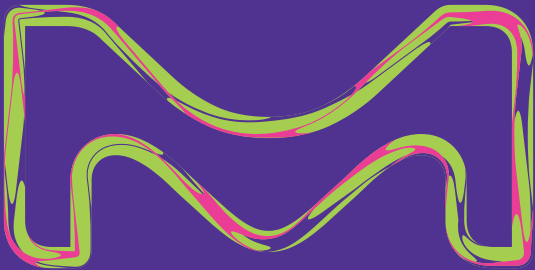




# **MERCK KGAA, DARMSTADT, GERMANY — Q4 2016 ROADSHOW**

Investor Relations

March 2017





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# Agenda

- 01 Business overview**
- 02 Transforming the company**
- 03 Healthcare – Funding for success**
- 04 Life Science – Focusing on profitable growth**
- 05 Performance Materials – Expanding leadership and innovation**
- 06 Executive summary and guidance**



01

## **BUSINESS OVERVIEW**

# Group

## Portfolio of three high-tech businesses



### Healthcare

#### Leading in specialty pharma markets

- Biologics and small-molecules
- Research focus: Oncology, Immunology & Immuno-Oncology
- Over-the-counter medicine



### Life Science

#### Leading life science company

- Tools and services for biotech research & production
- Tools and laboratory supply for the academic research and industrial testing



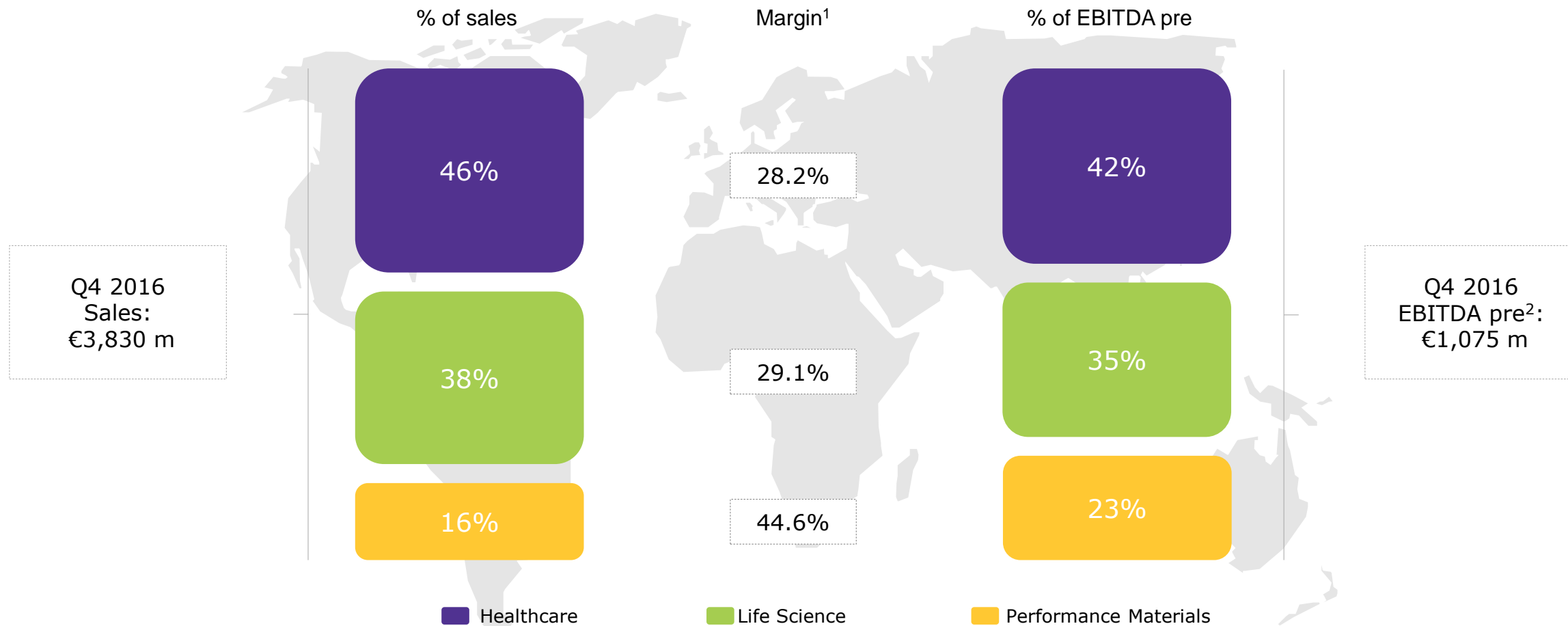
### Performance Materials

#### Market leader in specialty materials

- Innovative display materials
- Effect pigments and functional materials
- High-tech materials for electronics

# Group

## Strong businesses with attractive margins



<sup>1</sup>EBITDA pre margin in % of net sales; <sup>2</sup>Including Corporate/Others (-€119 m)

