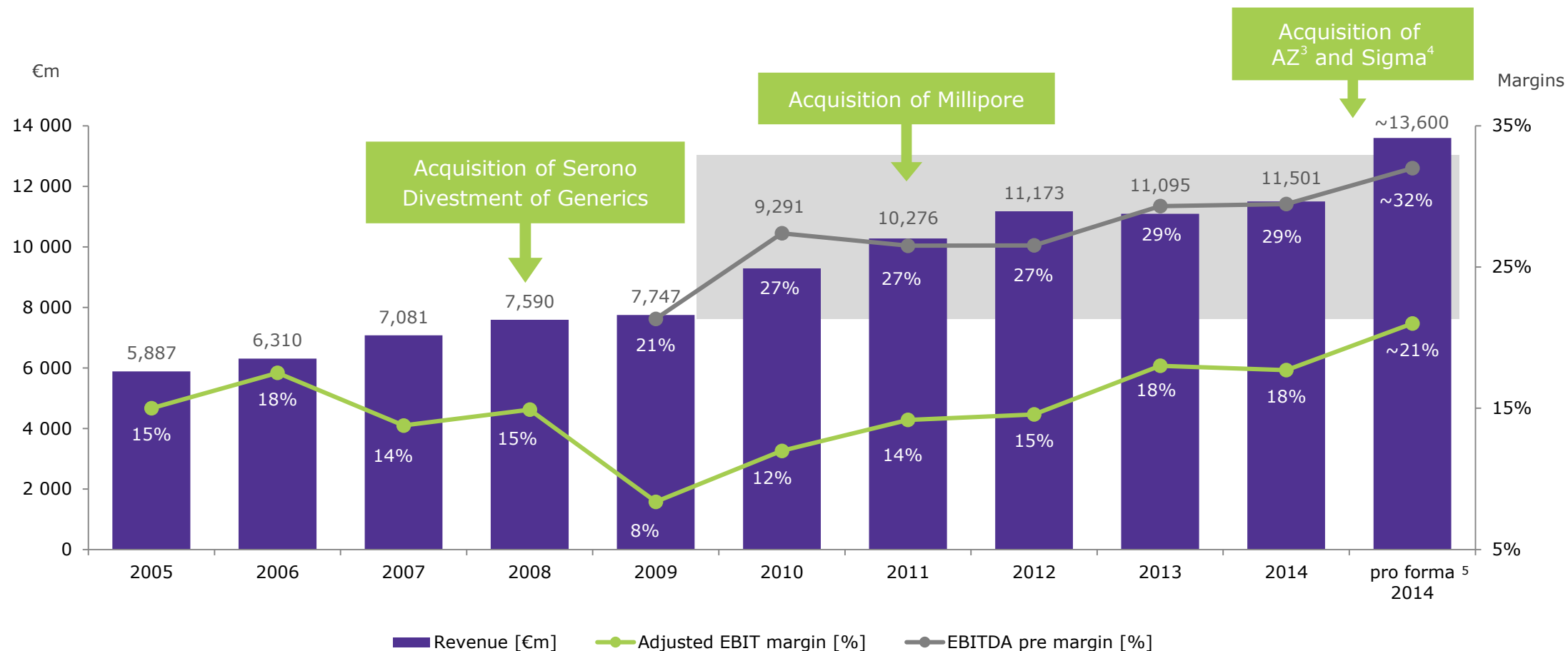
- Customer intimacy
- Innovation power
- Cost and technology leadership

# We have added scale while strengthening the attractiveness of our portfolio



<sup>1</sup>Including sales contribution from AZ Electronic Materials acquired as of 2 May 2014; <sup>2</sup>Excluding "Crop Bioscience", which was divested; <sup>3</sup>Excluding "Theramex", which was divested; <sup>4</sup>Including ~€13 bn for Sigma-Aldrich as communicated on September 22, 2014

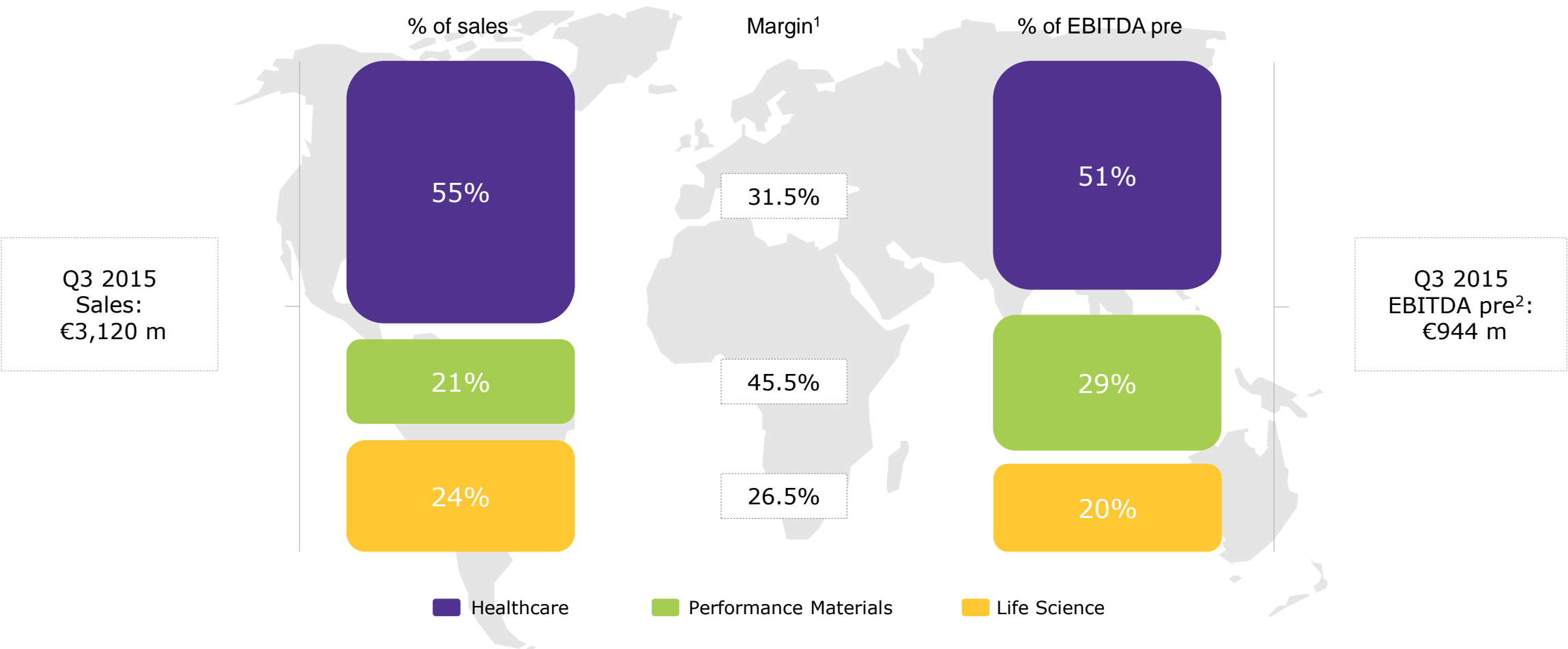
# Profitability improved fundamentally



<sup>1</sup> Adjusted EBIT<sup>2</sup> and EBITDA pre divided by total revenues; <sup>2</sup> Adjusted EBIT is EBIT less exceptional items (e.g. impairments, integration costs, restructuring costs);  
<sup>3</sup> Included since May 2, 2014; <sup>4</sup> Included from November 18, 2015 onwards; <sup>5</sup> Pro-forma calculation for 2014 includes Sigma-Aldrich based on 2014 reported figures at EUR/USD 1,3288; margins based on 100% expected synergies of €260m



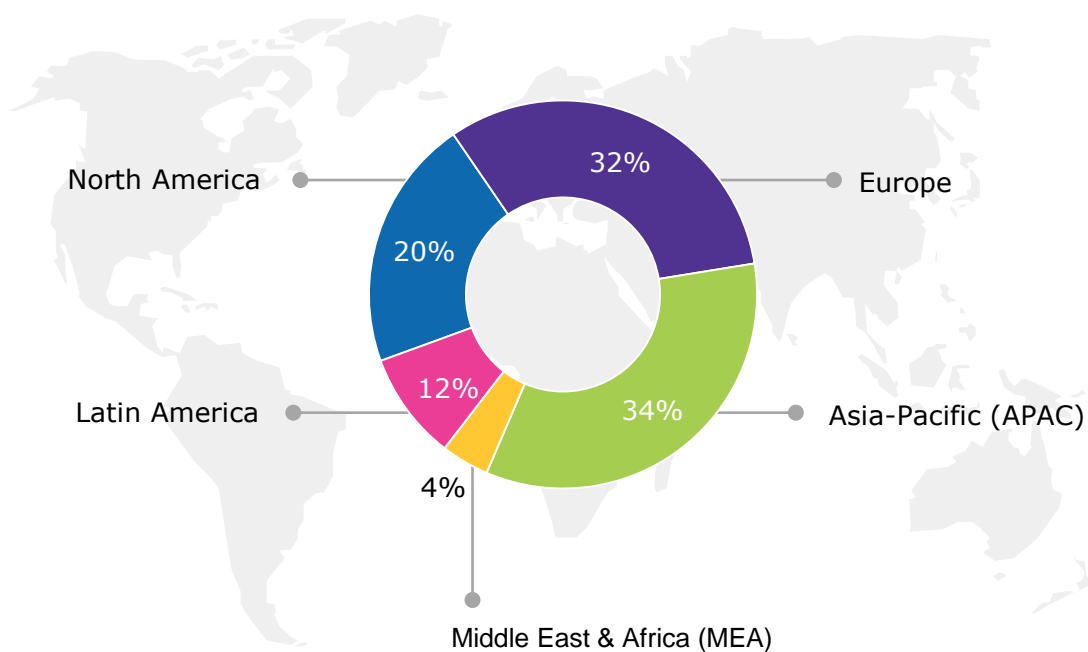
# Strong businesses with attractive margins



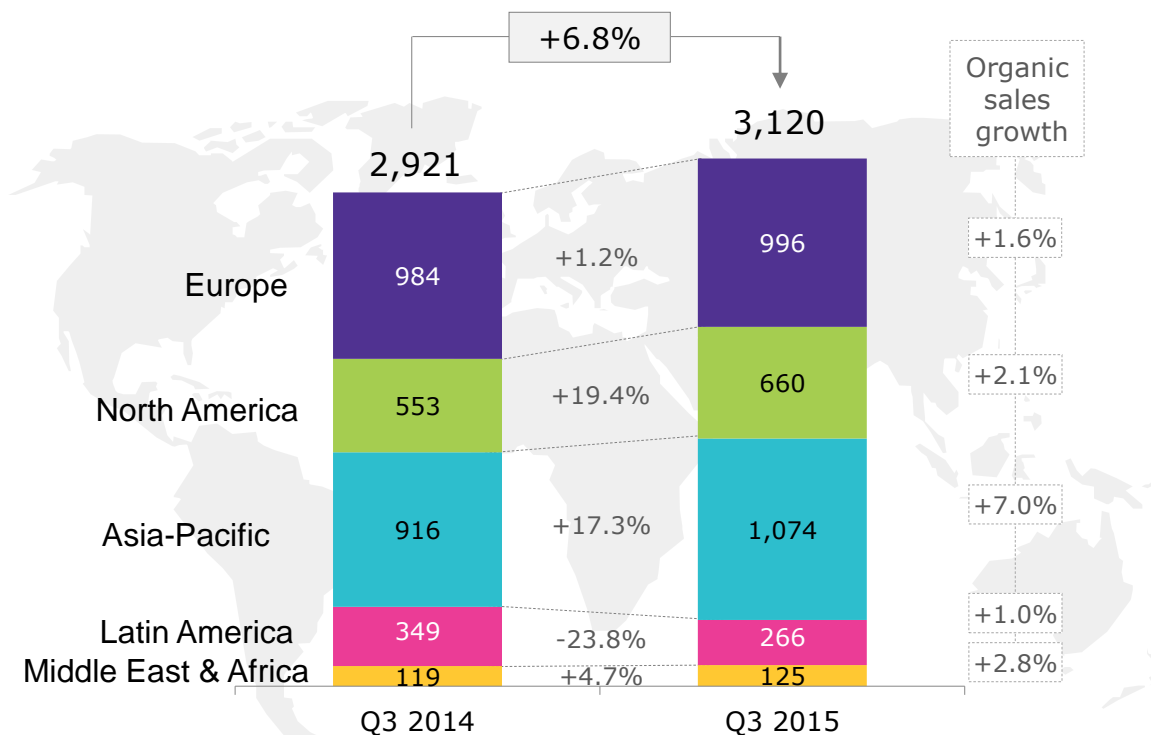
All figures as reported, excluding Sigma-Aldrich; ¹EBITDA pre margin in % of net sales; ²Including Corporate/Others (-€92 m)

# All regions contribute to organic growth – strong growth momentum in China

Group Q3 2015 net sales by region



Regional development of Q3 2015 net sales [€ m]

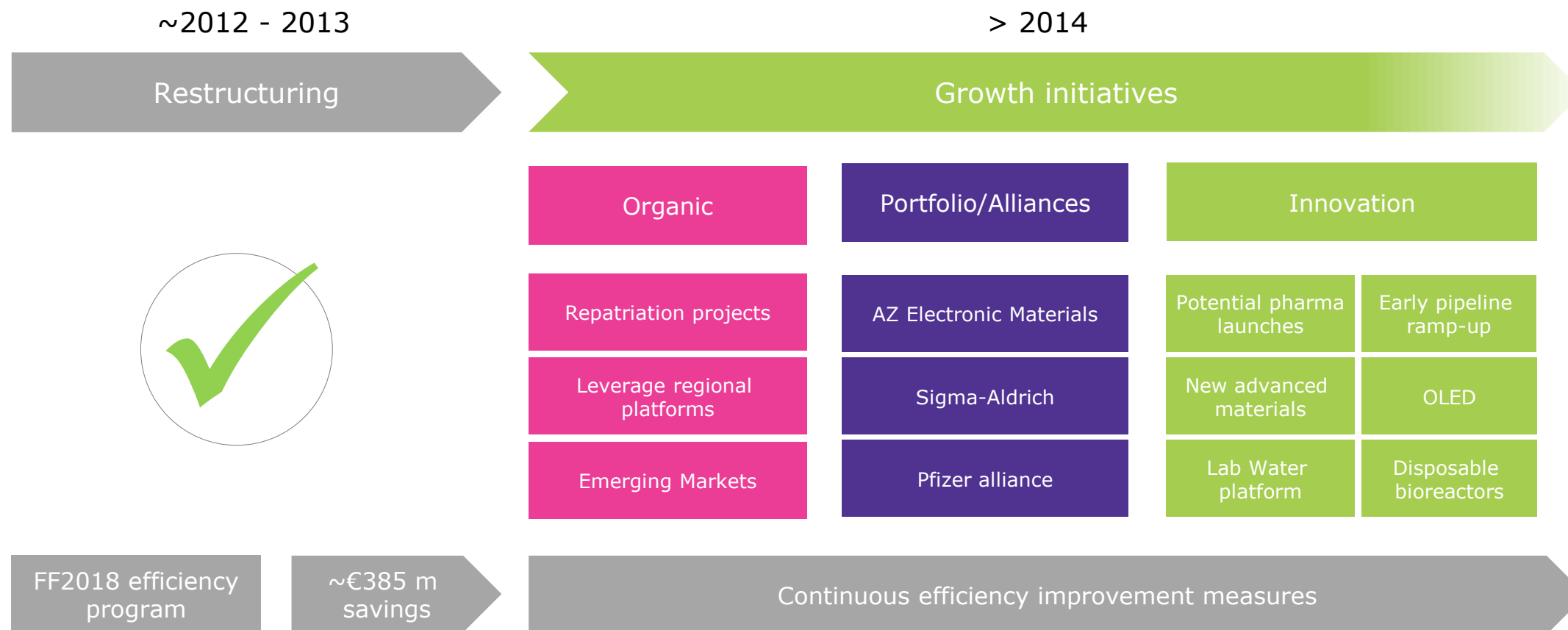




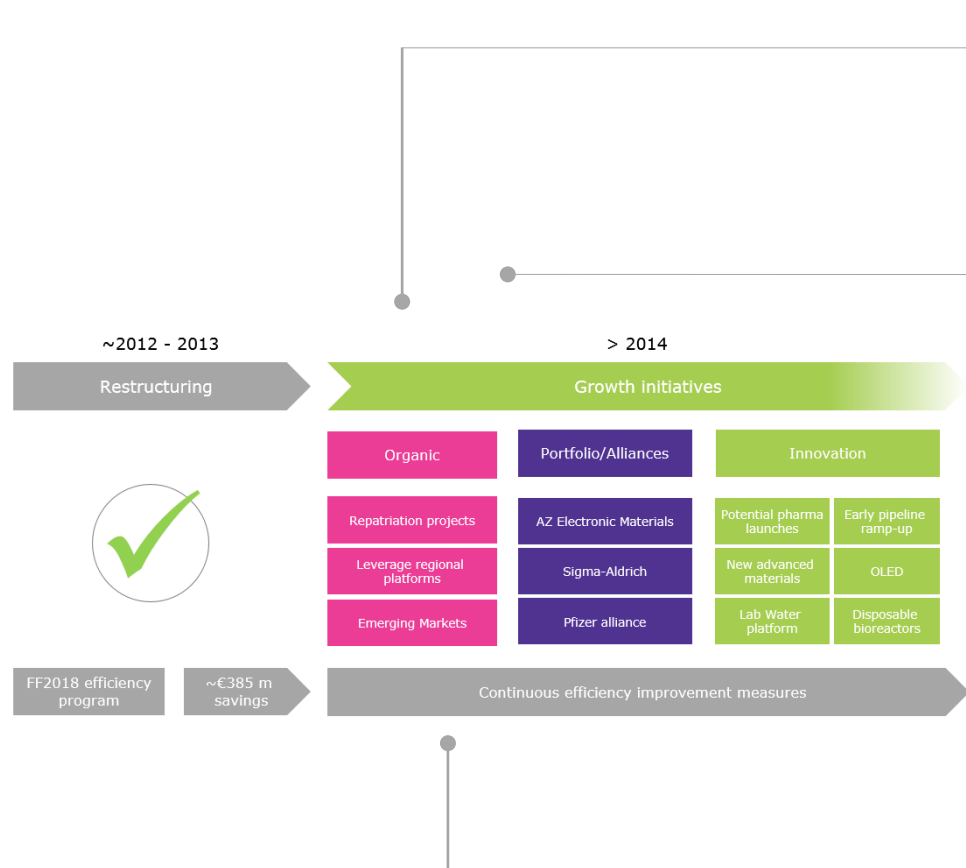
02

## TRANSFORMING THE COMPANY

# Strategic agenda 2018 – milestones achieved



# Strategic agenda 2018 – milestones achieved



## Repatriation projects:

- Glucophage and Euthyrox from Takeda in Russia
- Co-promotion agreement with BMS<sup>1</sup> 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 GM<sup>2</sup> 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
- Sigma acquisition – closing on November 18, 2015
- Strategic alliance with Pfizer in immuno-oncology progressing

## Innovation:

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

**Strategic rationale**

- ▶ Broad and complementary product fit in attractive segments
- ▶ Expanding global reach and scale
- ▶ Leveraging operational excellence to deliver superior value to customers

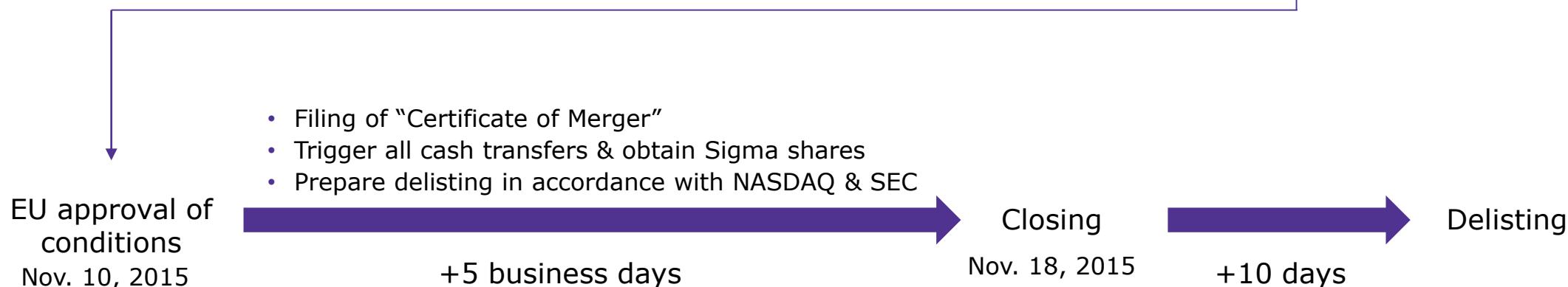
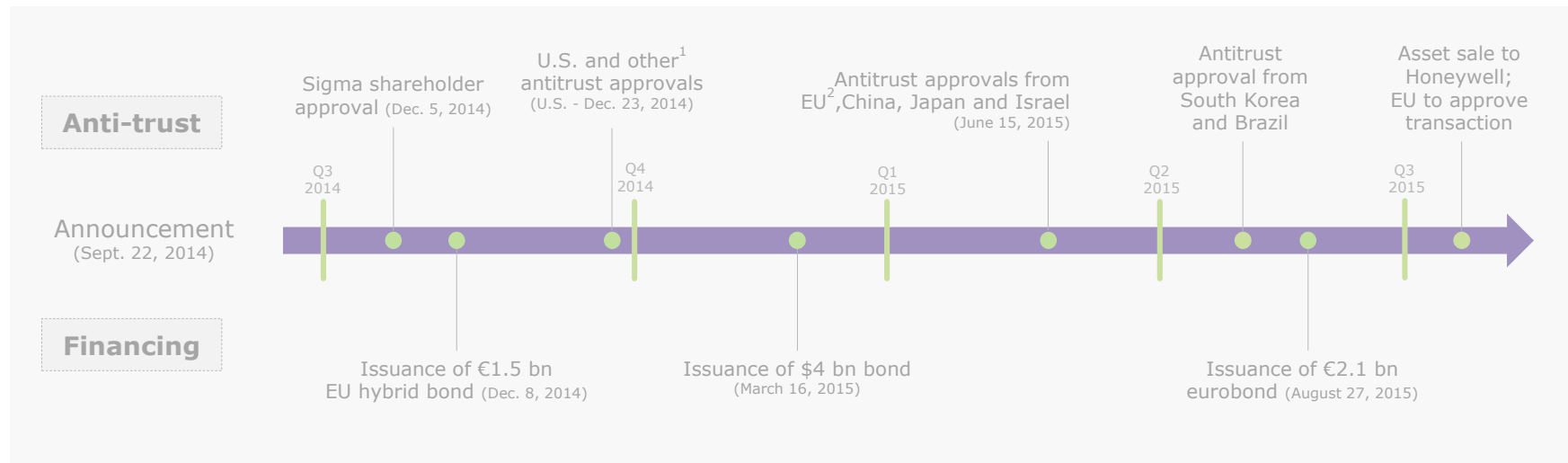
**Integration**

- ▶ New organizational structure designed (Applied, Research and Process Solutions)
- ▶ Top 2 management levels already appointed
- ▶ Focus on seamless integration for customers and the organization

**Financials**

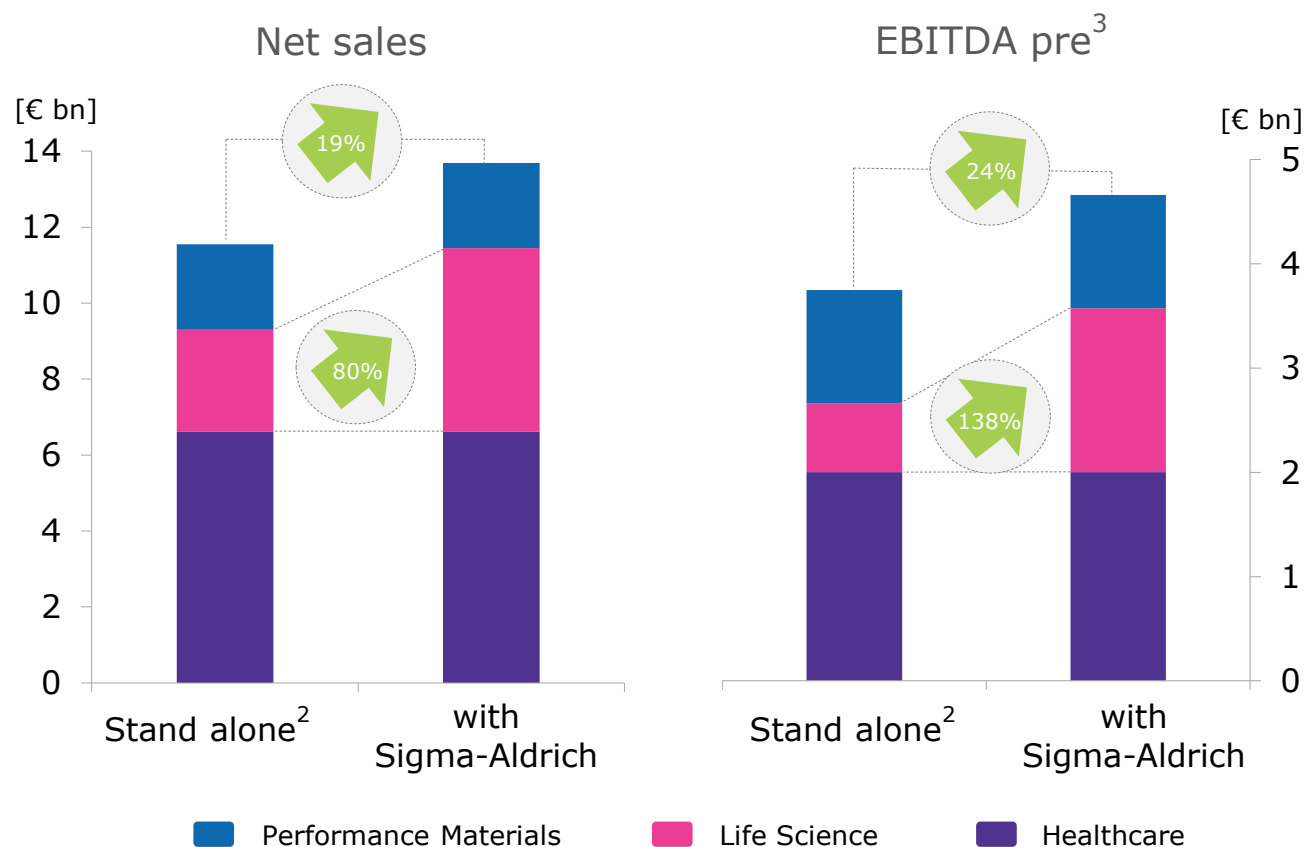
- ▶ Confirming synergies of €260 m p.a., realized by the third full year after closing
- ▶ Sigma to be consolidated for 43 days in 2015

# Sigma-Aldrich – timeline update



# Transaction enhances financial profile

## Pro-forma 2014<sup>1</sup>



## Pro-forma financial impacts

- Group sales<sup>1</sup> increase by ~19%
- Group EBITDA pre<sup>3</sup> rises by ~24% with margin<sup>4</sup> expansion from ~30% to ~33%
- Synergies: ~€260m p.a. fully implemented in 3<sup>rd</sup> full year after closing
- Expected PPA impact: Mid triple-digit €m p.a.
- Immediately EPS pre accretive

<sup>1</sup>Pro-forma calculation based on published sales for FY 2014 for Merck KGaA, Darmstadt, Germany (including pro-forma AZ Electronic Materials) and Sigma-Aldrich;

<sup>2</sup>Pro-forma calculation based on published sales for FY 2014 for Merck KGaA, Darmstadt, Germany (including pro-forma AZ Electronic Materials); <sup>3</sup>Pro-forma calculation based on 100% expected synergies; excluding Corporate & Other; <sup>4</sup>Including Corporate & Other



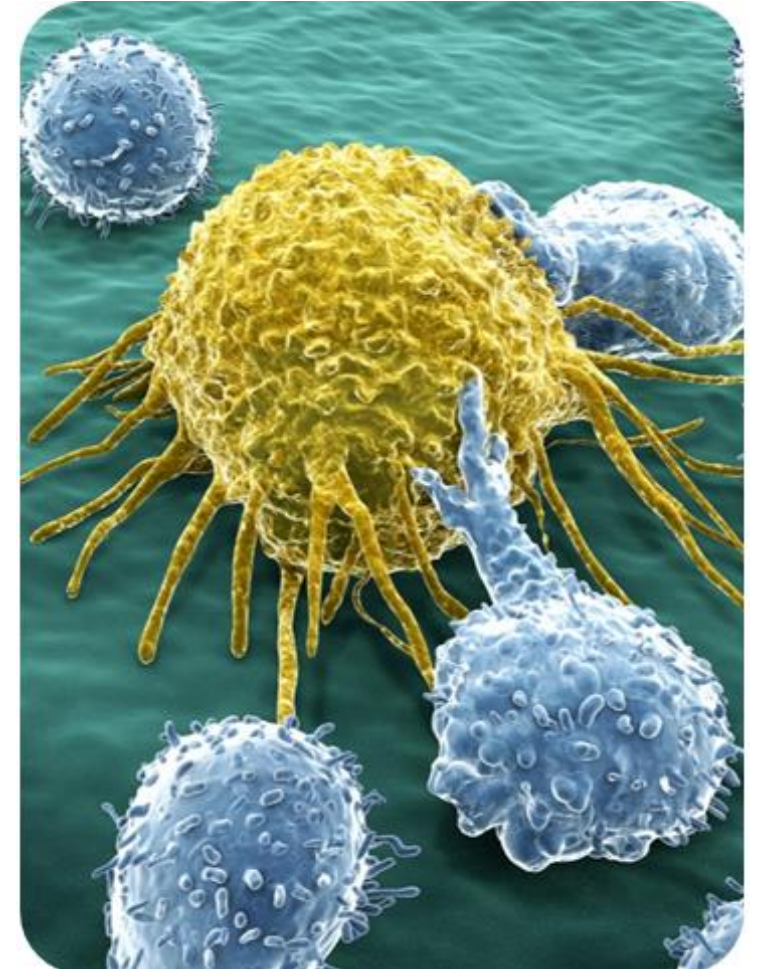
# Avelumab – milestones and next steps

## Key milestones so far

- Development pipeline progressing rapidly; large range of potential combination candidates
- Orphan drug designation for MCC received in September 2015
- Preclinical testing on multiple combinations under way for completion by end-2015
- >1,000 patients treated as part of multicenter, dose-escalation and parallel-group dose-expansion phase I trial Promising clinical activity in several indications
- Promising clinical activity in several indications

## Next steps

- 2 registration trials under way, up to 5 additional Phase III studies to start by December 2015
- New trials include monotherapy or combination trials for NSCLC 1L, Ovarian, Gastric, Merkel Cell and other solid tumors
- Enrolment of ~ 1,500 patients expected for 2015 and >3,000 by 2016
- First potential commercial launch of avelumab in 2017; working toward at least one additional potential launch per year through 2022



# Avelumab – Differentiation strategy varies according to chosen target indication and market

1

**Unsaturated  
and / or niche  
indications**



## Ambition: Smart leader

- Indications (Merkel cell) or markets (Asia for gastric)
- Quick to market strategy, e.g. ODD for MCC in September 2015
- Small, but unchallenged sales potential with notable impact for us
- Our strategic strength in niche markets

2

**Saturated  
and / or major  
indications**

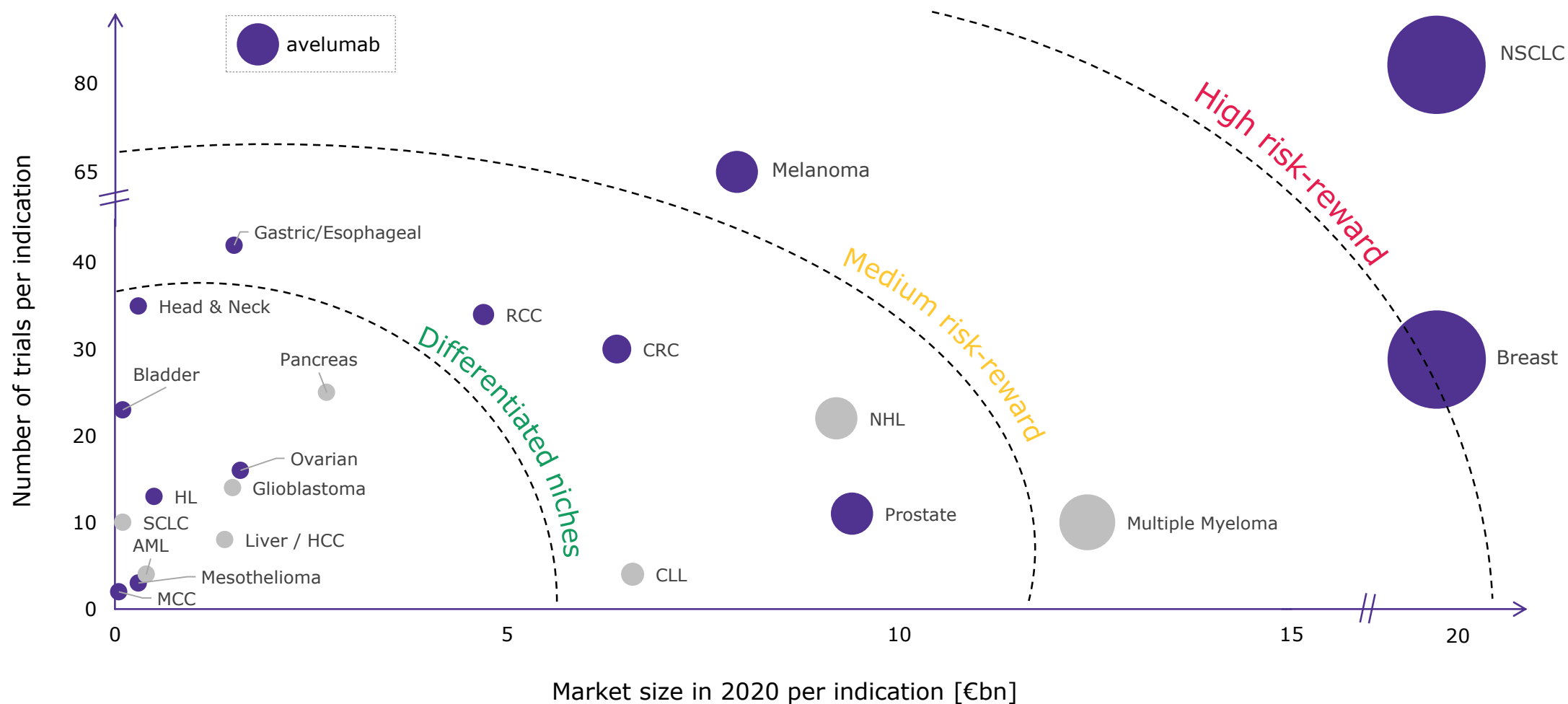


## Ambition: Smart follower

- Indications such as NSCLC or Bladder
- Learn from experience of incumbents / early movers
- Differentiate in trial design and use of biomarkers
- Potential for combinations given breadth of our and Pfizer's pipelines, e.g. Lung / Xalkori