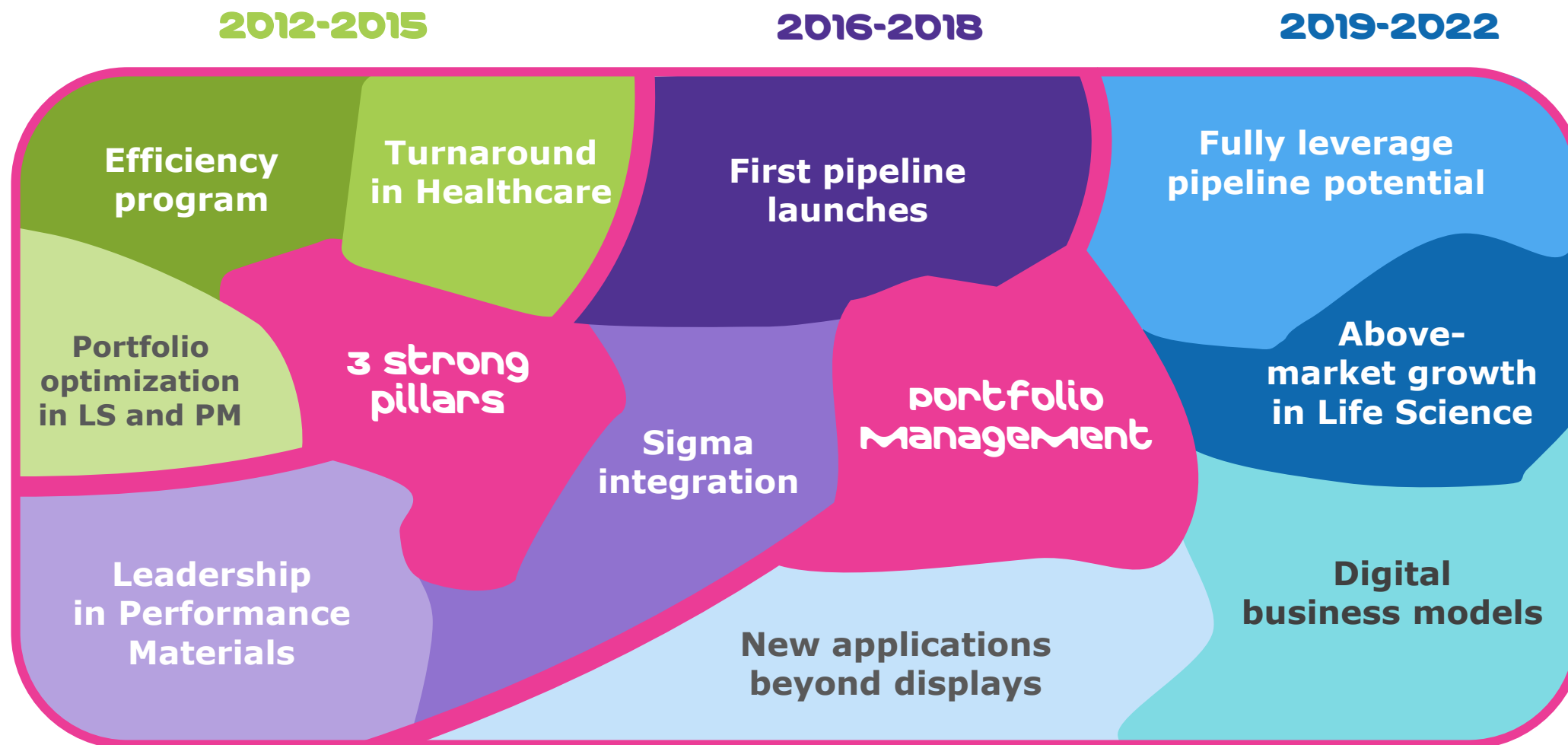


02

## TRANSFORMING THE COMPANY

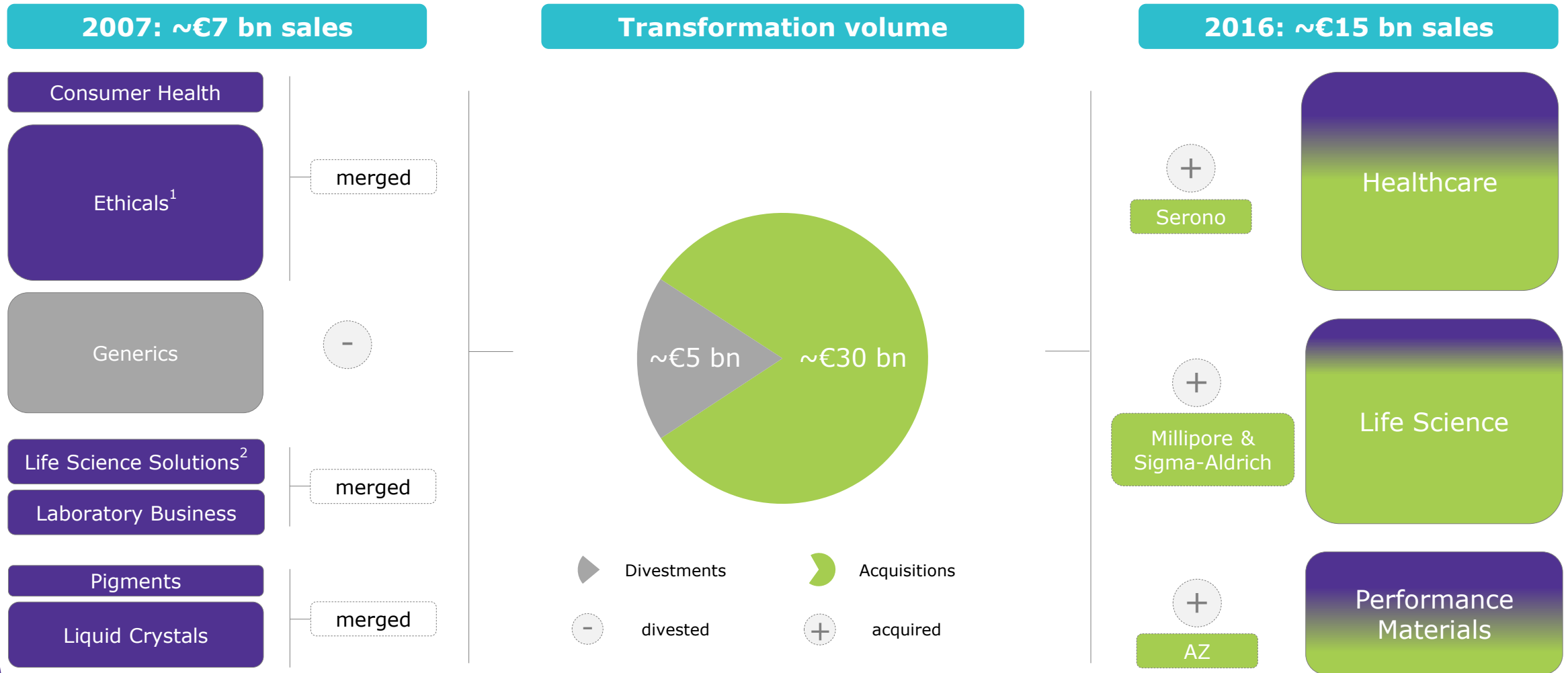


# Group Strategic roadmap 2016-2022

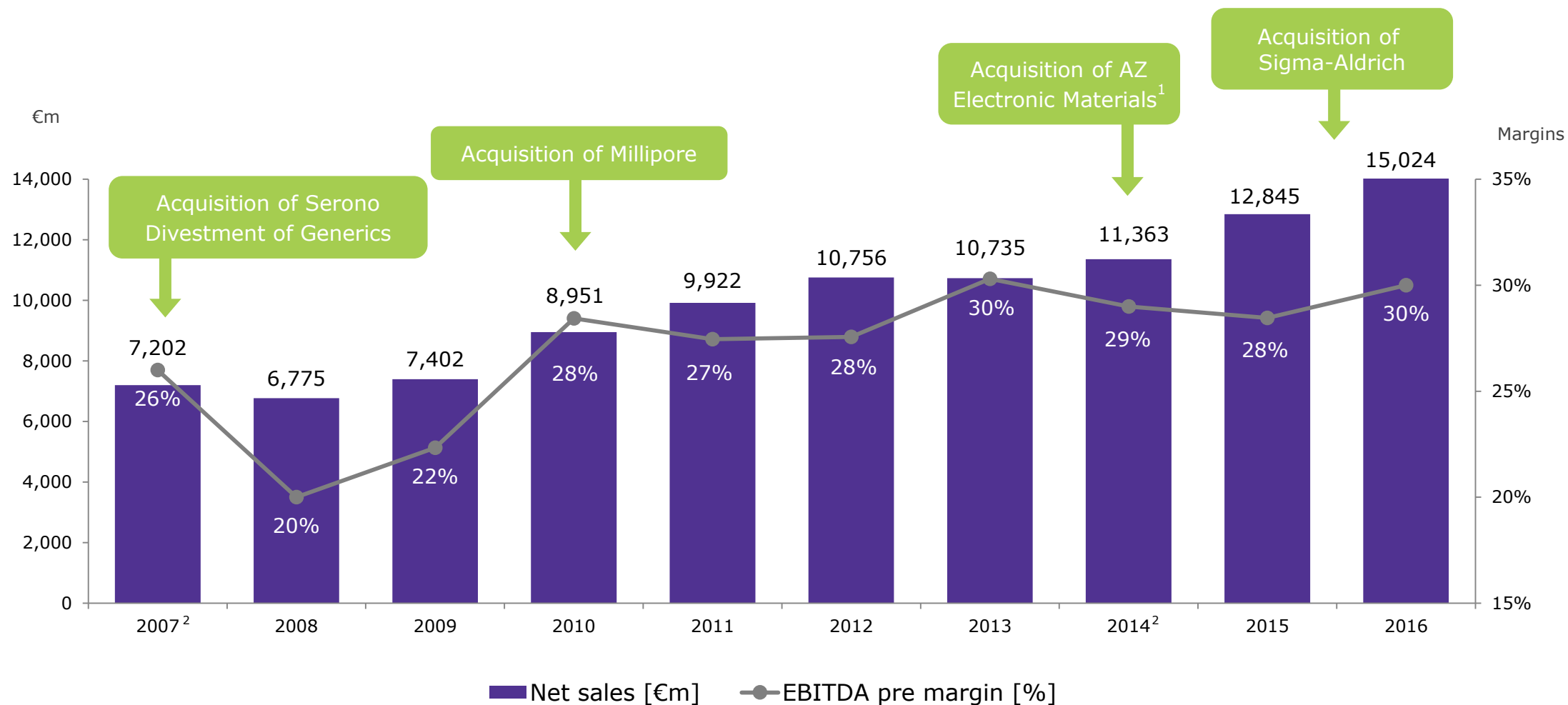


## Group

**We have added scale and strengthened the attractiveness of our portfolio**



# Group Profitability improved fundamentally



<sup>1</sup>Included since 2 May 2014; <sup>2</sup>2007 and 2014 EBITDA pre margin adjusted for comparability

Group

**We have created three leading businesses**

## Healthcare

+ Serono

- Leading biotech company
- Global footprint
- Strong presence in growth markets
- Solid underlying business
- Promising pipeline assets

## Life science

+ Millipore  
+ Sigma

- No. 3 in the world market
- Broad and global product portfolio
- Leading eCommerce platform
- Best-in-class supply chain management

## Performance Materials

+ AZ

- World market leader
- Technology and innovation leader

Science

Technology

Innovation

Specialties

Quality

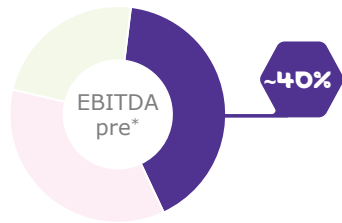
Customer focus

## Group

# Clear set of priority goals to be realized by 2018



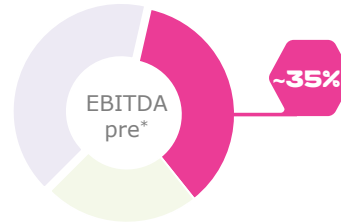
### Healthcare



- Maximize growth of existing franchises
- Deliver pipeline: one product launch or indication p.a. from 2017



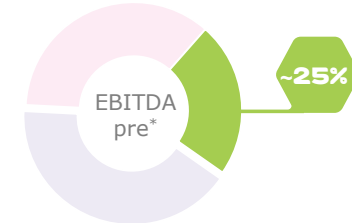
### Life science



- Focus on seamless integration and deliver cost synergies
- Leverage strategic capabilities for value creation



### Performance Materials



- Drive innovation and technology leadership across all businesses
- Innovate in applications also beyond displays

Merck KGaA,  
Darmstadt,  
Germany

- Deleverage to <2x net debt / EBITDA pre in 2018
- No large acquisitions (>€500 m) for the next 2 years (unless financed by divestments)
- Dividend policy reflects sustainable earnings trend



03

## HEALTHCARE – FUNDING FOR SUCCESS

Healthcare

## Healthcare is set to deliver on promising pipeline candidates

**Deliver**  
on organic growth

**Focus**  
on pipeline



Stable existing business to fuel slight organic growth



Solid pipeline of oncology, immuno-oncology and immunology molecules



Transformation of R&D operating model ongoing



Competitive R&D funding in our focus areas



Cost discipline and efficient execution

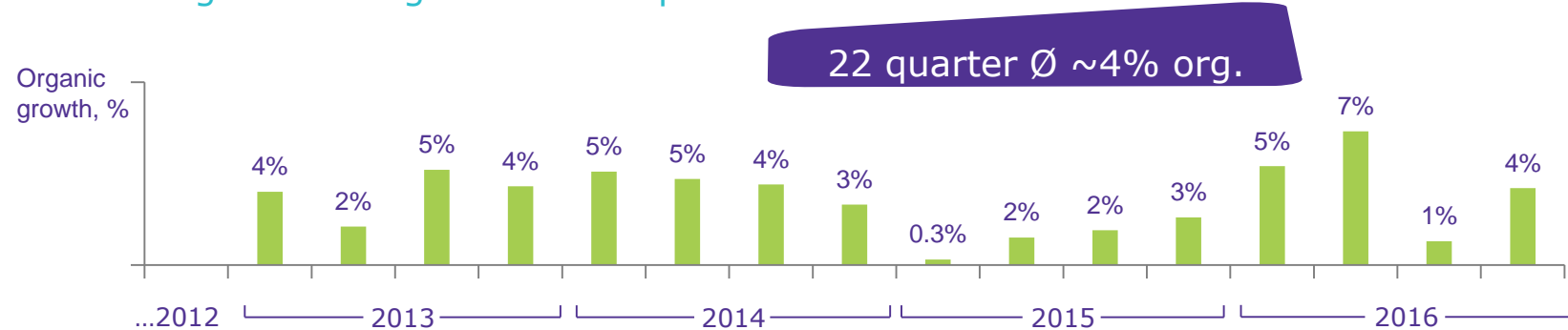


# Healthcare

## Operational excellence drives healthy growth of existing businesses

Organic growth  
for 22  
consecutive  
quarters

### Historic organic sales growth development



Commitment to  
at least stable  
organic sales  
until 2018

### Qualitative organic sales growth guidance per product/franchise until 2018

**rebif®:** Sales decline in line with interferon market

**oncology:** Stable sales

**fertility:** Mid single-digit growth

**endocrinology:** Low single-digit growth

**general medicine:** Mid to high single-digit growth

**consumer health:** Mid single-digit growth

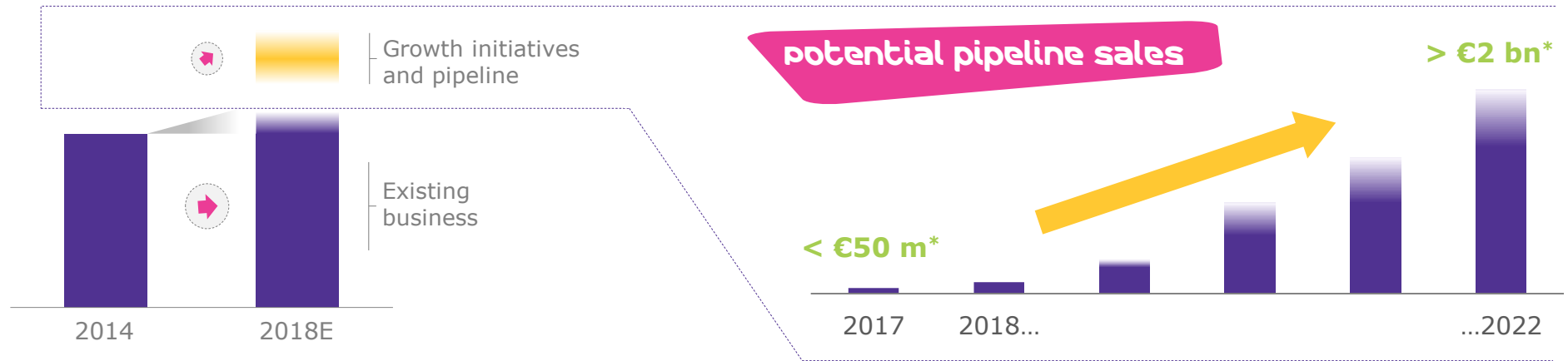


# Healthcare

## Well on track to deliver the pipeline

Deliver the pipeline

Increase R&D spending



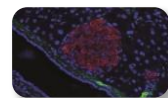
### Key investments



**Avelumab**



**BTK – inhibitor**



**TGF-beta trap**

### R&D costs in 2017 expected to exceed 2016

Main moving parts:

- Phase III progress of avelumab
- Regular prioritization in view of market dynamics
- Active partnering of selected pipeline assets (e.g. BTK-i)

# Healthcare

## Increasing R&D productivity with focus on potentially transformative assets

phase I		phase II		phase III	registration
BTK-i (hematological tumors)	Avelumab (mono/combinations)	atacept (SLE)	tepotinib (HCC/NSCLC)	Avelumab (mono/combinations)	Avelumab (MCC, UC 2L)
DNA-Pki / ATRi (solid tumors)	M7824/TGF-b trap (basket trial)	BTK-i (RA, SLE)	Avelumab (MCC 1L)	MSB11022 Biosimilar (chronic plaque psoriasis)	Cladribine Tablets (RRMS)
anti IL-17 (psoriasis)	NHS-IL 12 (solid tumors)	sprifermin (OA)			
<div></div> Oncology <div></div> Immuno-Oncology		<div></div> Immunology		<div></div> Biosimilars	<div></div> Neurodegenerative disease