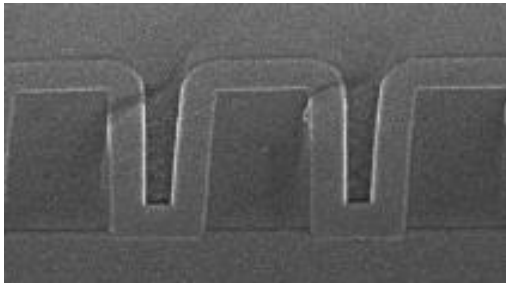
# Avelumab plays predominantly in attractive and differentiated niches



Sources: Trialtrave and Cortellis as of September 2015, Boston Consulting Group, Evaluate Pharma forecast 2020  
 Acronyms: SCLC = Small Cell Lung Cancer; HL = Hodgkins Lymphoma; NHL = Non Hodgkins Lymphoma; AML = Acute Myeloid Leukaemia

# Integrated Circuit Materials – enabling solutions for the semiconductor market and adjacent industries

## Dielectric Materials



- Spin-on silicon-based materials forming electrical insulation layers inside the microchips, displacing chemical vapor deposition (Spinfil®)

## Lithography Materials



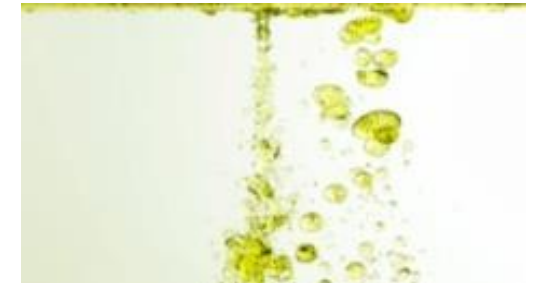
- Diverse portfolio of bespoke materials that improve resolution and performance and reduce costs in the IC lithography process

## Silica Materials



- Colloidal silica used in chemical mechanical planarization (CMP), substrate polishing and industrial applications (Klebosol®)

## IC Process Materials



- Removers, developers and other solvents as well as polyimide raw materials

# We have a strong position and will benefit further from complex technological advances and underlying market trends

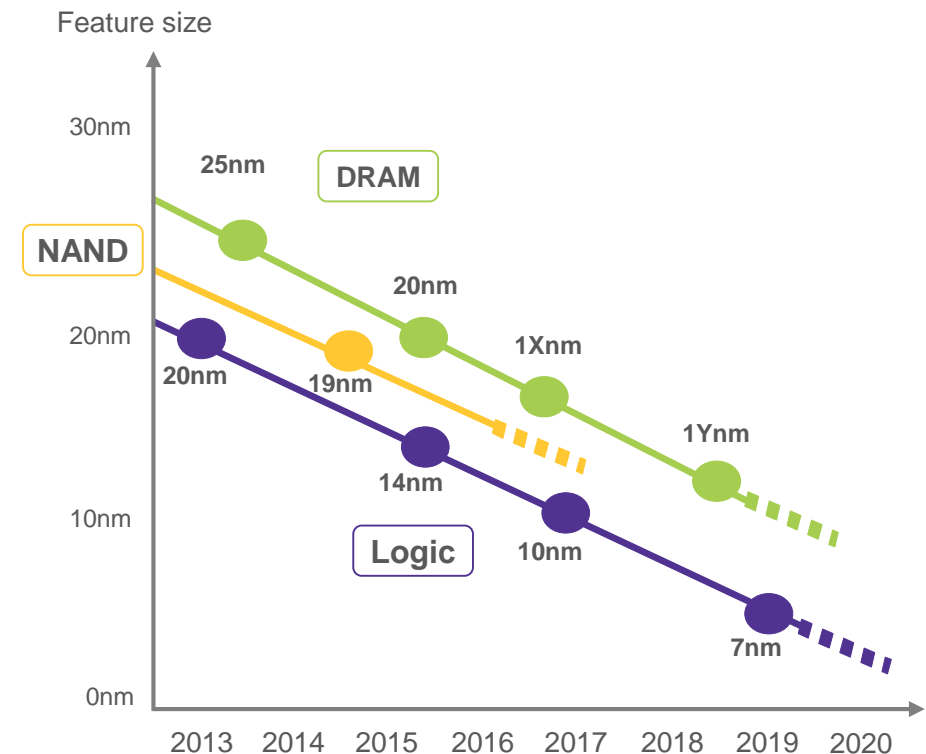
## Market drivers and technological trends

- **Miniaturization:** Devices are becoming smaller with better performance
  - Need for enabling materials to reduce size (Moore's law)
- **Mobility:** Everyone is continuously connected without direct power supply
  - More chips needed for local energy production
  - Energy storage → smaller batteries with higher density
- **Internet of Things:** Everything is continuously connected
  - More gadgets and devices that include chips
  - Increasing amount of communication and sensor chips
- **Big Data:** Increasing need for intelligent data storage
  - Switch from hard disk drives (HDD) to solid state drives (SSD)

## Selected competitors

- Tokyo Ohka Kogyo
- Nissan Chemicals
- Dow Electronic Materials
- JSR

## Feature sizes develop as predicted by Moore's law





02

## FINANCIAL REVIEW

## Q3 2015 overview

### Q3 2015 – key figures

[€m]	Q3 2014	Q3 2015	Δ
Net sales	2,921	<b>3,120</b>	6.8%
EBITDA pre	857	<b>944</b>	10.2%
Margin (in % of net sales)	29.3%	30.3%	
EPS pre	1.15	<b>1.32</b>	14.8%
Operating cash flow	726	<b>872</b>	20.1%

[€m]	Dec. 31, 2014	Sept. 30, 2015	Δ
Net debt	559	<b>-1,304</b>	n.m.
Working capital	2,356	<b>2,614</b>	10.9%
Employees	39,639	<b>40,339</b>	1.8%

### Comments – Q3 2015

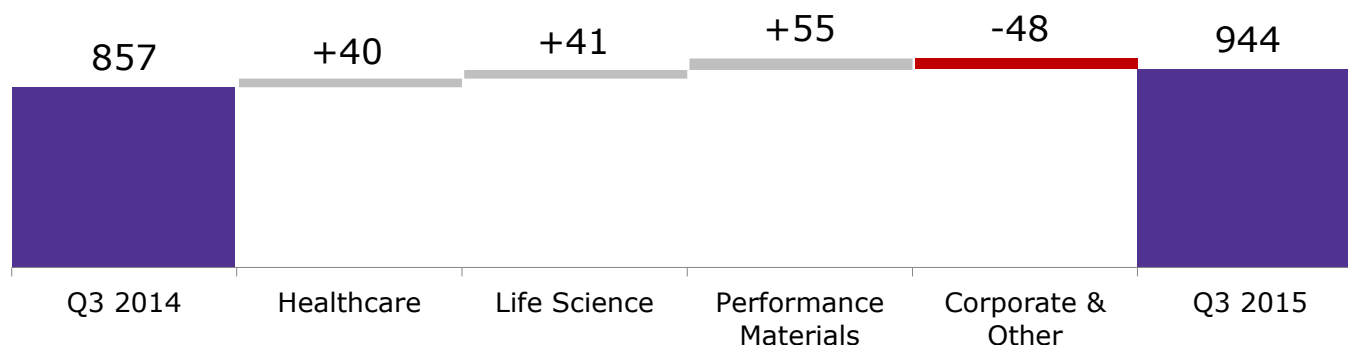
- EBITDA pre increase driven by good organic performance, release of R&D termination provision and FX
- EPS pre and operating cash flow increase mainly due to higher EBITDA pre
- Net cash position reflects strong track record of deleveraging

# Sales and EBITDA pre growth driven by all businesses

## Q3 2015 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	1.9%	<b>-0.5%</b>	0.0%	<b>1.4%</b>
Life Science	8.1%	<b>6.8%</b>	0.0%	<b>14.9%</b>
Performance Materials	2.2%	<b>11.2%</b>	0.0%	<b>13.4%</b>
Group	3.3%	<b>3.5%</b>	0.0%	<b>6.8%</b>

## Q3 YoY EBITDA pre contributors [€ m]



- Fertility and General Medicine more than offsetting Rebif decline
- Life Science benefits from strong performance of Process Solutions
- Performance Materials driven by FX tailwinds, LC and OLED volume growth
- Healthcare benefits from organic growth and release of R&D termination provision
- Life Science increase supported by strong organic performance
- Performance Materials reflects FX benefits and favorable LC product mix
- Hedging losses and branding initiative burden Corporate EBITDA pre

Acronyms: LC = liquid crystals, OLED = organic light emitting diode  
Totals may not add up due to rounding

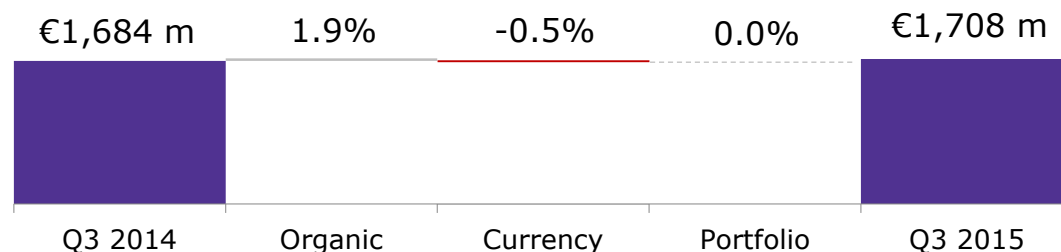


# Healthcare: Slight sales growth driven by Fertility and General Medicine

## Healthcare P&L

[€m]	Q3 2014	Q3 2015
Net sales	1,684	<b>1,708</b>
Marketing and selling	-625	<b>-683</b>
Administration	-62	<b>-60</b>
Research and development	-416	<b>-322</b>
EBIT	279	<b>349</b>
EBITDA	481	<b>538</b>
EBITDA pre	497	<b>537</b>
Margin (in % of net sales)	29.5%	<b>31.5%</b>

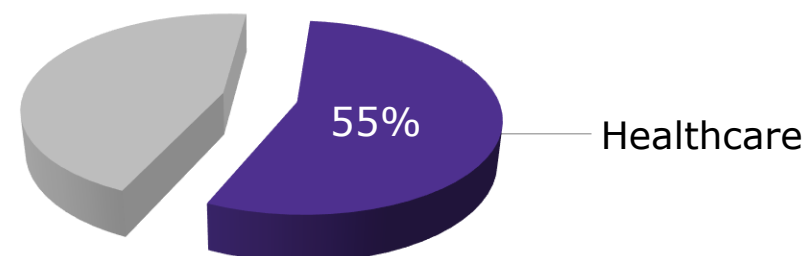
## Net sales bridge



## Comments

- Sales growth impacted by change of Venezuelan FX rate and softer Latin American currencies
- Rebif organically lower as volume decline mainly due to competition from orals is only partially offset by price increases in the U.S.
- Erbitux burdened by EU pricing and lower volumes in LatAm
- Fertility with strong growth mainly driven by demand from China
- General Medicine remains largest contributor to organic growth
- LY's R&D impacted by terminations; provision release in 2015 (€31 m)
- EBITDA pre expansion reflects organic growth & release of provision

## Q3 2015 share of group net sales

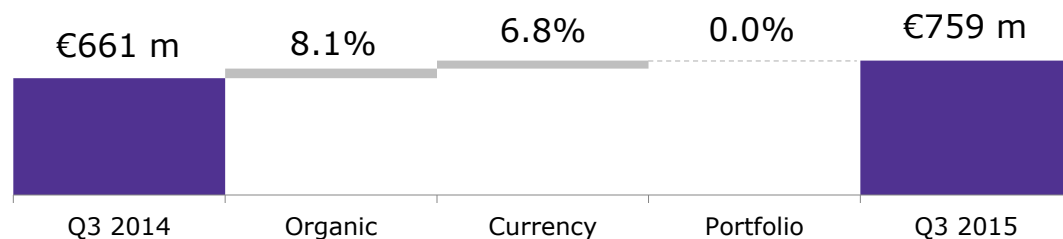


# Life Science: All businesses contribute to strong organic performance

## Life Science P&L

[€m]	Q3 2014	Q3 2015
Net sales	661	<b>759</b>
Marketing and selling	-209	<b>-238</b>
Administration	-26	<b>-30</b>
Research and development	-42	<b>-45</b>
EBIT	72	<b>97</b>
EBITDA	150	<b>180</b>
EBITDA pre	161	<b>201</b>
Margin (in % of net sales)	24.3%	<b>26.5%</b>

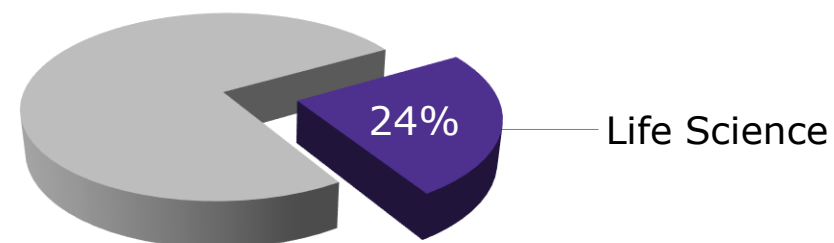
## Net sales bridge



## Comments

- Process Solutions remains main organic growth contributor driven by strong performance in single-use & virus filtration
- Solid organic growth in Lab Solutions led by U.S. and Europe especially in biomonitoring and lab water products
- Bioscience sees continued soft demand for reagents & antibodies offset by sound volumes of cell biology and cell culture systems
- Margin progression driven by organic performance, manufacturing efficiencies, favorable product mix and pricing

## Q3 2015 share of group net sales

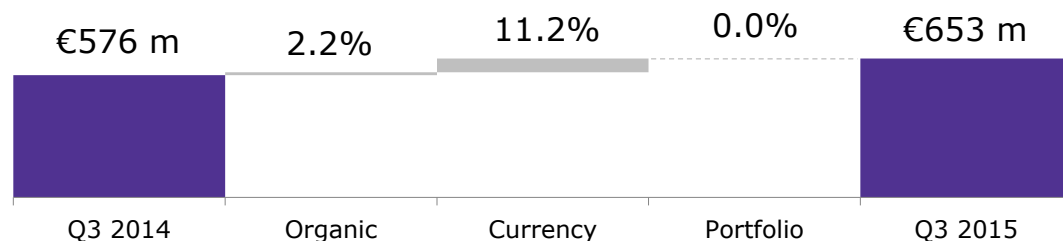


# Performance Materials: All businesses yield profitable growth

## Performance Materials P&L

[€m]	Q3 2014	Q3 2015
Net sales	576	<b>653</b>
Marketing and selling	-45	<b>-54</b>
Administration	-18	<b>-16</b>
Research and development	-46	<b>-50</b>
EBIT	152	<b>233</b>
EBITDA	218	<b>292</b>
EBITDA pre	243	<b>298</b>
Margin (in % of net sales)	42.2%	<b>45.5%</b>

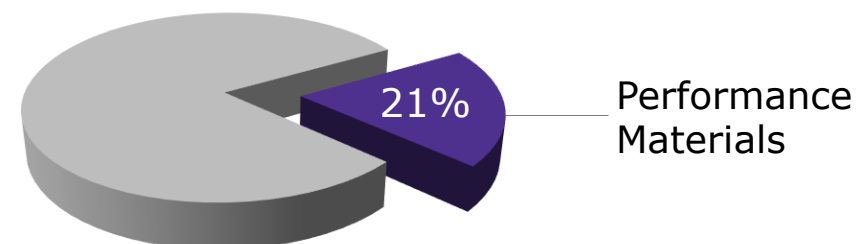
## Net sales bridge



## Comments

- Strong increase in sales reflecting FX tailwinds
- Further shift towards innovative liquid crystal technologies (esp. UB-FFS) supports volumes and profitability
- Display industry supply chain inventories remain at high level
- OLED and ICM\* support growth with sound volume development
- Pigments slightly growing
- Profitability at high level mainly driven by FX and favorable product mix

## Q3 2015 share of group net sales





04

## **GUIDANCE**

# Full-year 2015 guidance upgraded and updated for Sigma

Guidance for 2015, including Sigma-Aldrich for 43 days

▶ **Net sales:** ~ €12.6 – 12.8 bn  
thereof Sigma: ~ €300 m ◀

▶ **EBITDA pre:** ~ €3,580 – 3,650 m  
thereof Sigma: ~ €80 - 95 m ◀

▶ **EPS pre:** ~ €4.80 – 4.95  
thereof Sigma: ~ €0.10 – 0.15 ◀



## 2015 business sector guidance without Sigma-Aldrich



Net sales

Organically stable

EBITDA pre

~ €1.93 – 2.0 bn



Net sales

Solid organic growth

EBITDA pre

~ €0.76 – 0.78 bn



Net sales

Slight organic growth

EBITDA pre

~ €1.1 – 1.14 bn



# Appendix

- 01**    **Guidance Details**
- 02**    **Excursus: Integrated Circuit Materials**
- 03**    **Sigma acquisition**
- 04**    **Healthcare update**
- 05**    **Financial details**





01

## **GUIDANCE DETAILS**

# Additional financial guidance 2015

## Further financial details

Group royalty, license and commission income in 2015	~€300 m
Corporate & Other EBITDA pre	~ -€340 – -360 m
Underlying tax ratio	~23% to 25%
Capex on PPE	~€550 m
Hedging/USD assumption	<b>2015 &amp; 2016 hedge rate ~25-30% at EUR/USD ~1.19 to 1.24</b>
2015 Ø EUR/USD assumption	~1.10 – 1.15

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



## 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



## 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



## 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





02

## SIGMA ACQUISITION

# Sigma-Aldrich acquisition – a compelling transaction rationale

## 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

# Sigma-Aldrich – a leading life science consumables supplier

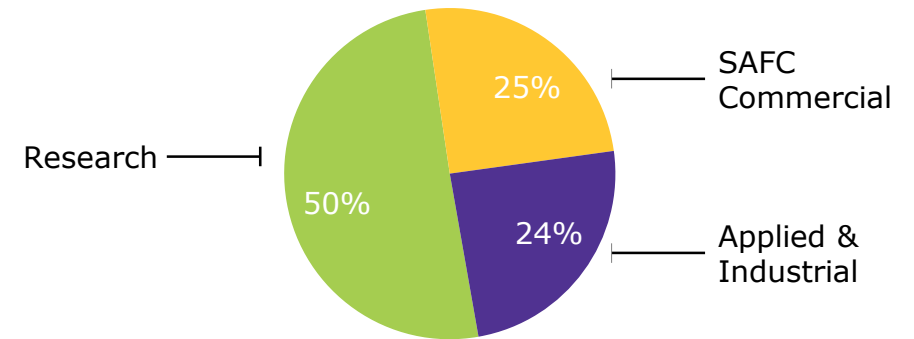
## Business

- Total revenues of \$2.8 billion in 2014
- ~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

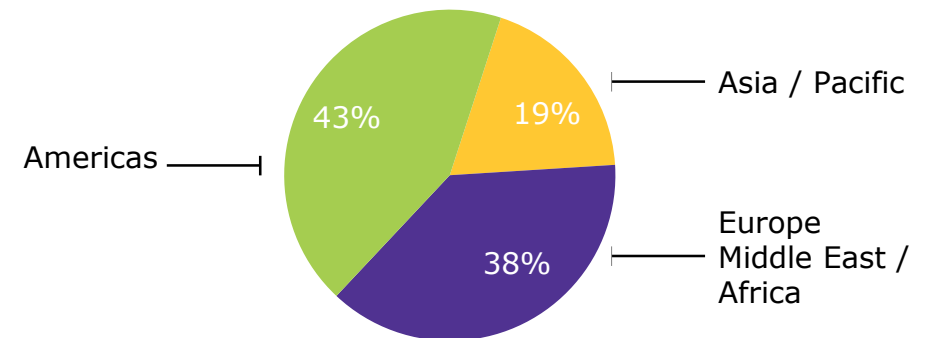
## Footprint

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

Sales by division FY 2014\*



Sales by region FY 2014\*



# Together serving the attractive €100bn life science industry

~€100 bn life science industry

Laboratory & Academia

~€25 bn industry



Low-to-mid single digit growth

Bio-/Pharma production

~€35 bn industry



Mid-to-high single digit growth

Other industries

~€40 bn industry



Mid-to-high single digit growth

## Market trends

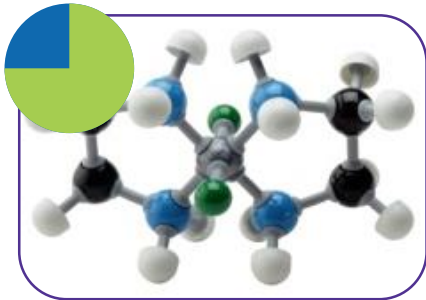
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| <ul style="list-style-type: none"><li>• Continued investments in pharma R&amp;D</li><li>• Increased regulatory requirements for analytics and testing</li><li>• Emerging markets (EM) fueling growth in scientific research</li></ul> | <ul style="list-style-type: none"><li>• Increasing biologic production volumes</li><li>• Expanding production in EM</li><li>• Higher regulatory requirements</li></ul> | <ul style="list-style-type: none"><li>• Higher regulatory and product quality requirements</li><li>• Expanded environmental and food &amp; beverage testing</li></ul> |
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Attractive industry EBITDA margin of ~25%

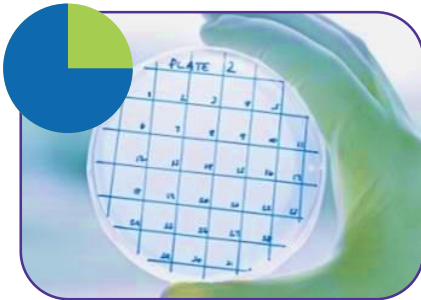
# Broad and complementary product fit in attractive segments

Laboratory & Academia\*

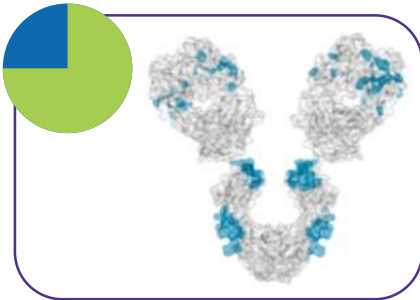
Analytical standards



Microbiology



Antibodies



Biochemicals



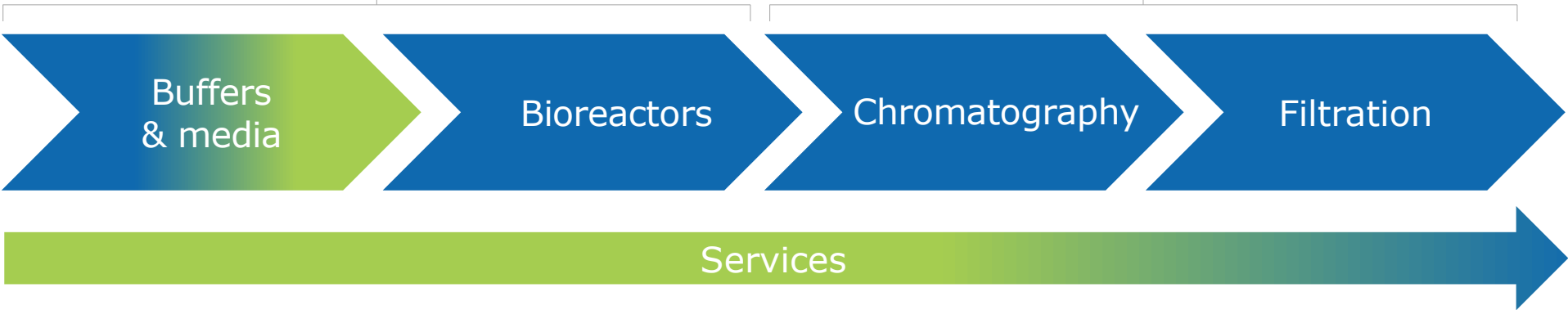
Life Science

Sigma-Aldrich

BioPharma production

Upstream process

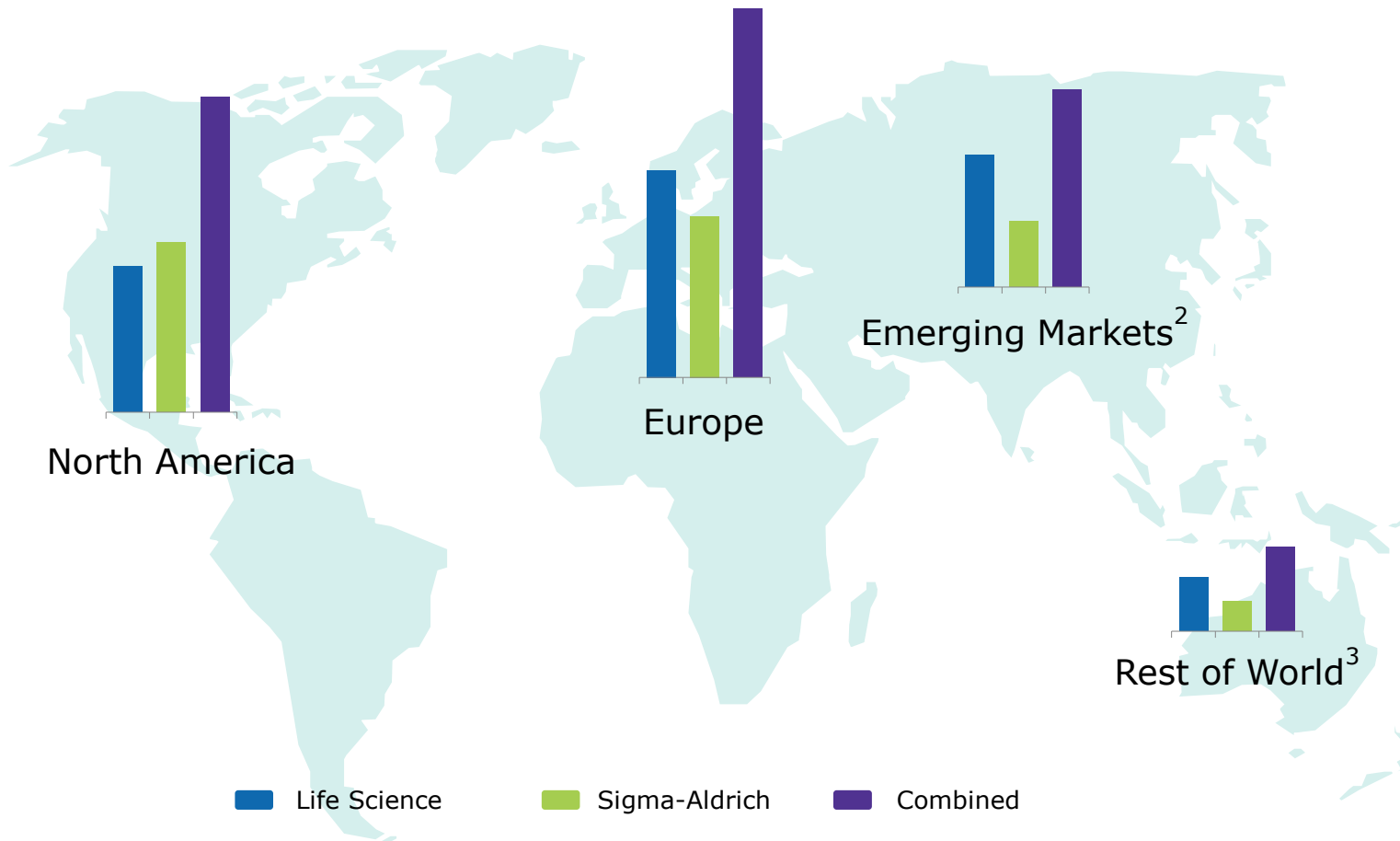
Downstream process





# Expanding global reach and scale

Global sales<sup>1</sup> 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

# Leveraging operational excellence to deliver superior value to customers

## Product innovation

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



Mobius FlexReady



Duolink



Amnis

## 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



eCommerce platform



Supply chain

Efficient work flow solutions and unique customer experience

# Sigma-Aldrich – Business and transaction financials

## Overview of financial data<sup>1</sup>

US\$ m	2012	2013	2014 <sup>4</sup>
Revenue	2,623	2,704	2,785
% YoY at constant FX	+3%	+3%	+4%
EBITDA (adjusted)	809	821	847
% of sales	31%	30%	30%
D&A	136	138	132
% of sales	5%	5%	5%
Net financial debt (period end)	-41	-357	-513
No. of shares (diluted, m)	122	121	120

## Proposed transaction details<sup>2</sup>

- Equity value ~US\$17 bn (€13.1 bn)
- Enterprise value (EV) ~€12.7 bn including net cash ~€360 m<sup>5</sup>
- 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 multiples<sup>3</sup>

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

<sup>1</sup>Source: Company reports; <sup>2</sup>FX conversion: EUR/USD 1.30; <sup>3</sup>"Pro-forma" calculation based on 100% expected synergies; <sup>4</sup>FY 2014 results; <sup>5</sup>at time of announcement (Sept. 2014)

# 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

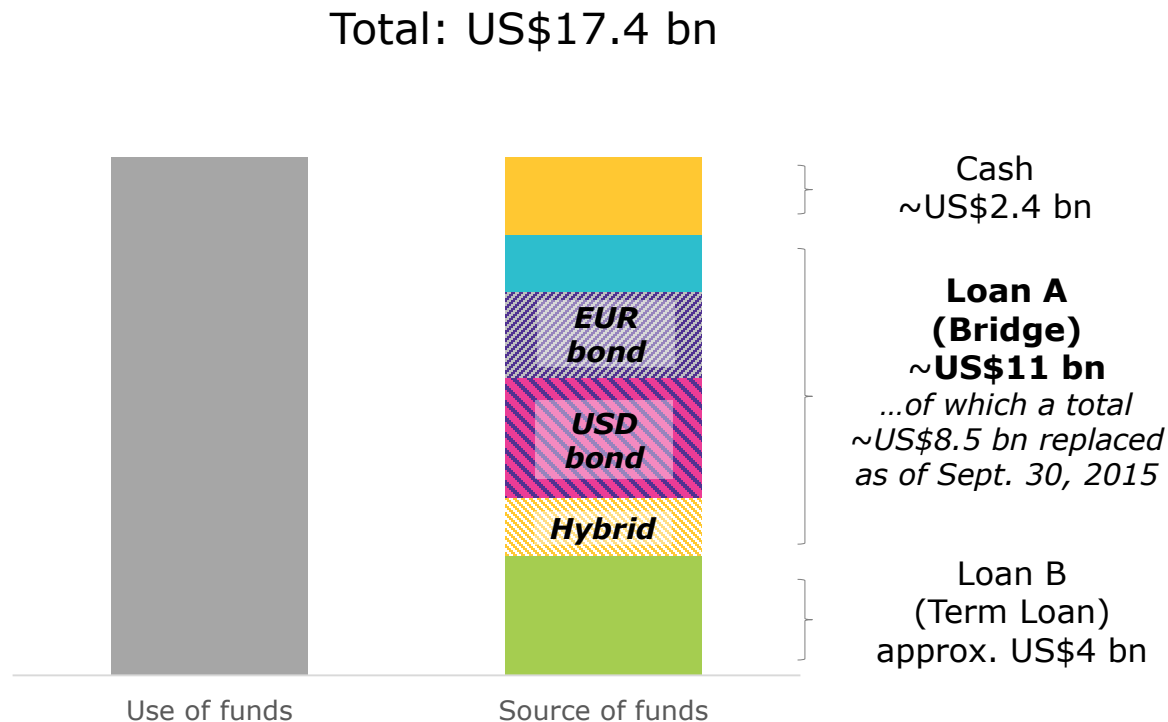
## Planned delivery



- 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

Financing structure as of September 30, 2015



Update on funding structure

- Acquisition 100% cash & debt financed
- The bridge has almost completely been replaced through various capital markets transactions
- 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%