### Avelumab

- 30 clinical programs ongoing (>4,000 patients in >15 tumor types)
- Nine phase III trials ongoing
- For MCC, decision by FDA expected in H1 2017 (EMA: later in 2017)

### TGF-b trap

- Enrolling in phase Ib cohorts (>10 indications)
- Interim data expected by mid 2017

### Cladribine Tablets

- Decision by EMA expected in Q3 2017

### BTK inhibitor

- Three immunology phase II trials initiated (RA, MS, SLE)
- One phase I trial in Oncology ongoing (different molecule)

## 2017 Milestones:

- Two potential product launches
- Major trial updates

Timelines may change: pharma pipeline products are under clinical investigation and there is no guarantee any product will be approved in the sought-after indication  
 Acronyms: SLE = Systemic lupus erythematosus; RA = Rheumatoid arthritis; OA = Osteoarthritis; HCC = Hepatocellular cancer; NSCLC = Non-small cell lung cancer  
 MCC = Merkel cell carcinoma; UC = Urothelial cancer; RRMS = Relapsing-remitting multiple sclerosis



04

**LIFE SCIENCE –  
FOCUSING ON  
PROFITABLE GROWTH**

## Life Science

### Serving customers across the life science industry

#### RESEARCH



- Academic and government institutions
- Biopharma R&D
- Industry R&D

#### PROCESS



- Pharmaceutical companies
- Small biotech
- Contract manufacturing organizations

#### APPLIED



- Diagnostic manufacturers
- Clinical testing labs
- Food & Beverage manufacturers

### We create sustainable value that is based on strong strategic levers



#### Wide, innovative portfolio

- A combined portfolio of +300,000 products
- Integrated offerings along the life science value chain
- Complete workflow solutions



#### Balanced geographic footprint

- Increased presence in North America
- Accelerating growth momentum in Asia
- Expanded geographic reach in 60+ countries



#### Industry-leading capabilities

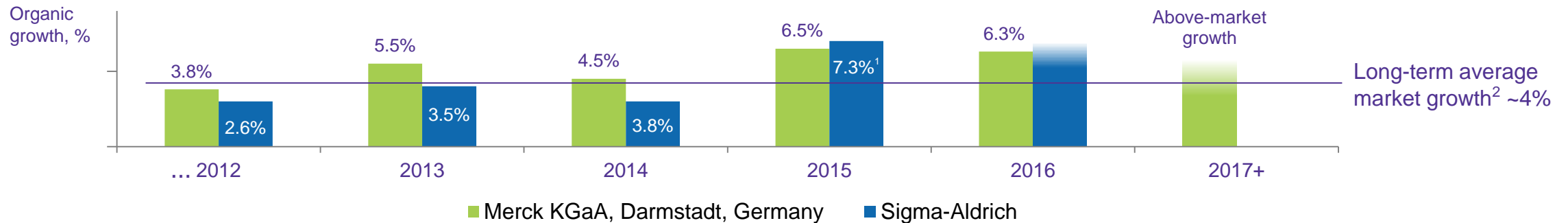
- Outstanding supply chain management (ability to deal with complexity)
- Simple e-commerce platform (customer interface with global coverage)
- Expertise to manage regulatory barriers

**Our capabilities are the foundation for future topline growth in Life Science**

## Life Science

# Above-market growth to be enhanced by top-line synergies

## Merck KGaA, Darmstadt, Germany and Sigma-Aldrich organic growth rates versus market growth



### Sources of market outperformance

1

#### Portfolio composition

- Exposure to biopharma
- Highest share of consumables
- Broad product offering

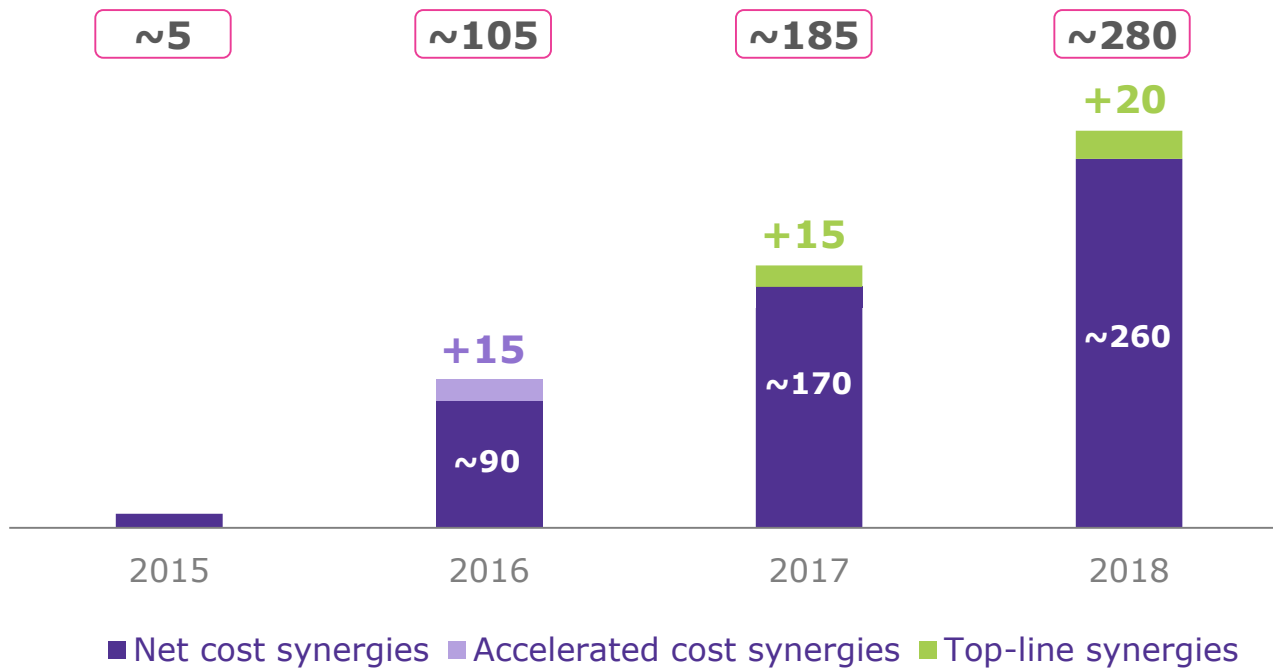
2

#### Top-line synergies

- Best in class eCommerce
- Excellent service capabilities
- Global reach

## Synergy upgrade driven by fast 2016 execution and top-line synergies

EBITDA pre impact of synergy ramp-up [€m]



**Synergy upgrade of ~10% confirms strong integration capabilities**

### Sources

#### Cost synergy update (for 2016)

- **faster** implementation of synergy measures in all areas
- **2016** expected total cost synergies of **~€105 M**
- Integration costs remain unchanged at ~€400 m

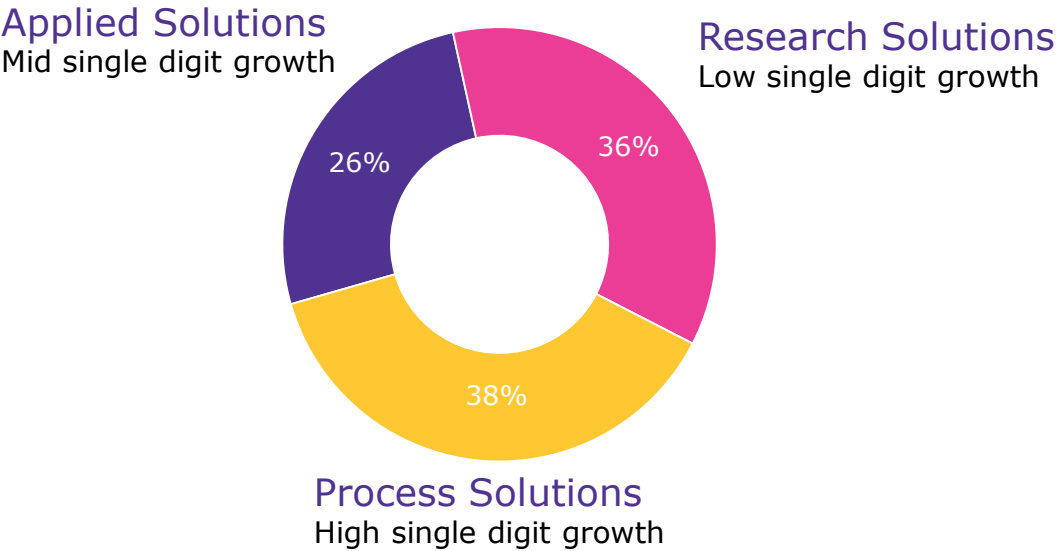
#### Top-line synergies (from 2017)

- Strong eCommerce and **IT capabilities** applied to our products
- Extensive **portfolio** and **customer** complementarity in Process and Applied Solutions
- Leverage **regional** Merck KGaA, Darmstadt, Germany - Asia and Sigma - North America footprint
- Expecting **~50-100 bps** in additional **sales growth** with average EBITDA pre margin