03

## HEALTHCARE UPDATE

# Biopharmaceuticals has three different business models with specific strengths and requirements

1

Raise focus, scale and flexibility

2

Improve customer proximity

3

Develop into attractive growth platforms

4

Tailor innovation models to specific needs

## Biologicals

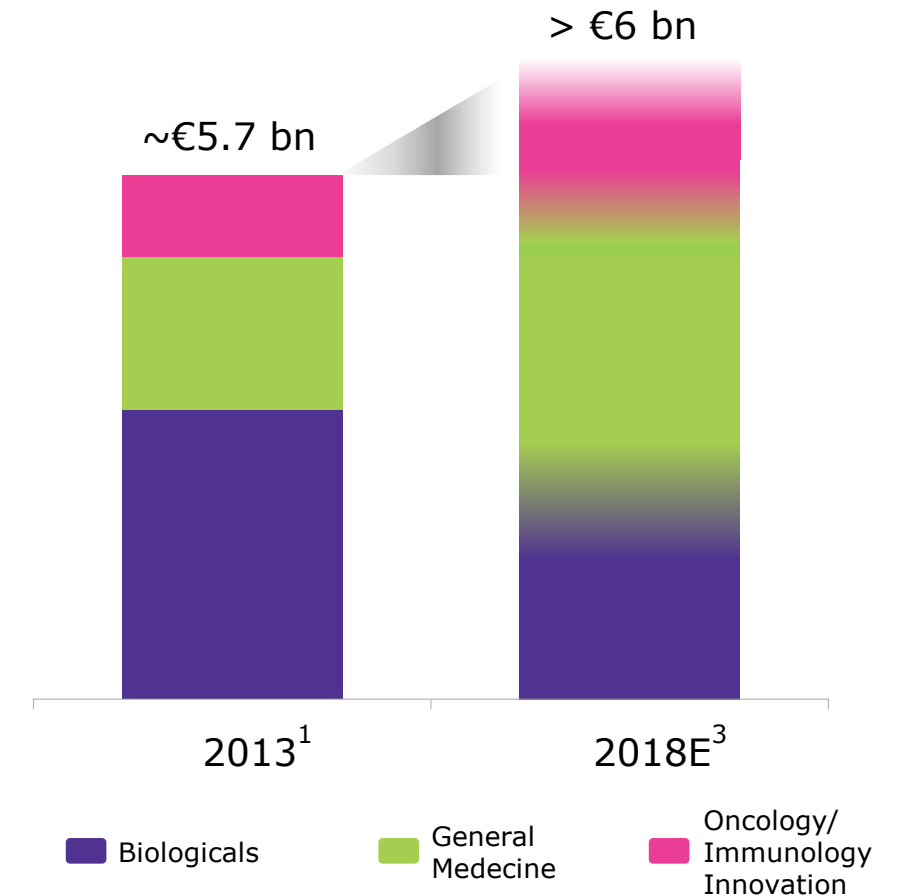
- Rebif
- Fertility
- Endocrinology
- Biosimilars<sup>2</sup>
- Allergopharma

## General Medicine

- GM/CMC
- Thyroids

## Oncology/Immunology Innovation

- Erbitux
- Other Oncology



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

<sup>3</sup>Excluding contributions from R&D pipeline

## The road to maximizing our 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 ART<sup>1</sup> 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





# Portfolio management: Differentiating across diverse business models

## 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



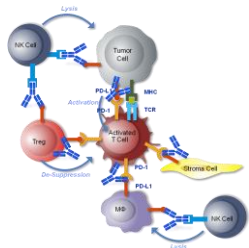
- High reward at high risk
- Innovation key success factor – high R&D spend
- Promising pipeline projects



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

# Merck KGaA, Darmstadt, Germany and Pfizer – three strategic drivers for our collaboration

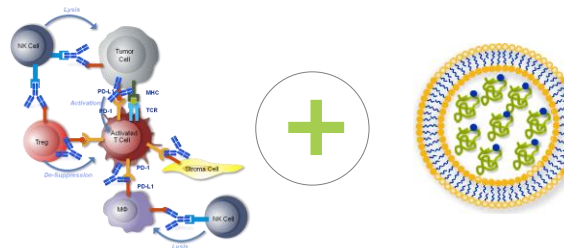
## Leverage Anti PD-L 1 asset



- 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



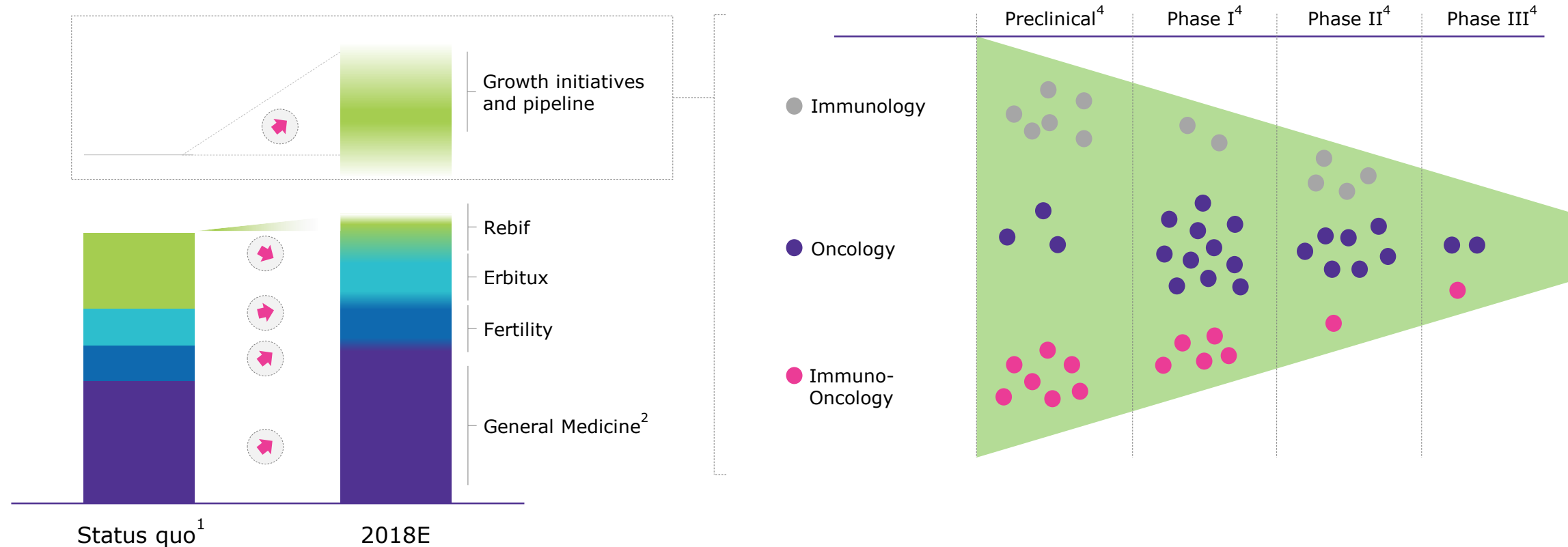
## Financial implications of the deal with Pfizer

- ▶ \$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



# New revenue streams from pipeline projects and additional growth initiatives

Broad and well structured pipeline with promising early-stage compounds<sup>4</sup> in focus areas



<sup>1</sup>FY 2014; adapted to new Healthcare business sector to include Consumer Health; <sup>2</sup>including Consumer Health, Cardiometabolic Care, Endocrinology, General Medicine and Others; <sup>4</sup>Number of trials initiated/ongoing as of September 2015

# Revamped and focused R&D pipeline shows further progress

	Immunology	Oncology		Immuno-Oncology	
Phase I	BTK-i (f.i.m.)	tepotinib (solid tumors)	P70S6K/Akt-i (solid tumors)	avelumab (ovarian)	avelumab (mesothelioma)
	anti IL-17 (f.i.m.)	evofosfamide (hematologic malignancies, solid tumors)		avelumab (gastric)	avelumab (various other solid tumors) <sup>3</sup>
			BRAF-i (solid tumors)	avelumab (bladder/urothelial)	avelumab combinations (various other solid tumors) <sup>3</sup>
		DNA-PK-i (solid tumors)	PARP-i (solid tumors)	NHS-IL 12 (solid tumors)	M7824 Bi-functional immunotherapy
Phase II	atacept (SLE)		evofosfamide (NSCLC)	avelumab (MCC 2L)	
	sprifermin (OA)	tepotinib (NSCLC)	evofosfamide (melanoma)		
	ATX-MS-1467 (RRMS)	tepotinib (HCC)	pimasertib (melanoma)		
		tepotinib (NSCLC 2L)			
Phase III		evofosfamide (STS)	evofosfamide (PaCa)	avelumab (NSCLC 2L)	avelumab (Other solid tumors) <sup>3</sup>
				avelumab (NSCLC 1L)	avelumab combinations (Other solid tumors) <sup>3</sup>

Under preparation<sup>1</sup>
 New in pipeline
  Moved into next phase<sup>2</sup>
 Maintained position

As of 1 October 2015; <sup>1</sup>Under preparation for this phase; <sup>2</sup>Since Capital Markets Day in September 2014; <sup>3</sup>See p. 21 for more detailed development program; Acronyms: f.i.m. = First in man, SLE = Systemic lupus erythematosus, OA = Osteoarthritis, RRMS = Relapse remitting multiple sclerosis, NSCLC = Non-small cell lung cancer, HCC = hepatocellular carcinoma, STS = soft-tissue carcinoma, PaCa = Pancreatic Cancer, MCC = Merkel cell carcinoma

# Several pipeline compounds have advanced and will add to long-term momentum

## Avelumab

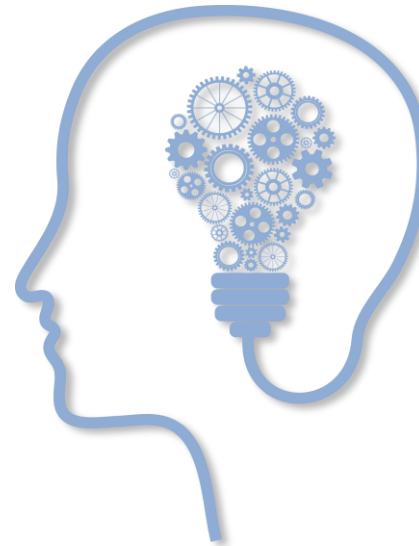
- Thought to block interaction of PD-L1 with known ligand PD-1
- May enable the activation of T-cells and the adaptive immune system
- Under investigation in more than 15 tumor types

## Bi-functional immunotherapy – M7824

- Dual-acting fusion protein neutralizes two immuno-inhibitory pathways
- Expected to control tumor growth by restoring and enhancing anti-tumor immune responses

## CAR-T\*

- Innovative Chimeric Antigen Receptor T-cell (CAR-T) treatment that is thought to modulate the immune system's natural ability to fight tumors
- Potentially uniquely able to regulate gene expression with proprietary RheoSwitch platform



## DNA-PK inhibitor - M3814

- Small molecule inhibitor of key enzyme in double strand break (DSB) repair pathway

## Tepotinib/ C-Met Inhibitor

- Investigational small molecule inhibitor of the c-Met receptor tyrosine kinase

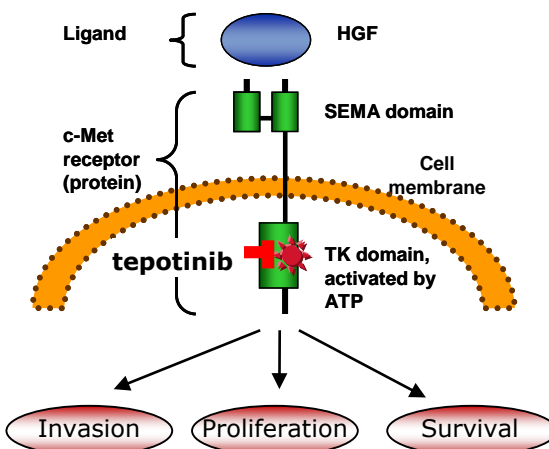
## BTK inhibitor

- Selective inhibitor of bruton tyrosine kinase (BTK); important in the development of immune cells

# Tepotinib – leveraging biomarker science to achieve growth inhibition and regression of tumors

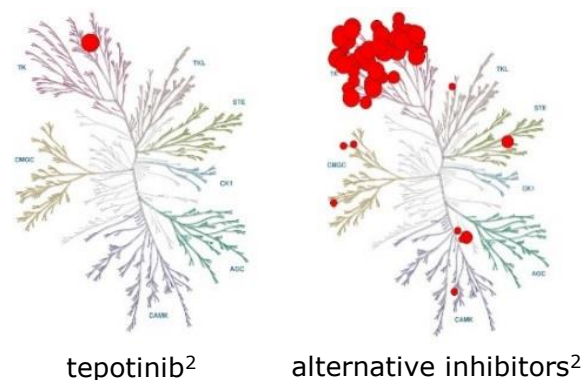
## Potential mechanism

- c-Met receptor tyrosine kinase is thought to control key signaling pathway in cancer cells
- Pathway frequently deregulated in human cancer at ligand (HGF) and receptor (c-Met) levels
- In pre-clinical models, tepotinib as small molecule kinase inhibitor of c-Met causes growth inhibition and regression of tumors



## Potential for differentiation

- Highly selective and potent kinase inhibitor – only c-Met is completely inhibited at clinically relevant doses
- Biomarker-driven approach for patient selection: only c-Met positive will be enrolled into tepotinib trials
- c-Met amplification and c-Met and HGF (hepatocyte growth factor) overexpression preclinically validated as predictive biomarker



## Highlights & milestones

- Initiated phase II enrollment in Asia for HCC and EGFR mutant NSCLC, and for HCC in Europe – H1 2015
- Preliminary data show encouraging signs of anti-tumor activity in c-Met positive patients in NSCLC and HCC<sup>3,4</sup>
- Phase I first-in-man trial: 76% of patients had no drug-related adverse events >Grade 1<sup>5</sup>

## Timelines<sup>1</sup>

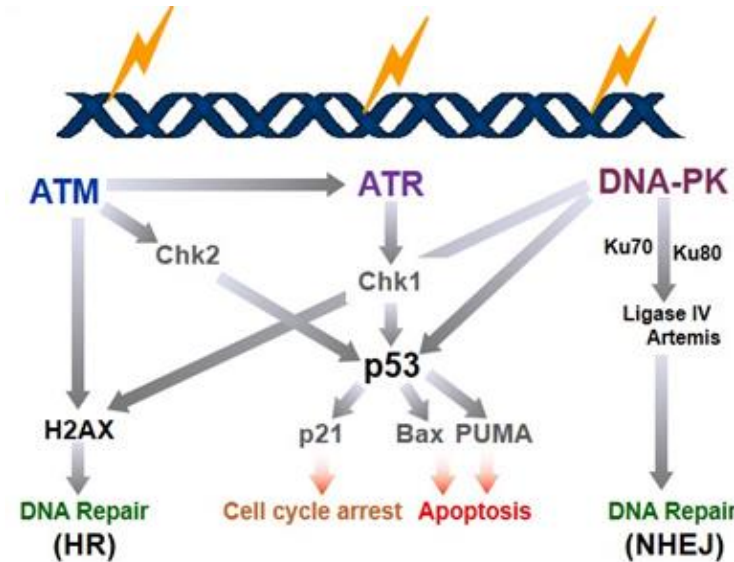
- Phase II: NSCLC 2L: final analysis expected for end of 2017
- Phase II: HCC 1L, HCC 2L: interim analysis in H2 2016, and final analysis expected for H2 2017
- 2<sup>nd</sup> NSCLC trial under preparation for Phase II



# DNA-PK inhibitor – targeting DNA double strand break (DSB) repair for cancer therapy

## Potential mechanism

- DNA-PK is a relevant enzyme in an important DSB repair pathway
- DNA-PK inhibitor M3814 is thought to delay DNA repair of DSB and may potentiate the antitumor effect of radiotherapy
- M3814 may also have activity as single agent in cancers with dysfunctional DNA repair pathways



## Highlights & milestones

- 100% cure rate in a head & neck cancer model in combination with radiotherapy in a clinically relevant setting (5x2 Gy/week for 6 weeks)
- Combination with radiotherapy may open a broad range of applications
- First in man, Phase Ia monotherapy trial: 3<sup>rd</sup> dose level completed without DLTs, 4<sup>th</sup> dose level fully recruited
- Phase Ia dose escalation trial in combination with radiotherapy open for recruitment

## Potential for differentiation

- Potential for First-in-Class orally administered selective DNA-PK inhibitor
- Potentially enhances the efficacy of many commonly used DNA damaging agents, such as radiotherapy and chemotherapies
- Strong preclinical proof-of-concept showing complete responses and/or increased progression-free survival in combination with radiotherapy in several xenograft models (SCCHN, NSCLC, CRC, PaCa)

## Timelines\*

- First patient cohort in radiotherapy combination trial (Phase I) to be recruited within next 1-2 quarters
- Phase Ib expansion cohorts: Solid tumors, CLL: First patient in H2 2016; Key data / statistics expected for H2 2017



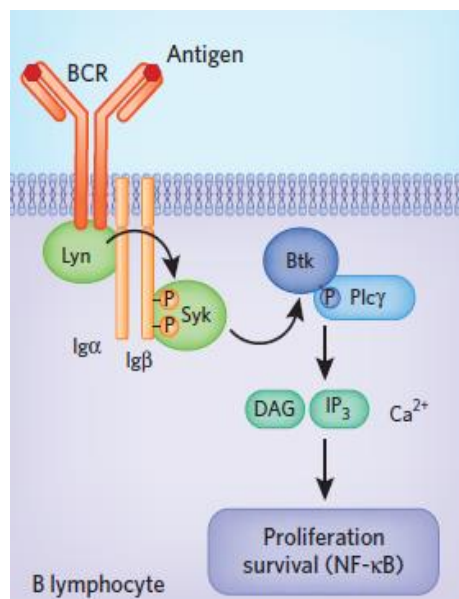
# BTK inhibitor – selective inhibitor

## Potential mechanism

- BTK is expressed by multiple cell types, including B lymphocytes and macrophages
- BTK may play an important role in B cell development, differentiation, activation, class-switching, proliferation, survival and cytokine release
- BTK-i is thought to suppress autoantibody-producing cells in RA and SLE; preclinical research suggests this may be therapeutically useful in certain autoimmune diseases