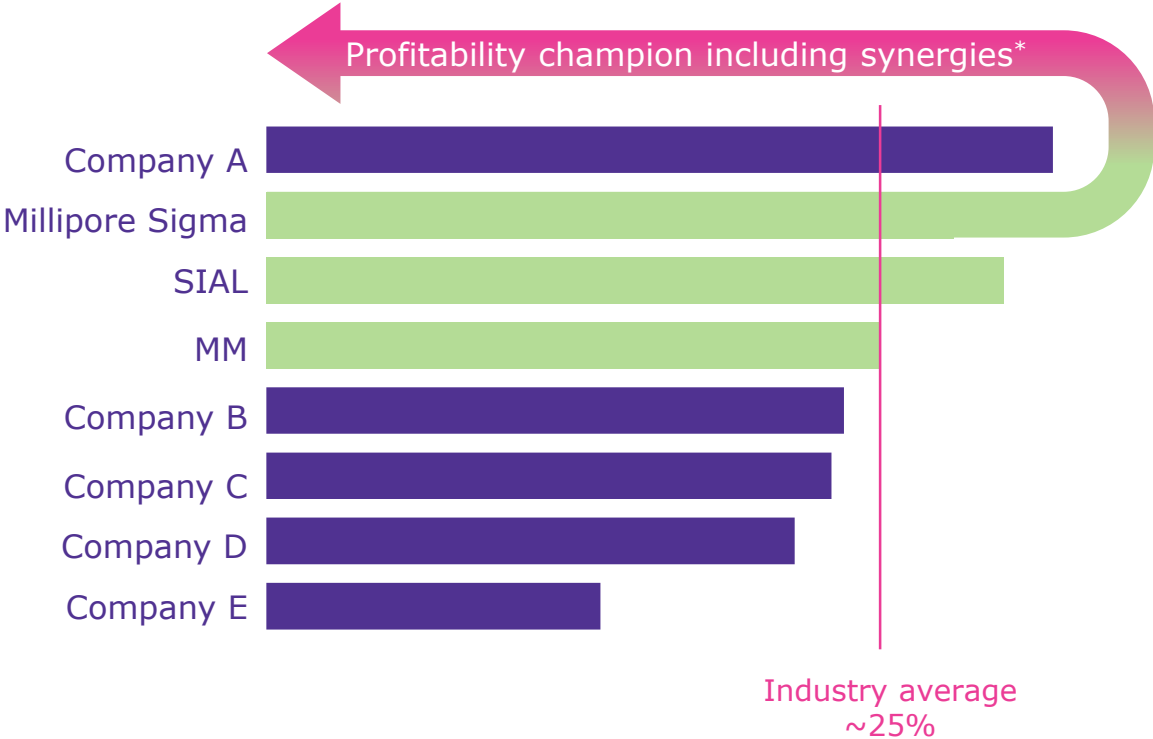
# Life Science

## We aim to be the profitability champion of the sector

Sales breakdown as of Q4 2016



Above industry margin levels



Life Science is well set for sustainable growth and profitability













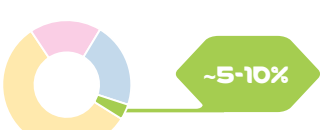



05

**PERFORMANCE  
MATERIALS –  
EXPANDING LEADERSHIP  
AND INNOVATION**

# Performance Materials

## The four pillars are set for future profitable growth

Business unit	% sales	Products	Mid-term growth trend
 <b>Display Materials</b>		<ul style="list-style-type: none"> <li>Liquid crystals (LC) and photoresists for TVs, smartphones and tablet computers</li> <li>Other display and non-display applications (e.g. LC Windows)</li> </ul>	
 <b>Pigments and Functional Materials</b>		<ul style="list-style-type: none"> <li>Effect pigments and functional materials for coatings, plastics, printing and cosmetics</li> <li>Functional materials for cosmetics &amp; special applications</li> </ul>	
 <b>Integrated Circuit Materials</b>		<ul style="list-style-type: none"> <li>Dielectrics, colloidal silica, lithography materials, yield enhancers, edge-bead removers</li> <li>Polyimide raw materials and printing materials</li> </ul>	
 <b>Advanced Technologies</b>		<ul style="list-style-type: none"> <li>Organic and inorganic light emitting diodes</li> <li>Functional materials for electronics and energy solutions</li> </ul>	

**Well-founded medium-term low to mid single-digit growth profile**

## Four-pillar strategy and innovation power strengthen our earnings profile

### Ongoing innovation

Launch of innovative products and new business models continues

### Four strong pillars

Combination of four highly profitable businesses raises diversification

### Market leadership

Strong market position is based on innovation power and differentiation



**1 Superior profitability**

**2 Strong earnings resilience**

**3 Low to mid single-digit mid-term growth**

# Performance Materials

## Sound platform to deliver high earnings

### 1 Four-pillar platform diversifies earnings stream

- Liquid Crystals remain key earnings contributor
- AZ\* expertise is being leveraged to develop innovative value-added solutions for customers
- OLED is becoming a visible growth driver
- Pigments continue to grow with high-end products

### 2 Continuous innovation as key profitability driver

- New products contribute high growth and profitability
- LC\* technology mode UB-FFS\* launched in 2014 is the most recent example

**Diversification of portfolio and ongoing innovation lead to strong profitability**

### Balanced sales and consistently high earnings



### We are the innovation leader



\*Abbreviations: AZ = AZ Electronics, LC = Liquid crystals, UB-FFS = Ultra Brightness Fringe Field Switching, IPS = In-Plane-Switching, VA = Vertical Alignment, PS-VA = Vertical Alignment with additional polymer layer fabricated from reactive mesogenes

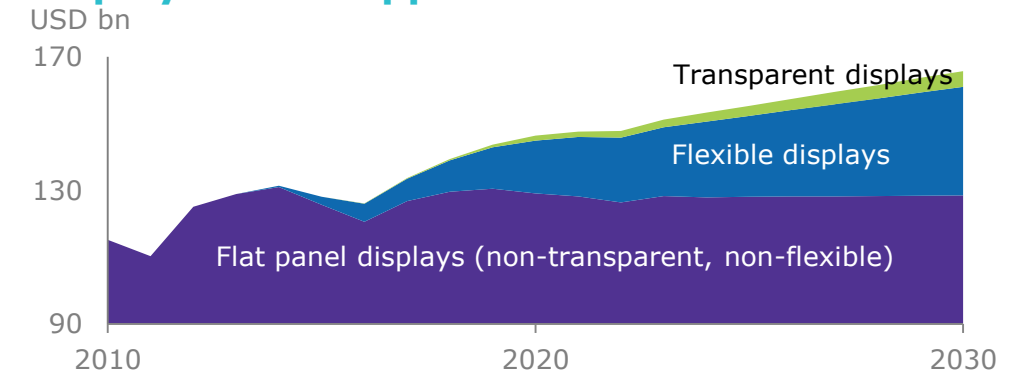
# Performance Materials

## Long-term growth and profitability drivers are intact

### 3 Macroeconomics and electronics remain buoyant

- Global consumer electronics market expected to grow above GDP\*
- Mobile data, Internet of Things and Big Data are key growth drivers for LC and IC
- Display market continues to grow

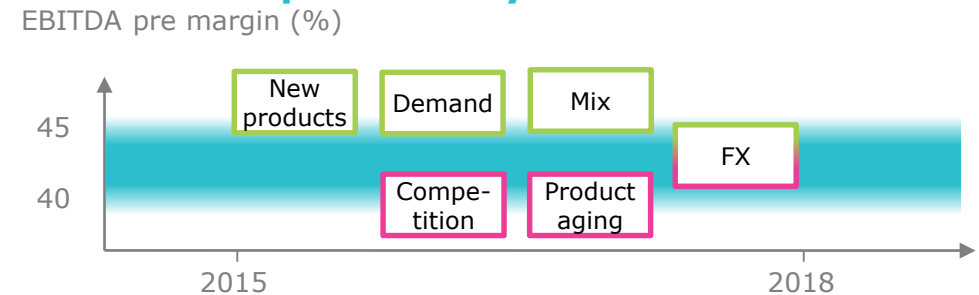
### Display market opportunities continue to evolve



### 4 High value-added products yield superior profitability

- High market share in liquid crystals expected to prevail
- Strong differentiation by innovation inherent mature of business

### Sustainable profitability drivers



**Unique differentiation and market position will continue to lead to strong profitability and maintain low single-digit growth trajectory**

# Performance Materials

## Unique selling proposition of SA-VA for manufacturers and consumers

### 1 Process

- Elimination of LC alignment process
- Fewer sources of production errors
- Fully compatible with current PS-VA process



### Innovation 3

- Low-temperature production enables potential for future applications (Plastic, flexible, organic)
- Enables thin bezel TV production



### 2 Costs

- Lower material costs as alignment material not needed anymore
- Lower Capex requirements



### Green 4

- Less energy and waste
- Reduced need for solvents



**SA-VA has the potential to become a value driver for us**



06

## **EXECUTIVE SUMMARY AND GUIDANCE**

Group

## We are well on track to deliver on our promises



### Group

Net debt reduced by ~€1 bn<sup>1</sup>  
Strict financial discipline supports rating



### Healthcare

Base business growing  
2 pipeline compounds in registration



### Life Science

Sigma-Aldrich synergies raised  
Organic growth above market



### Performance Materials

Introduce new technologies  
Volatility well managed

**Important  
Milestones  
reached  
to deliver  
on our  
promises**

**CMD<sup>2</sup>  
December  
2015**

**CMD  
October  
2016**

**2018**



Group

## We have clear financial priorities for the next two years



Focus on **cash flow**  
and **deleveraging**

- **Strong cash flow** will be used to drive down gearing to <2x net debt / EBITDA pre in 2018
- **Larger acquisitions (>€500m) ruled out** for the next two years (or financed by divestments)
- **Dividend policy** reflects sustainable earnings trend



**Ongoing cost discipline**

- **Synergy generation** is utmost priority
- **Cost discipline** continues in all business sectors
- **Further efficiency gains** from ongoing improvement and harmonization of processes and systems



**Efficient capital  
allocation**

- **All our businesses** have growth potential
- **Decisions on growth investments** are based on sound business cases and robust clinical data

**Near-term financial priorities will secure our profitable growth path**

# Group

## Qualitative Group full-year 2017 guidance

**Net sales:** **Slight to moderate organic growth**

**EBITDA pre:** **About stable\***

### EBITDA pre growth drivers

- Organic net sales growth with all 3 businesses contributing
- Sigma-Aldrich incremental cost and revenue synergies of ~+€80m YoY
- Rebif U.S. price increase as of January 2017
- Avonex royalty income for additional 6 months in 2017
- Swap of royalty & license income stream with net benefit of mid to high double-digit €m

### EBITDA pre growth burdens

- R&D costs increase 2017 in Healthcare: ongoing progress of pipeline and Vertex in-licensing
- HC margins negatively impacted by product mix
- Fertility growth less fueled by favorable competitive situation in U.S.
- Elimination of 2016 one-time effects (disposal gain Q2, reversal R&D termination provisions) ~-€90m YoY



# Appendix

**01** Guidance details

**02** Healthcare

**03** Life Science

**04** Performance Materials

**05** Financial details



01

## **GUIDANCE DETAILS**

## 2017 business sector guidance



### Healthcare

#### Net sales

- Slight organic growth
- Ongoing organic Rebif decline
- Other franchises growing; Glucophage repatriation in China supportive

#### EBITDA pre

- YoY % decline in the high single digits
- Higher R&D investments, mix effects and 2016 positive one-time effects mitigated by higher royalty income



### Life Science

#### Net sales

- Organic growth slightly above market; driven by Process Solutions
- First contribution from top-line synergies

#### EBITDA pre

- % YoY growth in the high single digits to low teens
- Sigma synergies and organic growth contributing



### Performance Materials

#### Net sales

- Slight organic growth
- Volume increases in all businesses
- Continuation of slight LC market share normalization cannot be ruled out