## Potential for differentiation

- Highly differentiated and selective inhibitor
- BTK inhibitor demonstrates promising kinase selectivity profile
- Good cellular assay target profile for B and T cell interactions
- Aim to achieve best in class through minimization of off-target effects



## Highlights & milestones

- BTK seems to prevent immune complex-mediated signalling and production of inflammatory cytokine in macrophages and glycoprotein VI signalling in platelets
- High and differentiated efficacy in preclinical models
- Second differentiated BTK molecule (M7583) moving into oncology clinical development in 2016

## Timelines\*

- Phase I (M2951), SAD/MAD/Food effect studies completed
- Phase Ib SLE start Oct 2015
- Phase IIa RA<sup>2</sup> start H1 2016

# M7824 – novel bi-functional immunotherapy

## M7824



## Potential mechanism

- Novel, first-in-class bi-functional immunotherapy has potential to be a highly efficacious, enhanced therapy
- Dual-acting fusion protein designed to neutralize two immuno-inhibitory pathways
- Thought to control tumor growth by potentially restoring and enhancing anti-tumor immune responses

## Potential for differentiation

- Preclinical research indicates enhanced anti-tumor activity, and treatment with bi-functional modulator leads to immunological memory
- 100% complete response as demonstrated in in vivo preclinical models<sup>2</sup>

## Highlights & milestones

Rapid progression through development cycle:

- Moved from preclinical to First-in-Human within 11 months
- Expansion cohorts expected to start in H2 2016

## Timelines<sup>1</sup>

- Phase I: Solid tumors (September 2015)
- Key data: expected H2 2016

# CAR-T – T-Cell therapies could be the next cornerstone of cancer immunotherapy

## CAR-T – Intrexon



### Potential for differentiation

- Possibility to improve safety profile of CAR-Ts through switch that could activate/modulate T-cell expression (Intrexon's proprietary RheoSwitch platform)
- Opportunity to solid tumors
- Possible combination with avelumab or next-generation checkpoint inhibitors
- Current CAR-T treatments are unique to each patient; Intrexon therapy is engineered with potential to be infused back to universal, "off-the-shelf" treatment (i.e. allogeneic)

### Potential mechanism

- Chimeric Antigen Receptor T-cell (CAR-T) therapy harnesses a patient's own immune system to direct it specifically against tumor cells
- CAR-T cells are genetically engineered to recognize a specific antigen expressed on tumor cells and trigger immunological attack

### Highlights & milestones

- Considered as next cornerstone of cancer immunotherapy
- CAR-T cells have shown clinical response rate with up to 91% complete remission in certain hematological indications (ALL)
- Technology has potential to address limitations of 1<sup>st</sup>/2<sup>nd</sup> generation gene and cell-based therapy

### Timelines<sup>1</sup>

- 2016: Preclinical/clinical development to CAR-T cells safer based on existing design targeting hematological tumors
- 2017: Test next-gen CAR-T cells for efficacy in solid tumors

# Avelumab – JAVELIN clinical development program initiated and planned as of 1 Oct 2015

Confident to start up to 6 registrational trials in 2015

■ Trial led by Merck KGaA, Darmstadt, Germany

■ Trial led by Pfizer

■ By Merck KGaA, Darmstadt, Germany and Pfizer

	Running and planned trials in 2015										Planned trials in 2016	
Phase 1	Solid tumors  Dose escalation and expansion phase	Completed efficacy N=150 / cohort	NSCLC 1L	Gastric	mBreast	NSCLC 2L					avelumab+ Xalkori/ Iorlatinib NSCLC 1L ALK+	Additional studies in planning
		Signal detection N=50 / cohort	CRC	CRPC	Ovarian	Melanoma	Urothelial/ Bladder	Meso- thelioma	ACC	RCC		
		Expanded efficacy N=100-150 / cohort	Ovarian	SCCHN	Bladder	Gastric 3L	RCC 1L/2L					
	Combination trials	avelumab+4-1BB NSCLC, SCCHN, Melanoma <sup>1</sup>			avelumab+Inlyta RCC 1L <sup>1</sup>							
Registrational	avelumab MCC 2L <sup>2</sup>	avelumab MCC 1L	avelumab+Chemo Gastric 1L	avelumab+Chemo Ovarian 2L Plat Res/Ref	avelumab+Inlyta RCC 1L						avelumab SCCHN 2L	Additional studies in planning
	avelumab NSCLC 2L	avelumab NSCLC 1L (PDL1+)	avelumab+Chemo Gastric 3L Sequential	avelumab+Chemo Bladder 1L Sequential							avelumab+Chemo Ovarian 1L Plat Sens	

Acronyms: CRC = colorectal cancer; CRPC = Castrate Resistant Prostrate Cancer; ACC = Adrenocortical Cancer; SCCHN = Squamous Cell Carcinoma of the Head and Neck; RCC = Renal Cell Carcinoma; <sup>1</sup>Trials currently initiating; <sup>2</sup>Phase 2 trial

# Avelumab shows promising clinical activity in five indications<sup>1</sup> supporting further clinical development

1  
NSCLC

- Treatment with avelumab led to early and durable responses (ORR 14%) as a 2<sup>nd</sup> line treatment
- Longer median PFS and OS were observed for PDL1+ patients
- Phase III head-to-head trial of avelumab vs docetaxel in patients with recurrent NSCLC is underway

2  
Ovarian

- Largest reported dataset<sup>2</sup> of patients with advanced ovarian cancer treated with anti-PD-(L)1
- Treatment with avelumab showed clinical activity (ORR 11%) in heavily pre-treated patients
- Phase III clinical development is planned

3  
Gastric

- Largest reported dataset<sup>2</sup> of patients with advanced gastric cancer treated with anti-PD-(L)1
- Treatment with avelumab as a 2<sup>nd</sup> line treatment showed clinical activity (ORR 15%)
- Disease stabilization was also observed in a SwM (switch-maintenance therapy) group

4  
Urothelial / Bladder

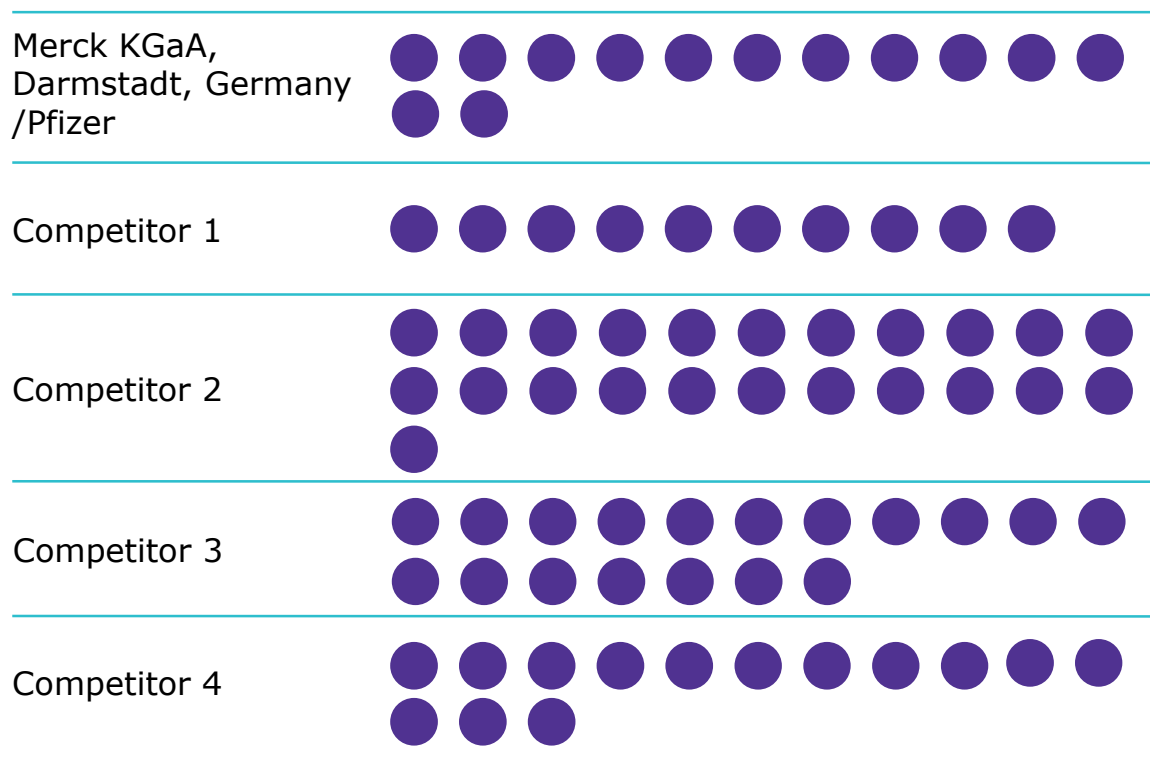
- Treatment with avelumab led to early and durable responses (ORR 19%)
- Biomarkers from tumor tissue and blood samples are under evaluation

5  
Mesothelioma

- Treatment with avelumab in heavily pre-treated patients with advanced unresectable tumors led to:
- Partial responses in 3 patients (15.0%); all ongoing at time of analysis
- Disease control rate for patients 60.0% (partial response and stable disease)

# Avelumab development program covers a broad range of tumor types

Total # of tumor types targeted with PDL1 compounds



- Avelumab is well represented and is currently investigated across more than 15 tumor types and lines of therapy
- It tackles a similar range as competitive products in the field of checkpoint inhibitors
- Significant progress made until 1 Oct. 2015 and expected to be made until the end of 2015 and into 2016:
  - Confident to start up to 6 registrational trials in 2015
  - Up to 25 trials until ASCO 2016 as single-agent and combination therapy

# Clinical pipeline

## Phase I

**Tepotinib – c-Met kinase inhibitor**  
Solid tumors

**Evofofosfamide (TH-302) – Hypoxia-activated prodrug**  
Hematologic malignancies and solid tumors

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

**M3814 – DNA-PK inhibitor**  
Solid tumors

**Beigene-283 – BRAF inhibitor**  
Solid tumors

**Beigene-290 – PARP inhibitor**  
Solid tumors

**Avelumab<sup>1</sup> – Anti-PD-L1 mAb**  
Solid tumors

**M9241 (NHS-IL12)<sup>2</sup> – Cancer immunotherapy**  
Solid tumors

**M7824 – Bifunctional immunotherapy**  
Solid tumors

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

**M2951 – BTK inhibitor**  
Healthy volunteers

## Phase II

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

**Pimasertib – MEK inhibitor**  
Melanoma

**Evofofosfamide (TH-302) – Hypoxia-activated prodrug**  
Melanoma

**Evofofosfamide (TH-302) – Hypoxia-activated prodrug**  
Non-small cell lung cancer

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

**Tepotinib – c-Met kinase inhibitor**  
Hepatocellular cancer

**Avelumab<sup>1</sup> – 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

**Evofofosfamide (TH-302) – Hypoxia-activated prodrug**  
Soft tissue sarcoma

**Evofofosfamide (TH-302) – Hypoxia-activated prodrug**  
Pancreatic cancer

**Avelumab<sup>1</sup> – Anti-PD-L1 mAb**  
Non-small cell lung cancer 1L<sup>3</sup>

**Avelumab<sup>1</sup> – Anti-PD-L1 mAb**  
Non-small cell lung cancer 2L<sup>4</sup>

## In registration

**Cladribine Tablets<sup>5</sup> – Lymphocyte targeting agent**  
Relapsing-remitting multiple sclerosis

- Neurodegenerative Diseases
- Oncology
- Immunology
- Immuno-Oncology

Pipeline as of November 5, 2015

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.

<sup>1</sup>Avelumab is the proposed International Non-proprietary Name (INN) for the anti-PD-L1 monoclonal antibody (previously known as MSB 0010718C);

<sup>2</sup>Sponsored by the National Cancer Institute (USA); <sup>3</sup>First Line treatment; <sup>4</sup>Second Line treatment

<sup>5</sup>As announced on September 11th, 2015 Merck KGaA, Darmstadt, Germany is preparing a regulatory submission to the European Medicines Agency

## Next catalysts for focus projects

**avelumab**

Initiate up to 6 registrational trials  
Data readout Phase II mMCC

End 2015  
H1 2016

**evofosfamide**

Pancreatic Cancer Phase III results  
Soft Tissue Sarcoma Phase III results

End 2015  
End 2015

**atacicept**

Data readout Phase II

H1 2016





04

## FINANCIAL DETAILS

## 9M 2015: Overview

### 9M 2015 – key figures

[€m]	9M 2014	9M 2015	Δ
Net sales	8,364	<b>9,381</b>	12.2%
EBITDA pre	2,509	<b>2,696</b>	7.5%
Margin (in % of net sales)	30.0%	28.7%	
EPS pre	3.46	<b>3.74</b>	8.1%
Operating cash flow	1,564	<b>1,477</b>	-5.6%

[€m]	Dec. 31, 2014	Sept. 30, 2015	Δ
Net debt	559	<b>-1,304</b>	n.m.
Working capital	2,356	<b>2,614</b>	10.9%
Employees	39,639	<b>40,339</b>	1.8%

### 9M 2015

- Sales increase mainly driven by FX, AZ and organic performance
- EBITDA pre increases, while margin softens due to royalty loss and Rebif decline
- 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 FX hedging instrument
- Working capital increase mainly attributable to organic growth and FX

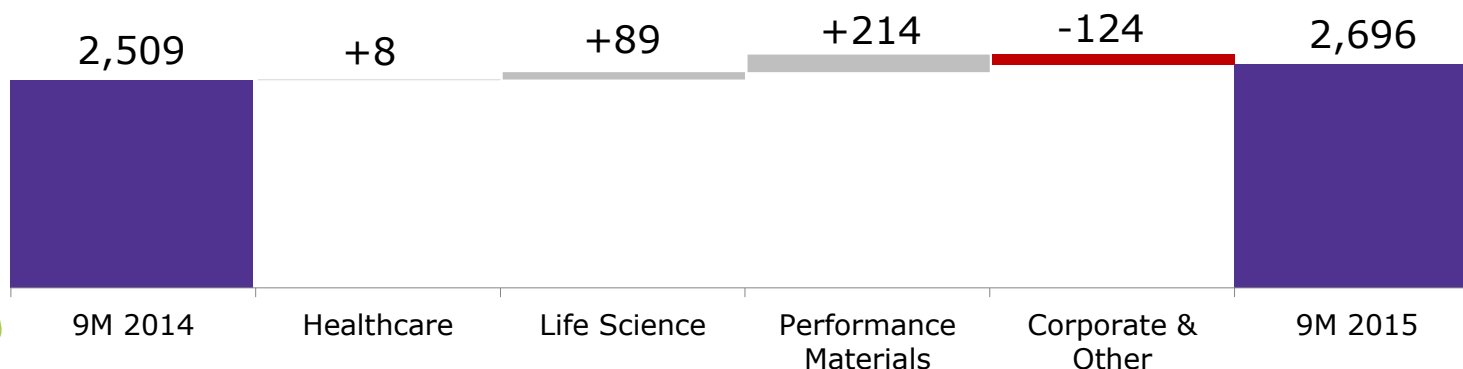
## Growth driven by FX, AZ and organic performance of all segments

### 9M 2015 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	1.2%	<b>4.7%</b>	0.0%	<b>6.0%</b>
Life Science	5.9%	<b>9.3%</b>	-0.3%	<b>14.9%</b>
Performance Materials	1.2%	<b>14.1%</b>	13.7%	<b>28.9%</b>
Group	2.3%	<b>7.5%</b>	2.4%	<b>12.2%</b>

- Rebif and Erbitux declines more than offset by other franchises driving organic growth of Healthcare
- Life Science benefits from positive market trends (esp. biopharma)
- Performance Materials driven by FX tailwinds, AZ and volume growth

### 9M YoY EBITDA pre contributors [€ m]



- Healthcare affected by Humira royalty loss and Rebif decline
- Increase in Life Science driven by good organic growth and positive mix
- Performance Materials contains FX benefits, AZ and positive product mix
- Corporate EBITDA pre reflects hedging losses

## Q3 2015 – good quarter with strong earnings growth

### Q3 2015 – reported results

[€m]	Q3 2014	Q3 2015	Δ
EBIT	429	<b>564</b>	31.4%
Financial result	-57	<b>-81</b>	42.3%
Profit before tax	372	<b>482</b>	29.8%
Income tax	-122	<b>-117</b>	-4.4%
Tax ratio [in %]	32.9%	<b>24.2%</b>	
Net income	249	<b>364</b>	46.3%
EPS [€]	0.57	<b>0.84</b>	47.4%

### Comments – Q3 2015

- Strong EBIT increase reflects EBITDA pre progression; last year with higher D&A and exceptionals
- Financial result includes higher interest expenses from Sigma financing
- Tax ratio last year contained taxable gain from Sigma FX hedging

## 9M 2015 – solid reported figures

### 9M 2015 YoY – reported results

[€m]	9M 2014	9M 2015	Δ
EBIT	1,338	<b>1,545</b>	15.5%
Financial result	-142	<b>-223</b>	56.7%
Profit before tax	1,196	<b>1,322</b>	10.6%
Income tax	-313	<b>-326</b>	4.0%
<i>Tax ratio (%)</i>	26.2%	<b>24.6%</b>	
Net income	877	<b>989</b>	12.7%
EPS (€)	2.02	<b>2.27</b>	12.4%

### Reported results

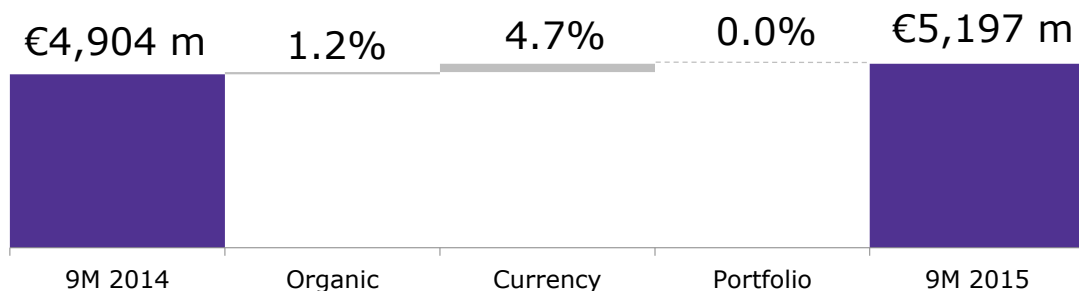
- EBIT reflects increased EBITDA pre and higher exceptionals last year
- Financial result impacted by higher interest expenses for Sigma financing (hybrid, USD and EUR bonds)
- Tax ratio in line with guidance range of 23-25%

# Healthcare: Stability in base business and investments in future growth

## 9M 2015 YoY net sales

[€m]	9M 2014	9M 2015
Net sales	4,904	<b>5,197</b>
Marketing and selling	-1,894	<b>-2,073</b>
Administration	-184	<b>-195</b>
Research and development	-1,035	<b>-1,027</b>
EBIT	828	<b>884</b>
EBITDA	1,431	<b>1,448</b>
EBITDA pre	1,470	<b>1,478</b>
Margin (in % of net sales)	30.0%	<b>28.4%</b>

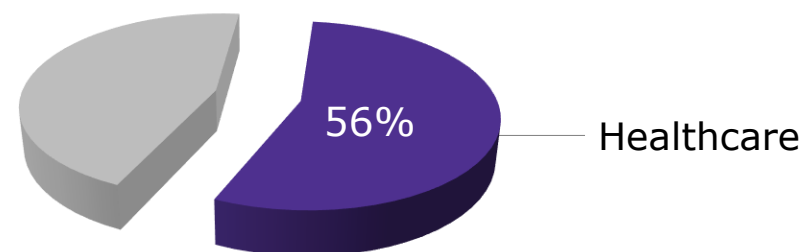
## Net sales bridge



## Comments

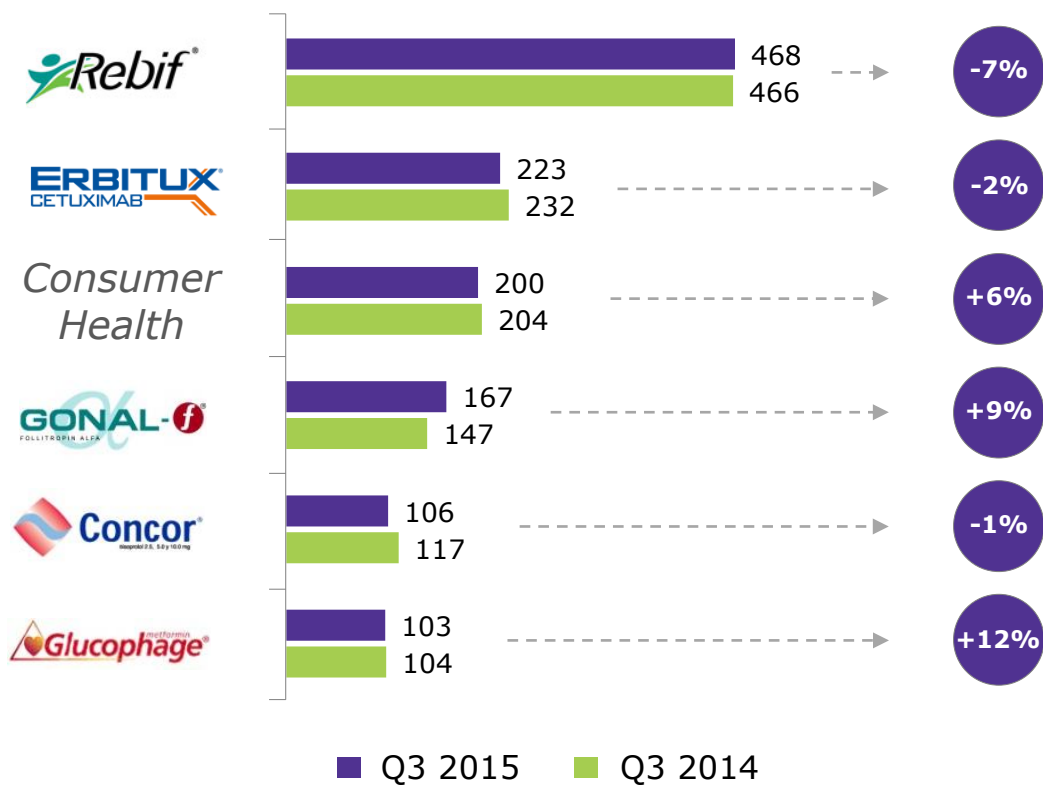
- Rebif decline due to competition partially mitigated by U.S. pricing
- Erbitux soft, as mandatory price cuts in Europe & lower private sector sales in Brazil outweigh volume increase in China
- General Medicine and Fertility remain key growth drivers
- Consumer Health with strong organic growth as new marketing approach fuels demand - especially for Neurobion in Latin America
- Investments in growth markets and FX drive higher M&S spending
- Steady ramp-up of avelumab program and other focus programs as well as promising earlier-stage pipeline candidates
- Lower profitability reflects investments and unfavorable product mix

## 9M 2015 share of group net sales

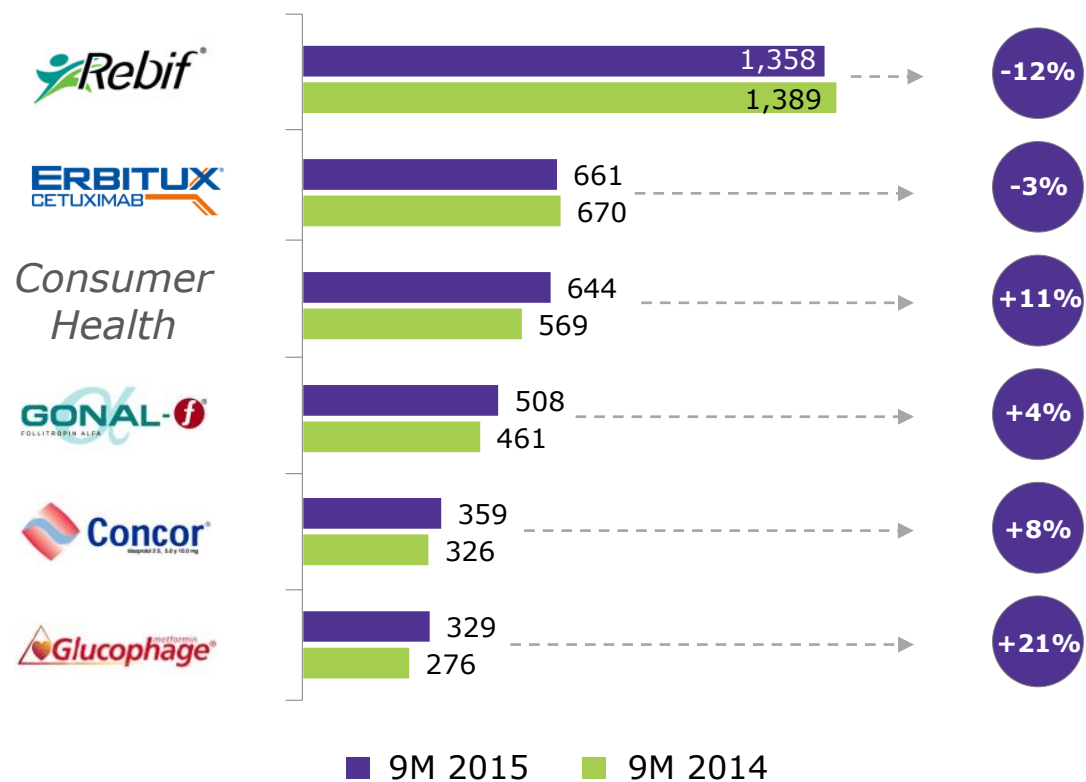


# Healthcare organic growth by franchise/product

Q3 2015 organic sales growth [%]  
by key products [€ m]



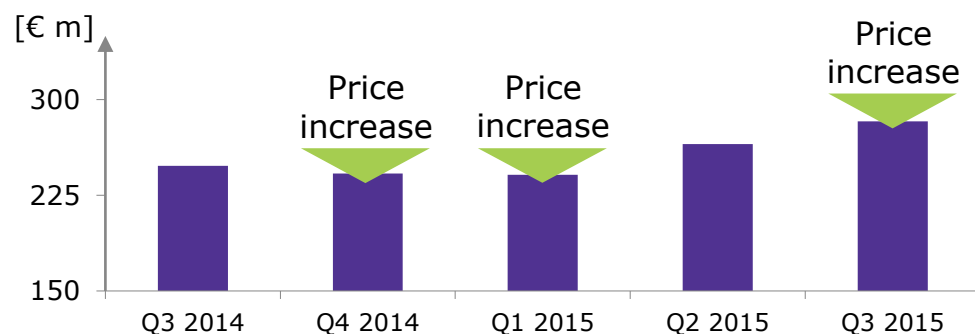
9M 2015 organic sales growth [%]  
by key products [€ m]



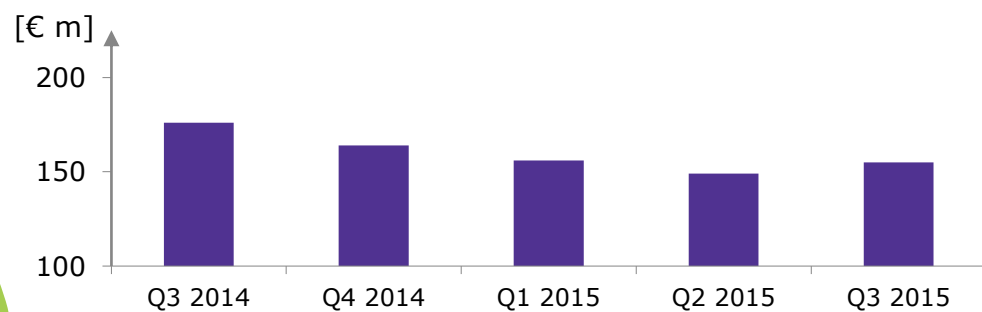
# Rebif: Defending the franchise – competitive pressure in the U.S. and Europe

## Rebif sales evolution

### North America



### Europe



Q3 drivers  
-2.8% org.

- Price
- Volume
- FX

Q3 drivers  
-9.5% org.

- Price
- Volume

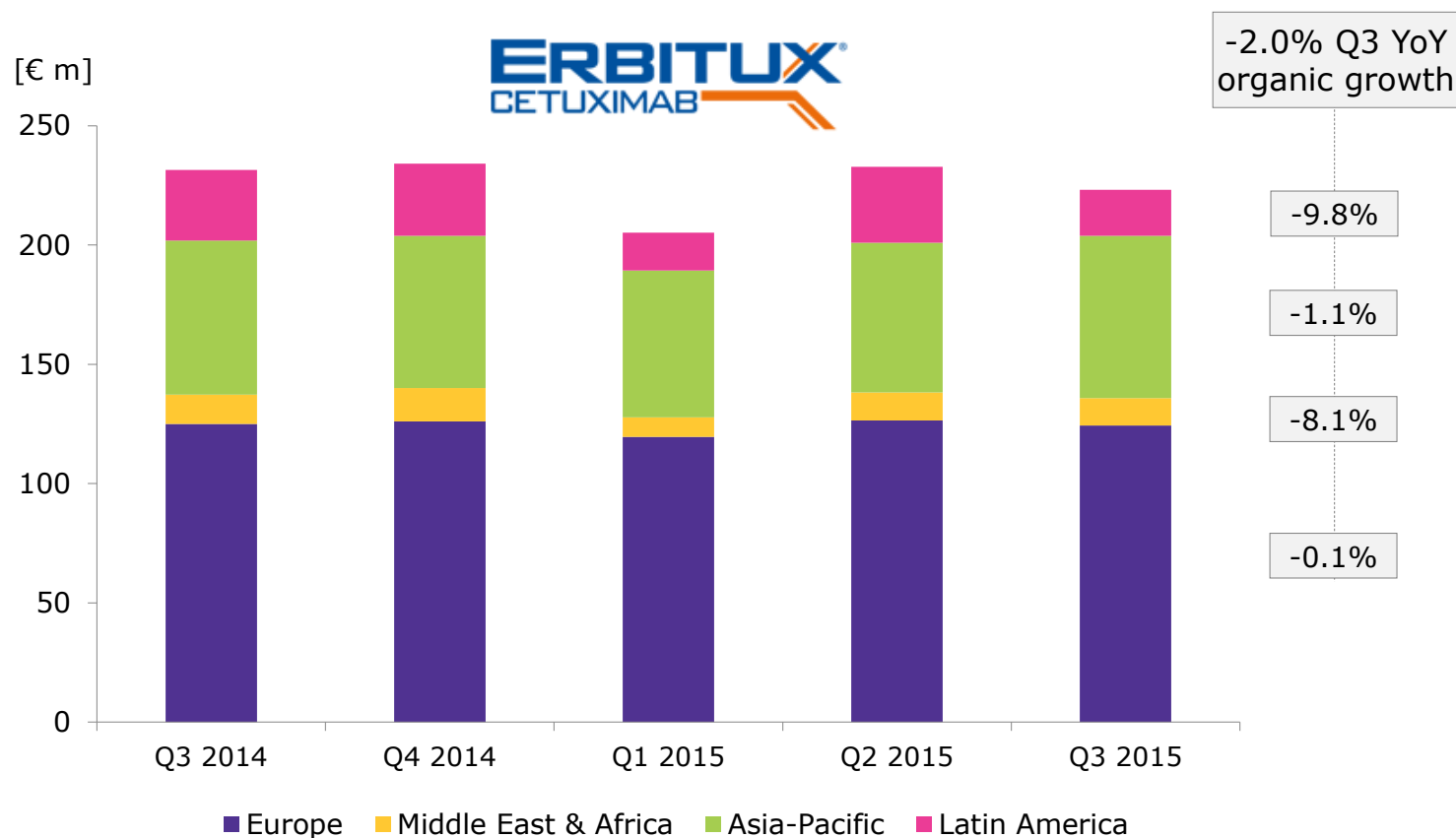
## Reported results

- Rebif sales of €468 m in Q3 2015 benefit from FX tailwinds (USD)
- Organic decline of -7.0% due to lower volumes mitigated by U.S. pricing
- U.S. and European volume decline mainly due to competition from orals
- U.S. price increase in September supports performance



# Erbitux: A challenging market environment

## Erbitux sales by region



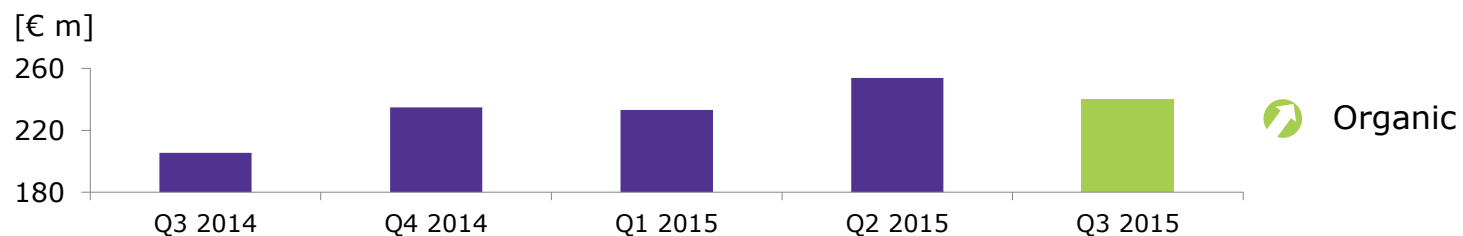
## Erbitux performance

- Sales decrease to €223m due to negative pricing and FX
- Europe impacted by mandatory price cuts in various countries and increasing competition
- Latin America burdened by decline in private sector sales in Brazil
- APAC organically lower due to channel destocking outweighing strong volume growth in China