#### EBITDA pre

- Slight increase YoY

# Additional financial guidance 2017

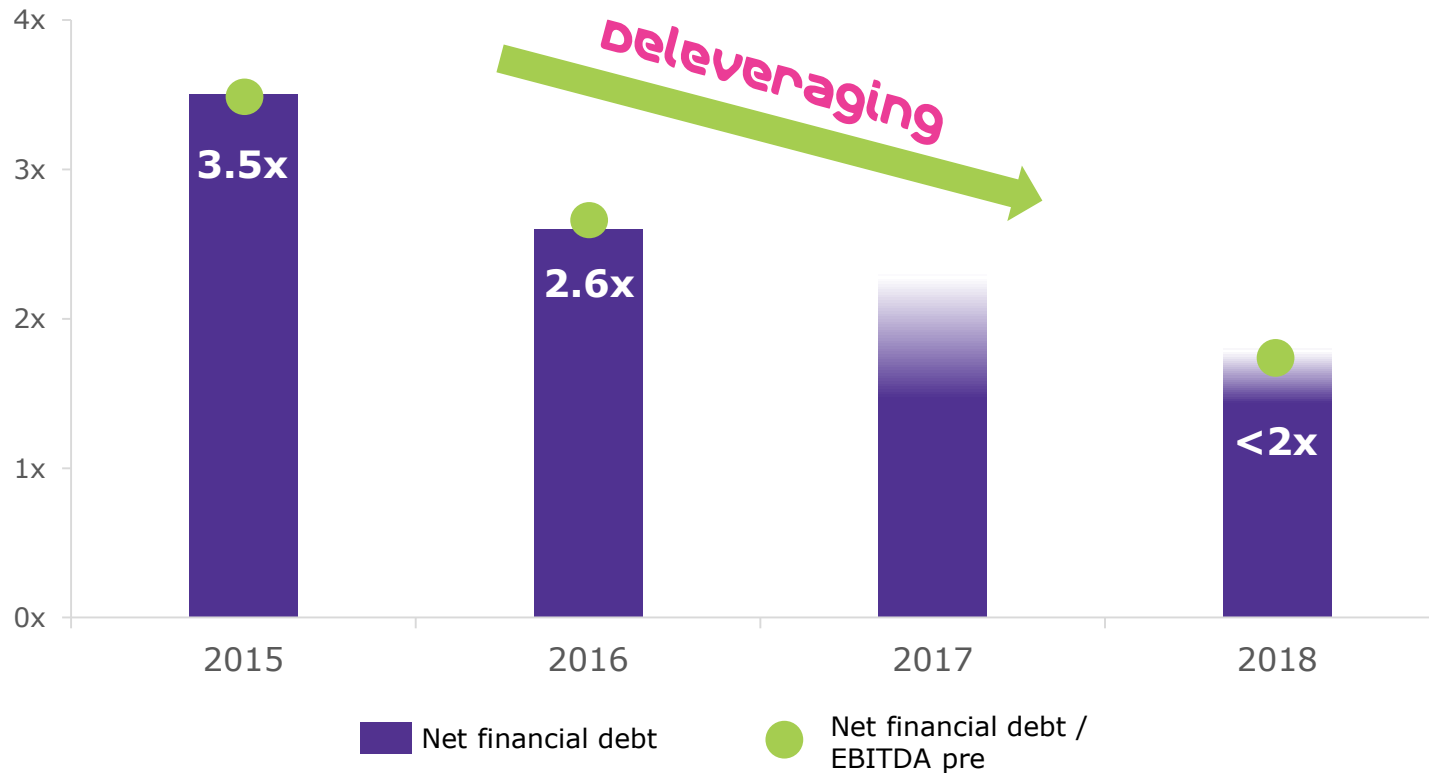
## Further financial details

Corporate & Other EBITDA pre	~ -€350 – -380m
Interest result	~ -€250 – -260 m
Effective tax rate	~ 23% to 25%
Capex on PPE	~ €850 – 900 m
Hedging/USD assumption	<b>2017 hedge ratio ~50% at EUR/USD ~ 1.11 to 1.12</b>
2017 Ø EUR/USD assumption	~ 1.06 – 1.10

# Strong focus on cash generation to ensure swift deleveraging

## Net financial debt\* and leverage development

[Net financial debt/  
EBITDA pre]



## Focus on deleveraging

- Commitment to swift deleveraging to ensure a strong investment grade credit rating and financial flexibility
- Strong cash flow will be used to drive down leverage to expected <2x net debt/EBITDA pre in 2018
- Larger acquisitions (>€500 m) ruled out for the next two years (or financed by divestments)



# 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

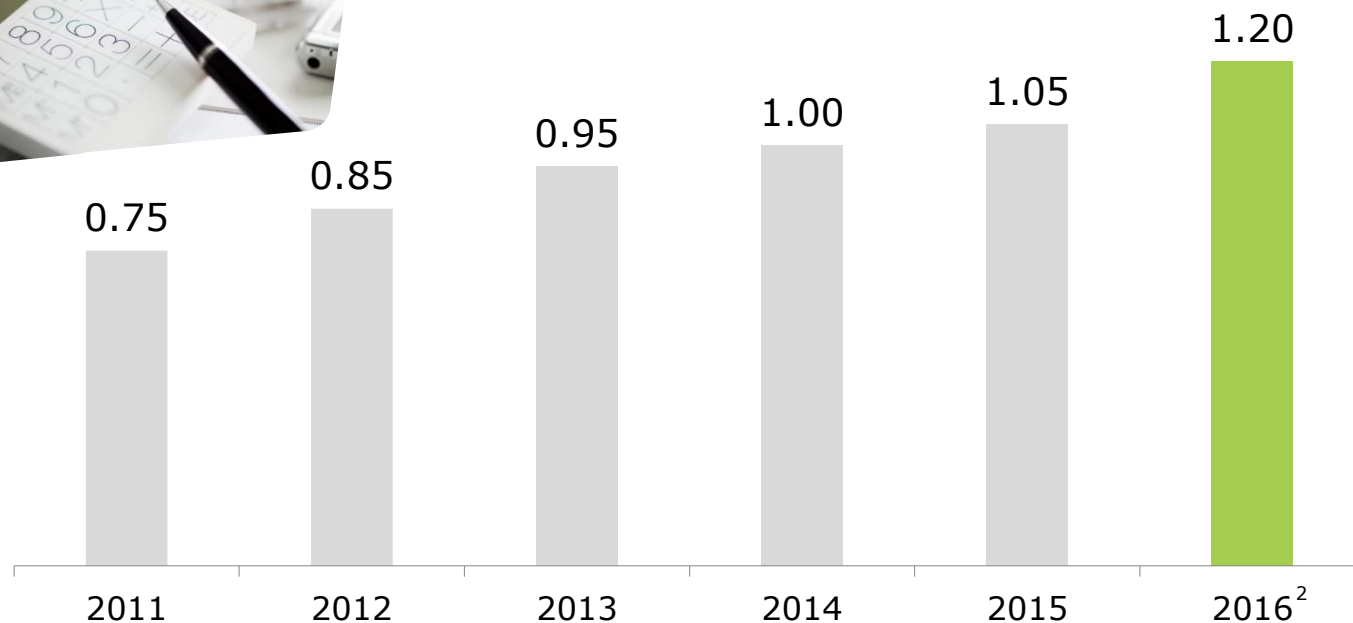
- Main production sites in Germany
- Several R&D and mixing facilities in Asia

### FX Impact



# Sustainable dividend development

## Dividend<sup>1</sup> development 2011-2016



## 2016 dividend

- Dividend of €1.20 per share proposed<sup>2</sup> for 2016, reflecting 19.3% of EPS pre
- Dividend development in line with business performance and earnings progression
- Dividend yield<sup>3</sup> of 1.21%

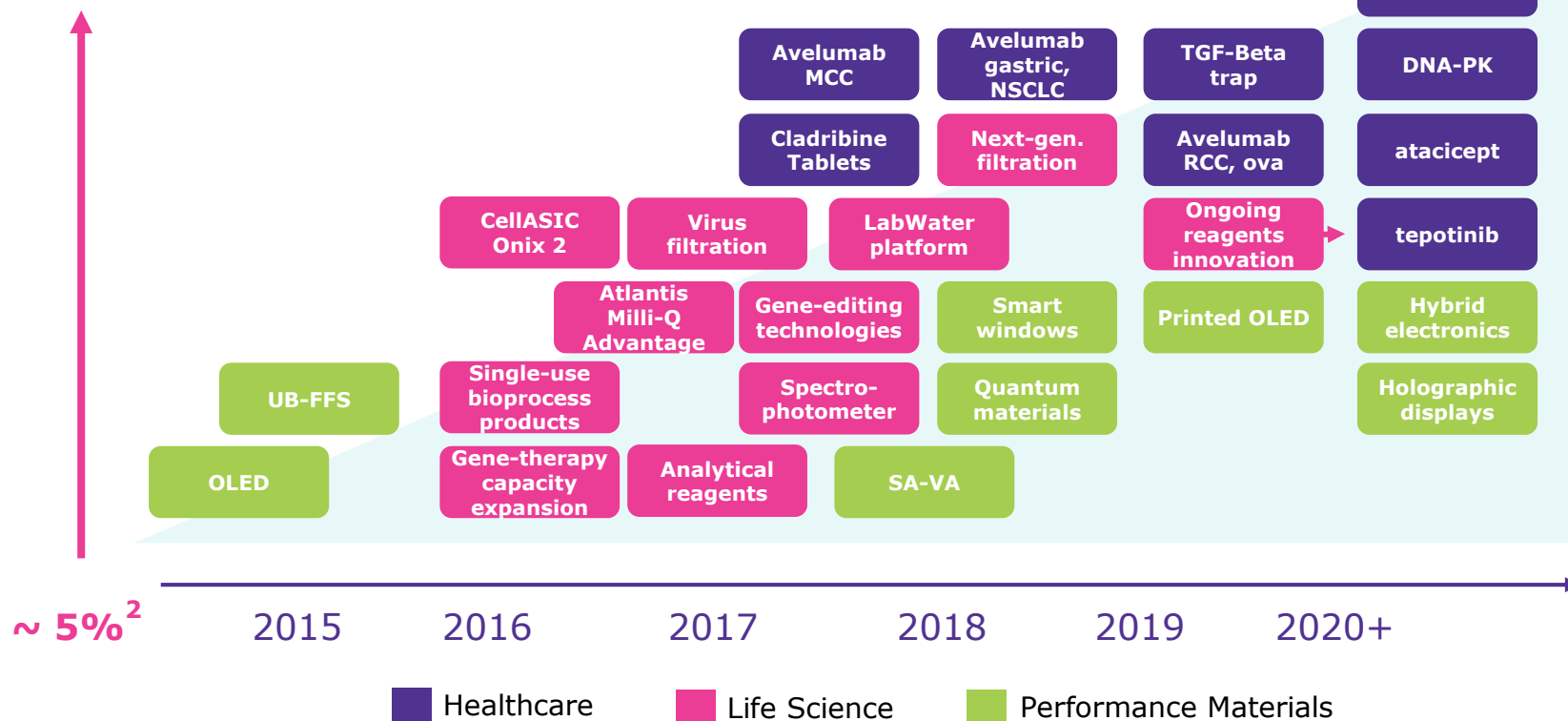
<sup>1</sup>Adjusted for share split, which has been effective since June 30, 2014; <sup>2</sup>Final decision subject to Annual General Meeting approval;

<sup>3</sup>Calculated with 2016 year-end share price of 99.15€ per share

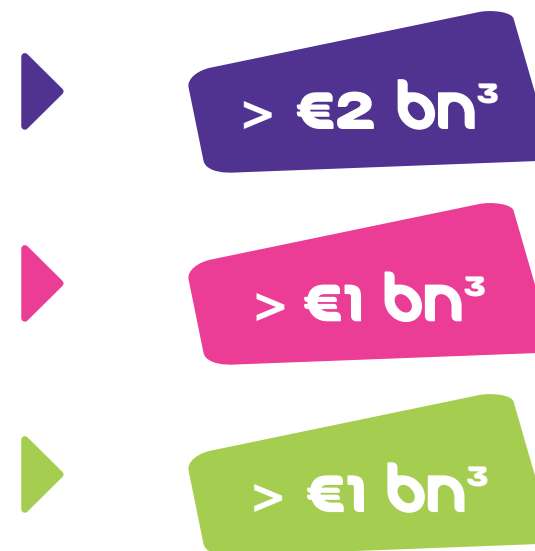
# Our strong innovation capabilities will drive growth

## New product launch cadence<sup>1</sup> by business sector

~ 20%<sup>2</sup>



## New product sales<sup>3</sup> potential 2022



**Our rich pipeline will strongly drive sales**

<sup>1</sup>Illustration: timelines may change as product introductions are subject to customer adoption and implementation; pharma pipeline products are under clinical investigation and there is no guarantee any product will be approved in the sought-after indication; <sup>2</sup>Share of total Group net sales from new products launched over the past 5 years, risk-adjusted; <sup>3</sup>risk-adjusted



## 02 HEALTHCARE

# Portfolio management: Differentiating across diverse business models

## General Medicine portfolio



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



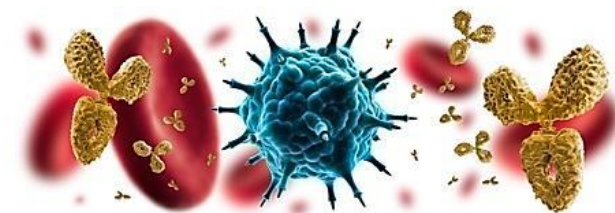
## Biologicals portfolio



- 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

# The road to maximizing Healthcare's existing franchises is clear

	Continue to drive mCRC* share by increasing patient testing and expanding head and neck coverage
	Ongoing 3x3 growth strategy implementation to strengthen sales and marketing activities delivering above-market organic sales growth
	Capitalize on strong efficacy and new smart devices to maximize differentiation and defend franchise
	Build on No.1 position and ART* 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 lifecycle management and expand business including asset repatriation



# Healthcare

## Clinical pipeline

### Phase I

#### **Tepotinib – c-Met kinase inhibitor**

Solid tumors

#### **M2698 – p70S6K & Akt inhibitor**

Solid tumors

#### **M3814 – DNA-PK inhibitor**

Solid tumors

#### **M9831 (VX-984) – DNA-PK inhibitor**

Solid tumors

#### **Beigene-283 – BRAF inhibitor**

Solid tumors

#### **M7583 – BTK inhibitor**

Hematological malignancies

#### **M66207<sup>7</sup> (VX-970) – ATR inhibitor**

Solid tumors

#### **M4344 (VX-803) – ATR inhibitor**

Solid tumors

#### **Avelumab – Anti-PD-L1 mAb**

Solid tumors

#### **Avelumab – Anti-PD-L1 mAb**

Hematological malignancies

#### **M9241 (NHS-IL12)**

Cancer immunotherapy

Solid tumors

#### **M7824 - Bifunctional immunotherapy**

Solid tumors

#### **M1095 (ALX-0761)**

Anti-IL-17 A/F nanobody

Psoriasis

### Phase II

#### **Tepotinib**

**c-Met kinase inhibitor**

Non-small cell lung cancer

#### **Tepotinib**

**c-Met kinase inhibitor**

Hepatocellular cancer

#### **Avelumab – Anti-PD-L1 mAb**

Merkel cell carcinoma 1L<sup>1</sup>

#### **Sprifermin**

**Fibroblast growth factor 18**

Osteoarthritis

#### **Atacicept**

**Anti-Blys/anti-APRIL fusion protein**

Systemic lupus erythematosus

#### **M2951**

**BTK inhibitor**

Rheumatoid arthritis

#### **M2951**

**BTK inhibitor**

Systemic lupus erythematosus

#### **Abituzumab**

**anti-CD 51 mAb**

Systemic sclerosis with interstitial lung disease

### Phase III

#### **Avelumab – Anti-PD-L1 mAb**

Non-small cell lung cancer 1L<sup>1</sup>

#### **Avelumab – Anti-PD-L1 mAb**

Non-small cell lung cancer 2L<sup>2</sup>

#### **Avelumab – Anti-PD-L1 mAb**

Gastric cancer 1L<sup>1</sup>

#### **Avelumab – Anti-PD-L1 mAb**

Gastric cancer 3L<sup>3</sup>

#### **Avelumab – Anti-PD-L1 mAb**

Urothelial cancer 1L<sup>1</sup>

#### **Avelumab – Anti-PD-L1 mAb**

Ovarian cancer platinum resistant/refractory

#### **Avelumab – Anti-PD-L1 mAb**

Ovarian cancer 1L<sup>1</sup>

#### **Avelumab – Anti-PD-L1 mAb**

Renal cell cancer 1L<sup>1</sup>

#### **Avelumab – Anti-PD-L1 mAb**

Locally advanced head and neck cancer

#### **MSB11022**

**Proposed biosimilar of Adalimumab**

Chronic plaque psoriasis

### Registration

#### **Cladribine<sup>4</sup> Tablets –**

**Lymphocyte targeting agent**

Relapsing-remitting multiple sclerosis

#### **Avelumab<sup>5</sup> – Anti-PD-L1 mAb**

Merkel cell carcinoma

#### **Avelumab<sup>6</sup> – Anti-PD-L1 mAb**

Urothelial cancer 2L<sup>2</sup>

■ Neurodegenerative Diseases

■ Oncology

■ Immunology

■ Immuno-Oncology

■ Biosimilars

Pipeline as of March 1<sup>st</sup>, 2017

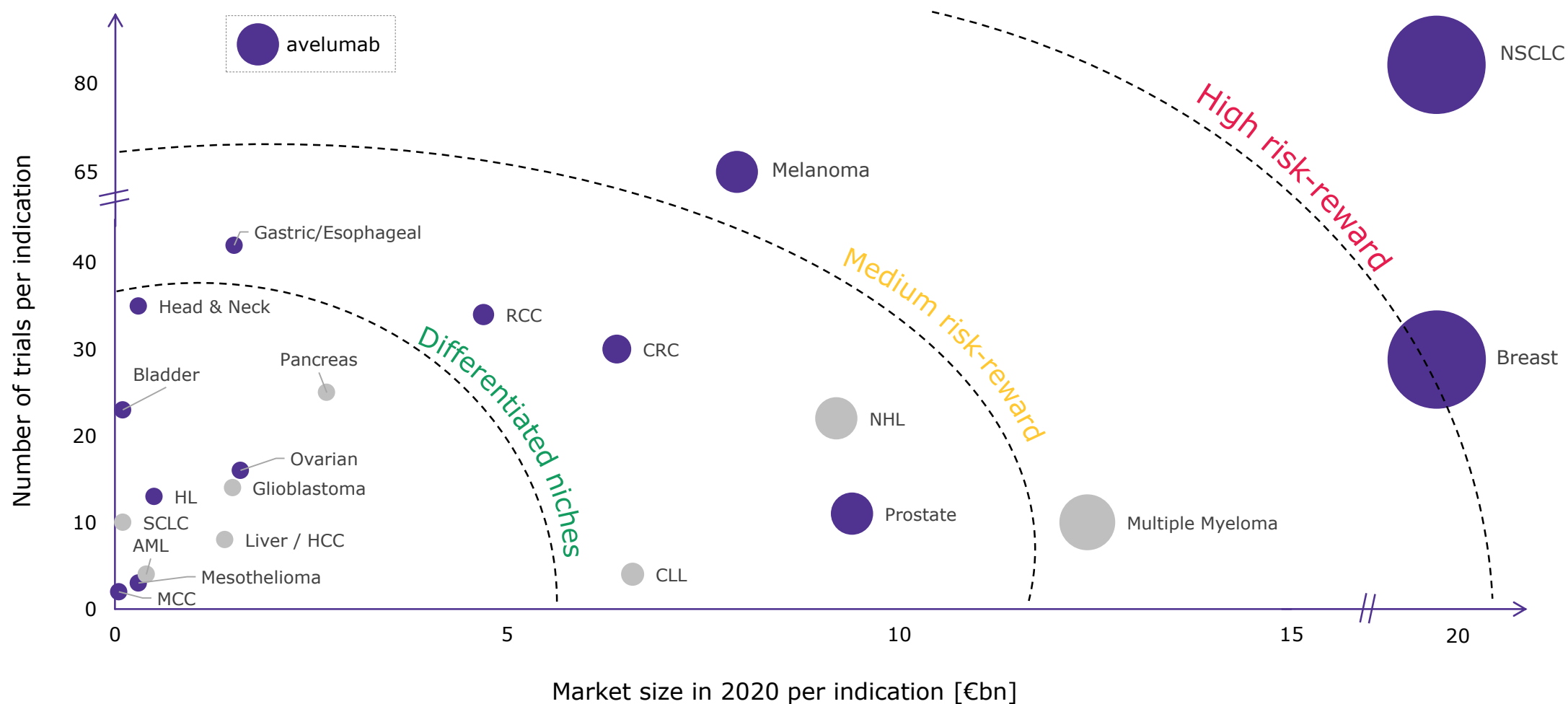
Pipeline products are under clinical investigation and have not been proven to be safe and effective.

There is no guarantee any product will be approved in the sought-after indication.

<sup>1</sup> 1st line treatment; <sup>2</sup> 2nd line treatment; <sup>3</sup> 3rd line treatment; <sup>4</sup> European Medicines Agency (EMA) accepted Marketing Authorization Application (MAA) from Merck KGaA, Darmstadt, Germany in July 2016; <sup>5</sup> EMA accepted MMA from Merck KGaA, Darmstadt, Germany in July 2016 and the US Food and Drug Administration (FDA) has accepted for Priority Review the Biologics License Application (BLA);

<sup>6</sup> FDA accepted for Priority Review the BLA; <sup>7</sup> Includes expansion cohorts in non small cell lung cancer, small cell lung cancer and triple negative breast cancer

# 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



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

1

**Unsaturated  
and / or niche  
indications**

- Ambition to lead in niche indications (e.g. Merkel cell) or markets (e.g. Asia for gastric)
- Quick to market strategy (e.g. BTB designation for MCC)
- Small, but less crowded markets and sales potential with notable impact for us
- Strategic strength of Healthcare in niche markets

2

**Saturated  
and / or major  
indications**

- Learn from experience of incumbents/early movers in major indications (e.g. NSCLC, Bladder)
- Potential for combinations given breadth of combined development pipelines
- Differentiate in trial design and explore application of further biomarkers



## The alliance initiated nine Phase III studies

	Indication	Treatment line	Estimated patient enrollment	Comparator	Estimated primary completion
<b>1</b>	Ovarian	Platinum res./ref.	550	Pegylated liposomal doxorubicin	H1 2018
<b>2</b>	Ovarian	1 <sup>st</sup> line	951	Platinum-based chemotherapy	H2 2019
<b>3</b>	NSCLC	1 <sup>st</sup> line	1095	Physician's choice of platinum containing chemotherapy	H1 2019
<b>4</b>	NSCLC	2 <sup>nd</sup> line	792	Docetaxel/chemotherapy	H1 2018
<b>5</b>	Gastric	1 <sup>st</sup> line maint.	666	Best supportive care (BSC)	H2 2018
<b>6</b>	Gastric	3 <sup>rd</sup> line	330	Physician's choice of chemotherapy/BSC	H2 2017
<b>7</b>	Bladder	1 <sup>st</sup> line	668	Best supportive care	H2 2018
<b>8</b>	Renal cell	1 <sup>st</sup> line	583	Sunitinib	H1 2018
<b>9</b>	SCCHN	Front-line	640	Standard of care chemoradiation therapy	H1 2021

# Clinical results support avelumab as potential therapeutic option for metastatic Merkel cell carcinoma

## Encouraging response rates<sup>1</sup>

- ORR: 31.8%
  - 9.1% complete response
  - 22.7% partial response
  - Rapid (78.6% responding within 7 weeks of treatment)
  - Durable (82.1% still responding at time of analysis)
- 6-mo OS: 69% (median OS: 11.3 months)
- 6-mo PFS rate: 40%
- Manageable safety profile; no unexpected safety signals