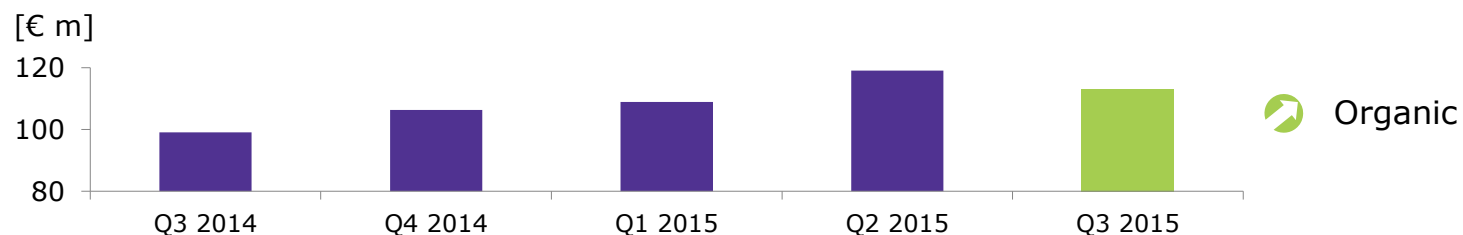
# Strong growth in Fertility, General Medicine and Endocrinology

## Sales evolution

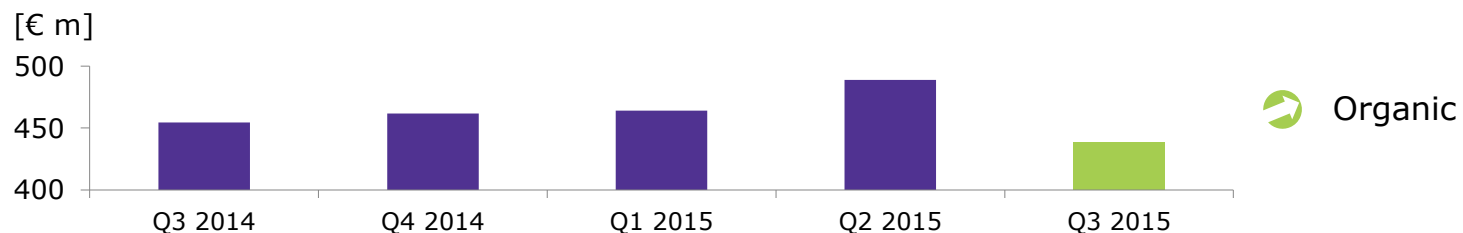
### Fertility



### Endocrinology



### General Medicine\*



\*includes "Cardiometabolic Care & General Medicine and Others"

## Q3 drivers

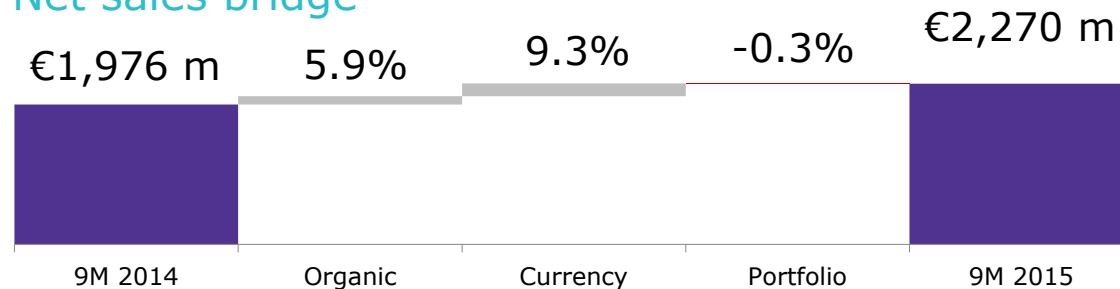
- Organic growth of Fertility driven by all major regions, especially China
- Endocrinology with strong growth across all regions and products; Saizen with market share gains in EU
- General Medicine sales affected by FX, organic performance remains good
- Thyroid products post sound volume development in Asia and Europe
- Glucophage shows ongoing strong growth, benefiting from Russia repatriation and supply issues LY

# Life Science: Good organic performance fueled by ongoing demand for Process Solutions products

## 9M 2015 YoY net sales

	9M 2014	9M 2015
Net sales	1,976	<b>2,270</b>
Marketing and selling	-625	<b>-715</b>
Administration	-81	<b>-88</b>
Research and development	-119	<b>-139</b>
EBIT	234	<b>266</b>
EBITDA	464	<b>514</b>
EBITDA pre	496	<b>585</b>
Margin (in % of net sales)	25.1%	<b>25.8%</b>

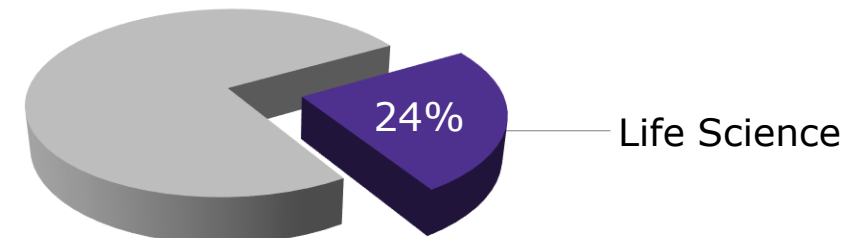
## Net sales bridge



## 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 positive as good development of protein detection systems offsets softness for reagents and antibodies
- Ongoing investments in R&D – several product launches in 2015
- EBITDA pre benefits from FX tailwinds and organic growth, partially offset by investments in marketing and selling

## 9M 2015 share of group net sales

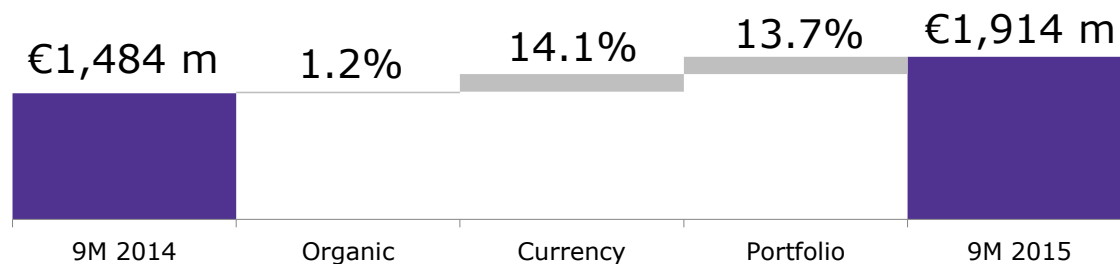


# Performance Materials: Healthy trends & strong FX tailwinds drive growth

## 9M 2015 YoY net sales

	9M 2014	9M 2015
Net sales	1,484	<b>1,914</b>
Marketing and selling	-130	<b>-154</b>
Administration	-41	<b>-48</b>
Research and development	-122	<b>-145</b>
EBIT	441	<b>685</b>
EBITDA	574	<b>864</b>
EBITDA pre	656	<b>870</b>
Margin (in % of net sales)	44.2%	<b>45.4%</b>

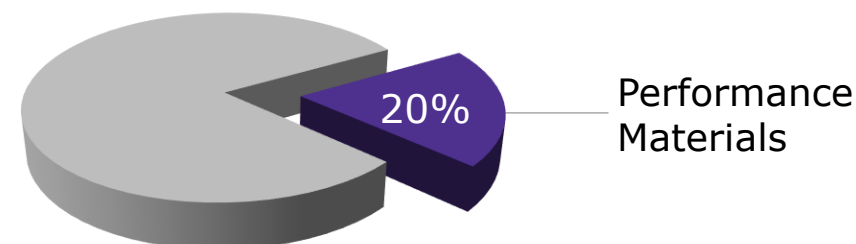
## Net sales bridge



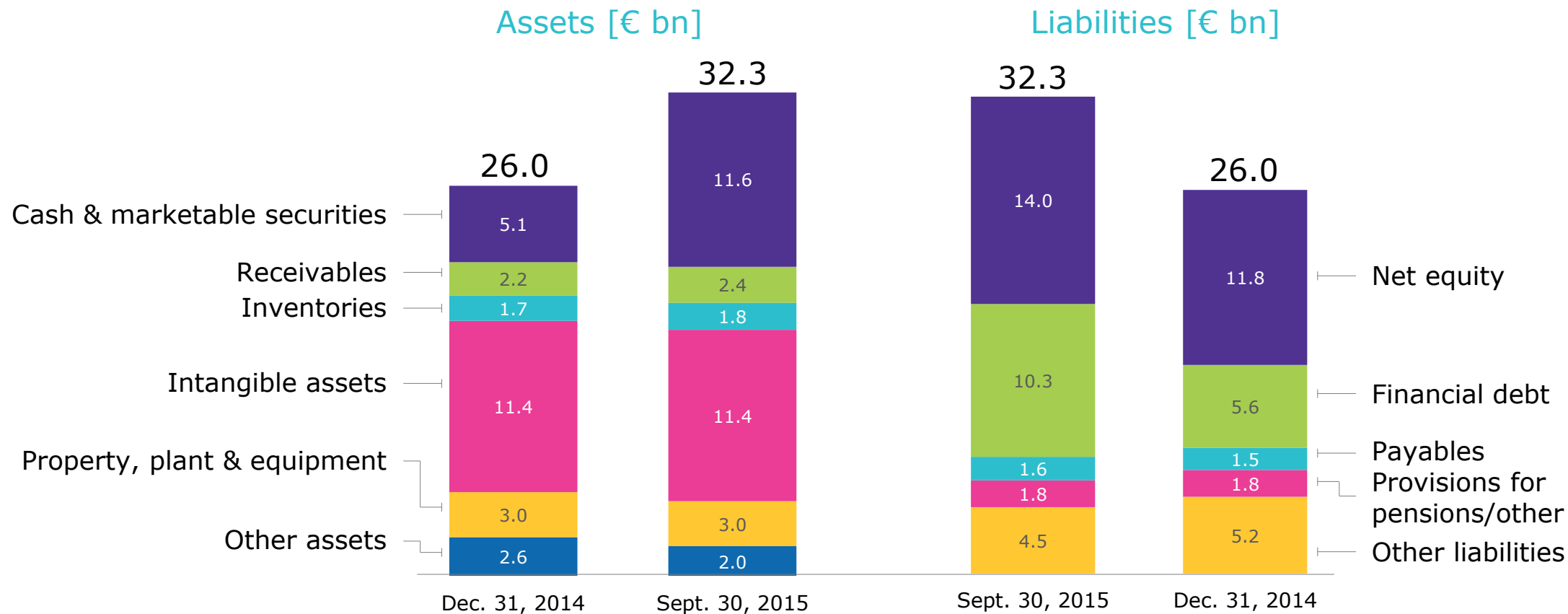
## Comments

- Strong sales mainly reflect portfolio effect and FX tailwinds
- Liquid crystals volume trend remains largest contributor to growth
- Shift towards flagship technologies like PS-VA and UB-FFS amid shrinking TN-TFT market benefits product mix
- Pigments flat – growth in attractive focus markets is offset by volume decline in less profitable areas
- Integrated Circuit Materials supports organic performance with sound volume development especially in dielectric materials
- Increase in EBITDA pre driven by FX, AZ and positive product mix

## 9M 2015 share of group net sales



## Balance sheet reflects Sigma financing measures

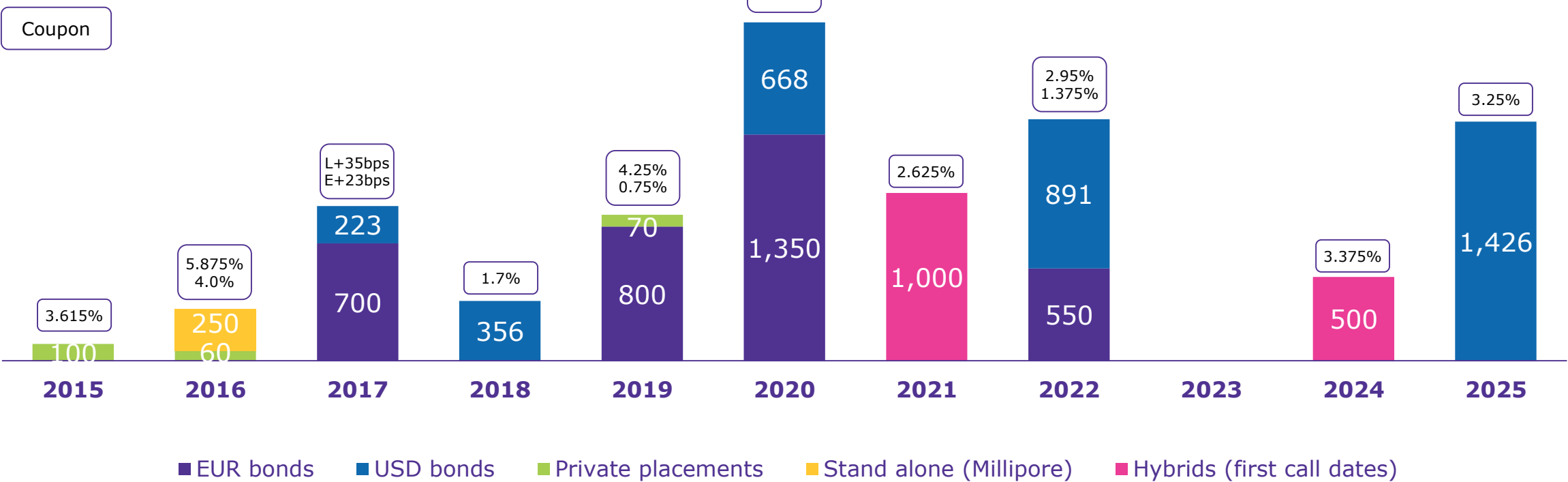


- Issuance of USD & EUR bonds impacts cash and debt

- FX development accounts for ~€1 bn total balance sheet increase (~€700 m in equity)

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

Maturity profile as of Sept. 30, 2015 [in €m]



Additional loan arrangements exist that enable flexible and swift deleveraging

# Strong operating cash flow reflecting cash generating nature of businesses

## Q3 2015 – cash flow statement

[€m]	Q3 2014	Q3 2015	Δ
Profit after tax	250	<b>366</b>	116
D&A	353	<b>337</b>	-16
Changes in provisions	89	<b>11</b>	-78
Changes in other assets/liabilities	115	<b>153</b>	38
Other operating activities	-4	<b>12</b>	16
Changes in working capital	-77	<b>-7</b>	70
Operating cash flow	726	<b>872</b>	146
Investing cash flow	-364	<b>418</b>	782
thereof Capex on PPE	-128	<b>-130</b>	-2
Financing cash flow	90	<b>2,217</b>	2,127

## Cash flow drivers

- Last year's D&A included amortization for discontinued R&D project
- In 2014 provision built-up for R&D terminations, partial release in 2015
- Investing cash flow includes proceeds from Sigma FX hedging, payment of Intrexon upfront & cash management
- €2.1 bn eurobond issuance in August drives financing cash flow

# Operating cash flow burdened by tax payment for Pfizer upfront

## 9M 2015 – cash flow statement

[€m]	9M 2014	9M 2015	Δ
Profit after tax	883	<b>997</b>	114
D&A	980	<b>1,006</b>	26
Changes in provisions	0	<b>32</b>	32
Changes in other assets/liabilities	-67	<b>-348</b>	-281
Other operating activities	-8	<b>-6</b>	2
Changes in working capital	-224	<b>-204</b>	20
Operating cash flow	1,564	<b>1,477</b>	-87
Investing cash flow	-497	<b>2,670</b>	3,167
thereof Capex*	-270	<b>-297</b>	-27
Financing cash flow	-758	<b>4,331</b>	5,089

## Cash flow drivers

- D&A increase due to AZ
- Changes in provisions reflect higher pension & litigation provisions
- Higher tax and interest payments main drivers of changes in other assets/liabilities
- Investing cash flow contains cash-in from Sigma hedging instrument as well as sale of financial assets
- Financing cash flow impacted by Sigma financing and repayment of eurobond; LY reflects part of purchase of AZ



# Exceptionals in Q3 2015

## Exceptionals in EBIT

[€m]	Q3 2014		Q3 2015	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	17	0	-1	0
Life Science	11	0	21	0
Performance Materials	25	0	5	0
Corporate & Other	26	4	18	0
Total	79	4	44	0

# Exceptionals in 9M 2015

## Exceptionals in EBIT

[€m]	9M 2014		9M 2015	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	43	4	32	2
Life Science	32	0	71	0
Performance Materials	81	0	6	0
Corporate & Other	42	4	39	0
Total	198	8	148	2

## Financial calendar

Date	Event
December 10, 2015	M <sup>3</sup> - Meet Management
March 8, 2016	Q4 2015 Earnings release
April 29, 2016	Annual General Meeting
May 19, 2016	Q1 2016 Earnings release



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