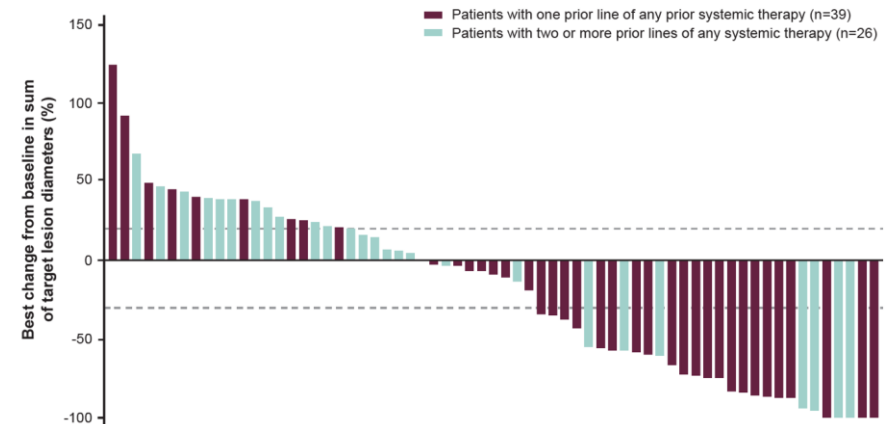


Note: timelines are event-driven and may change

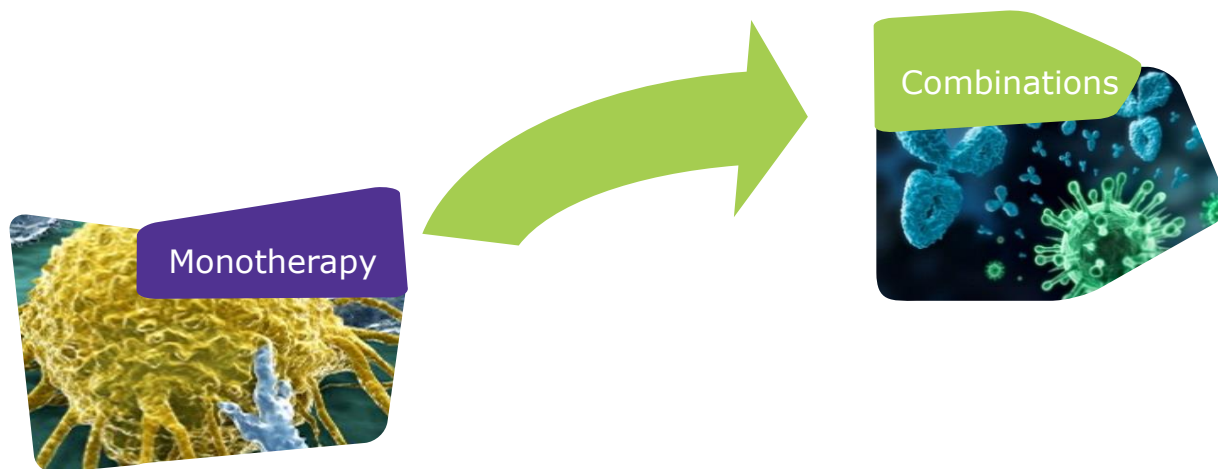
<sup>1</sup>Avelumab (MSB0010718C; anti-PD-L1) in patients with metastatic Merkel cell carcinoma previously treated with chemotherapy: results of the phase 2 JAVELIN Merkel 200 trial / Oral Presentation at the 52nd ASCO Annual Meeting, June 3-7, 2016; Chicago, Illinois. Abstract No. 9508; Howard Kaufman et al.

## Potential for differentiation

- Largest international multicenter, open-label study of anti-PD-L1/PD-1 reported in this patient population (88 patients) – Responses observed in large number of patients
- Improved response rates observed when used earlier, i.e. fewer lines of prior chemotherapy appeared to be associated with better response to avelumab in MCC 2L and beyond
  - ORR of 40.4% for patients with one prior systematic treatment
  - ORR of 19.4% for patients with two and more prior treatments



# For Avelumab, combinations will drive differentiation strategy



- **In registration: metastatic Merkel Cell**
- **In registration: metastatic Urothelial (2L)**
- Phase III: Ovarian (1L & Plat. Res. Ref.)<sup>1</sup>
- Phase III: Gastric (1L MN & 3L)
- Phase III: NSCLC (1L & 2L)
- Phase III: Urothelial (1L MN)
- Phase I: Merkel Cell (1L)
- Multiple other tumor types

- **Phase III: Ovarian 1L & Plat. Res. Ref.**<sup>1</sup>  
(Avelumab + Chemotherapy)
- **Phase III: Renal 1L**  
(Avelumab + Inlyta)
- **Phase III: L/A Head and Neck**  
(Avelumab + Chemoradiation)
- **Phase I: DLBCL**<sup>2</sup>  
(Avelumab + various agents)
- **Phase I/II: Advanced malignancies**  
(Avelumab + 4-1BB / + OX40)
- **Phase Ib/II: Ovarian**  
(Avelumab + Entinostat; Syndax)
- **Phase I/Ib: Ovarian**  
(Avelumab + VS-6063; Verastem)
- **Phase I/II: SCCHN**  
(Avelumab + TG4001; Transgene)
- **Phase Ib/II: NSCLC**  
(Avelumab + VX15/2503; Vaccinex)
- **Phase I/Ib: NSCLC**  
(Avelumab + Debio1143; Debiopharm)

# Cladribine tablets – MAA submission accepted by EMA in July 2016

## Background

- Targets lymphocytes (both B and T cells), integral to MS pathogenesis
- Two Phase III and one Phase IIIb extension studies conducted in RRMS and early MS<sup>1,2,3</sup>; Phase II study in patients failing IFN beta therapy<sup>5</sup>
- Substantial new efficacy & safety characterization including data from long-term follow up (>10,000 patient-years)
- Most recent analyses provide relevant information on benefit/risk profile of cladribine tablets in RRMS:
  - ARR reduction (58%)
  - Risk of disability progression (33% reduction)
  - Relative reduction in mean number of lesion (86% reduction in T1 gadolinium-enhanced lesions)
  - 47% of patients experience NEDA over 2 years<sup>4</sup>

## Potential for differentiation

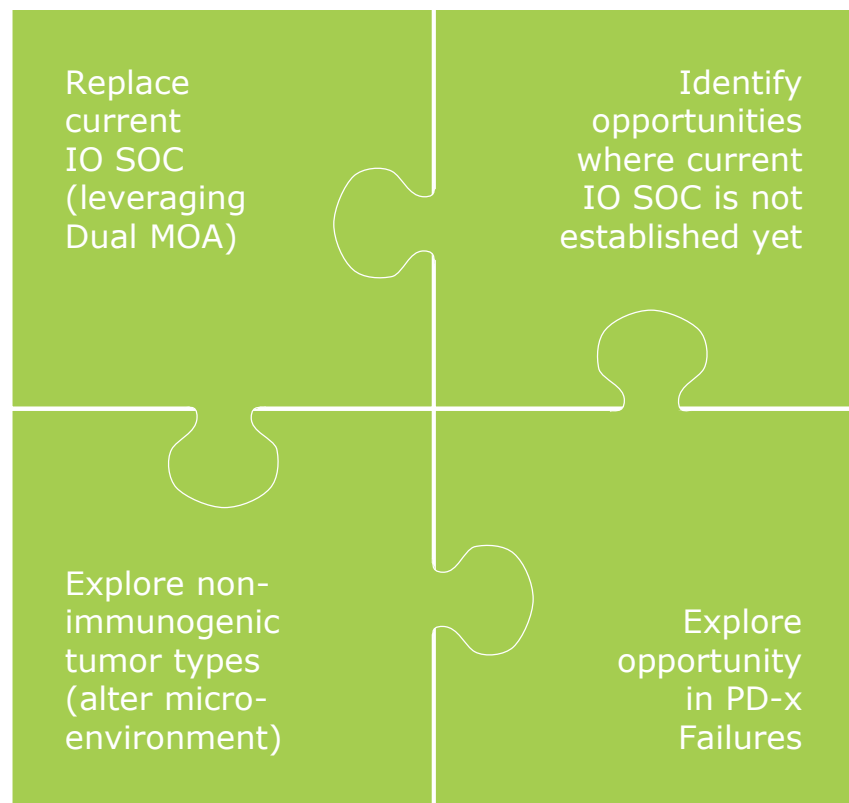
- Merck KGaA, Darmstadt, Germany aims to address significant unmet needs for agents delivering high efficacy with favorable safety profile in a convenient dosing regimen
- Administered orally (tablet formulation)
- Extremely short treatment courses (8–10 days per year) leading to long-term efficacy<sup>1</sup>

Note: timelines are event-driven and may change

EMA = European Medicines Agency; ARR = Annualized Relapse Rate; MAA = Marketing Authorization Application; MS = multiple sclerosis; NEDA = no evidence of disease activity; RRMS = relapsing-remitting multiple sclerosis. <sup>1</sup> Giovannoni G et al. New Engl J Med 2010;362:416–26; <sup>2</sup> Giovannoni G et al. 65th annual meeting of the American Academy of Neurology 2013. P07.119. <sup>3</sup> Leist TP et al. Lancet Neurol 2014;13:257–67. <sup>4</sup> Giovannoni G et al. Lancet Neurol. 2011;10:329–37. <sup>5</sup> Montalban X et al. 65th annual meeting of the American Academy of Neurology 2013. P07.099.

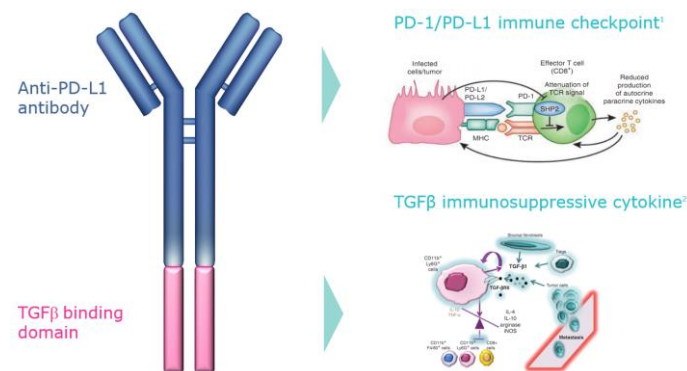
# PD-L1–TGF-beta indicates potential to move beyond checkpoint inhibitors

## Four focus areas for exploration



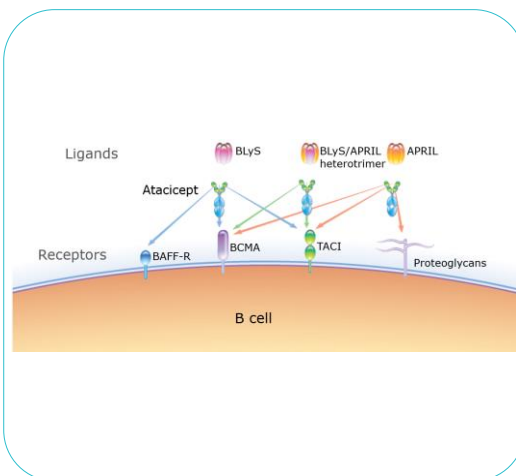
## Status and next steps

- Novel, first-in-class bifunctional immunotherapy
- Bifunctional mode should result in broader application vs. respective mono-functional agents
- Great potential when combined with Standard of Care, immunotherapy and internal pipeline drug candidates
- Dose level finding of Phase I completed
- Recruiting into Ib expansion cohorts started in Q3 2016



## Update on selected assets (1/2)

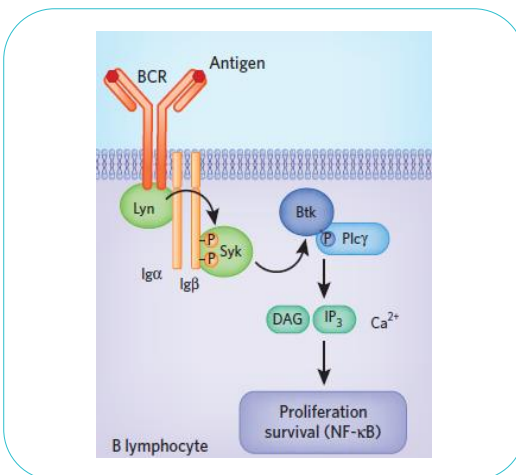
### Atacicept



- Binds to receptors of two cytokines regulating maturation, function, and survival of B cells (B-lymphocyte stimulator (BLyS) & a proliferation-inducing ligand (APRIL))
- ADDRESS II (Phase IIb) in SLE patients (n=306):
- Primary endpoint not met, but analyses of predefined subpopulation with high disease activity (HDA; n=158) demonstrated statistically significant treatment effects (e.g. SRI-6 response at week 24 significantly greater with atacicept 150 mg vs. placebo); both doses led to significant reductions in BILAG A and SFI flares

Phase III decision subject to interactions with authorities

### BTK



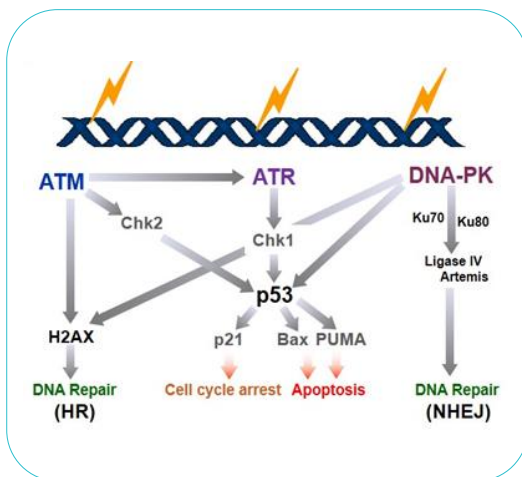
- Suppress autoantibody-producing cells
- High and differentiated efficacy in preclinical models; promising kinase selectivity profile
- Aim to achieve best in class through minimization of off-target effects
- Three immunology phase II trials initiated (RA, MS, SLE)
- Phase I trial in Oncology ongoing (different molecule)
- Partnering opportunities under consideration

Phase II data readout in Q2 2017 (RA)



## Update on selected assets (2/2)

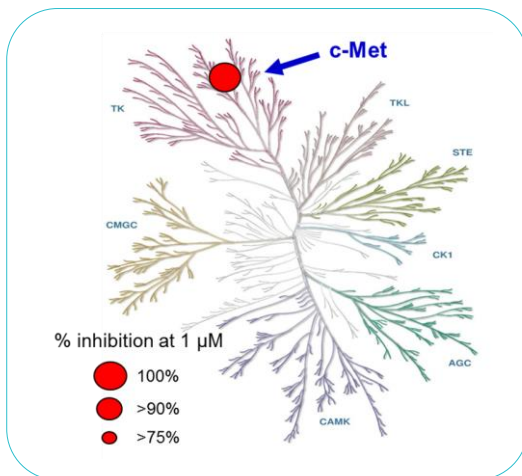
### DDR-program



- M3814 is a selective and potent inhibitor of DNA-PK, a kinase mediating DNA double strand break repair
- Preclinical models showing complete responses and/or increased PFS in combination with radiotherapy in several xenograft models (SCCHN, NSCLC, CRC, PaCa) and strong pre-clinical combination data with SoC chemotherapies
- Two DDR programs licensed-in, incl. two ATR compounds VX-970<sup>1</sup>/VX-803<sup>2</sup>, and one DNA-PK compound VX-984<sup>3</sup>, which will be combined with existing DNA-PK assets (M3814) into a single development program

Analysis of M3814 Phase I data for RT combination expected in H2 2017

### Tepotinib



- Highly selective small molecule c-Met inhibitor
- Active in ligand-dependent and ligand-independent tumor models
- Biomarker-driven approach for patient selection
- Preliminary data show encouraging signs of anti-tumor activity in c-Met positive patients in NSCLC and HCC<sup>2,3</sup>
- Phase II trials in progress in NSCLC and HCC

Analysis of Phase II data for HCC and NSCLC expected in H1 2018

Note: timelines are event-driven and may change and graphics are only illustrative

<sup>1</sup>Includes expansion cohorts in non small cell lung cancer, triple negative breast cancer and small cell lung cancer; <sup>2</sup>VX-803 is an orally dosed ATR inhibitor currently in Phase 1 trials evaluating escalating doses of VX-803 alone and in combination with chemotherapy; <sup>3</sup>A Phase 1 trial is now evaluating escalating doses of VX-984 alone and in combination with pegylated liposomal doxorubicin in subjects with advanced solid tumors



## Newsflow: Upcoming pipeline catalysts

Avelumab	▶ MCC: Expected FDA/EMA decision	▶ H1/H2 2017
	▶ UC: Expected FDA decision	▶ H2 2017
Atacicept	▶ Phase III decision	▶ Subject to interaction with authorities
BTK inhibitor (RA)	▶ Phase II data readout	▶ Q2 2017
M7824 (anti PD-L1 – TGF-beta trap)	▶ Phase I interim data	▶ mid 2017
Cladribine tablets	▶ Expected EMA decision	▶ Q3 2017
Sprifermin	▶ Phase II data readout	▶ Q3 2017

# Healthcare is well set for future growth

Stable existing business

Business and market specific initiatives in place to maximize existing business franchises

Strong R&D pipeline

Diversified but focused pipeline with high quality assets in the areas Immuno-Oncology, Oncology and Immunology healthily spread across all clinical phases

Successful collaborations

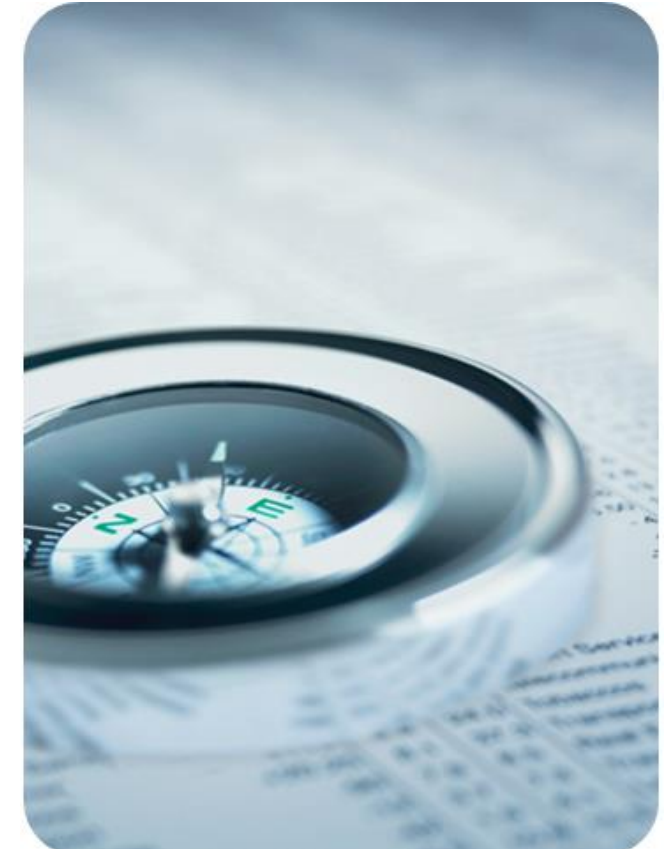
Proven success in partnering through joint investments and collaborations – maximizing potential of assets in competitive space

Promising late stage progress

Three submissions in 2016 may potentially result in two product launches in 2017

Disciplined execution

Systematic pipeline review and timely decision making allow efficient resource and budget allocation

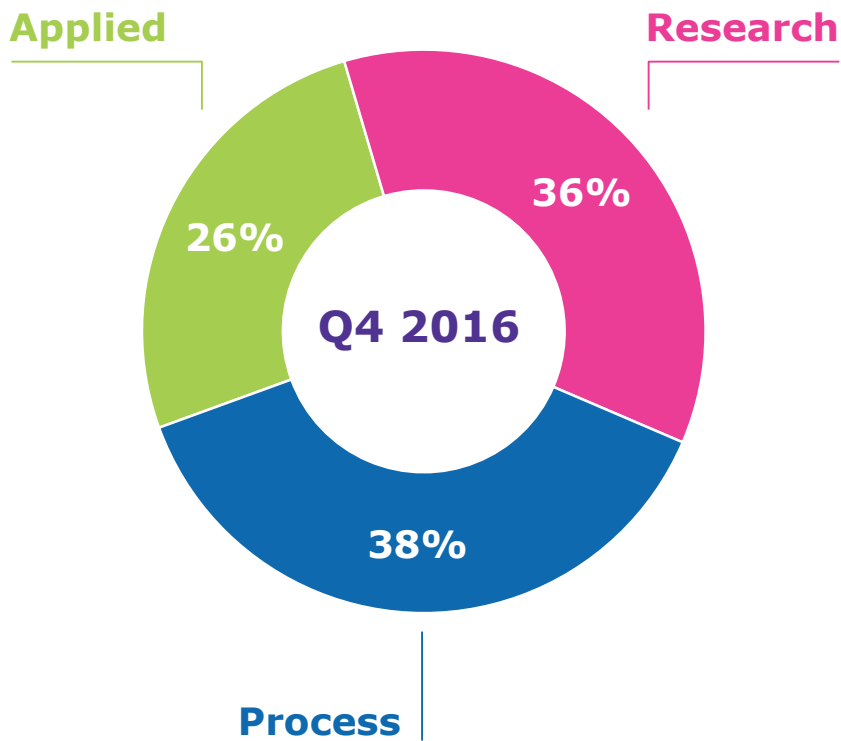




# 03 LIFE SCIENCE

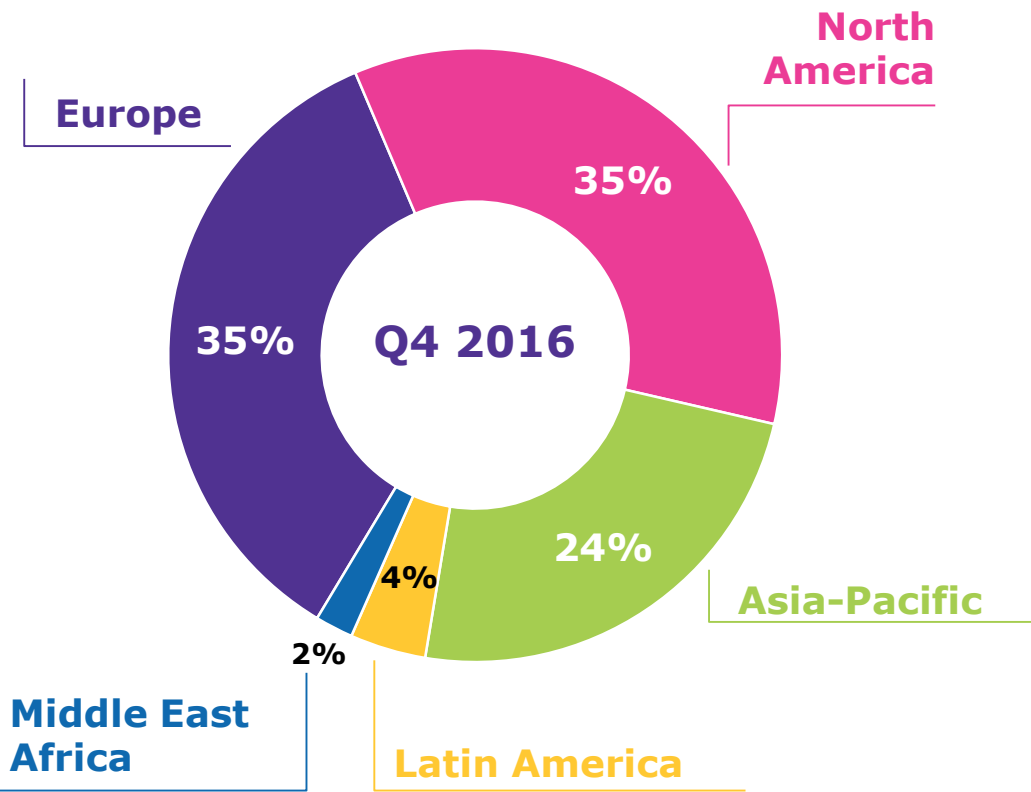
# A balanced portfolio and geographic presence

Sales by business unit



**FY 2016  
sales:  
€5.7 bn**

Sales by region



# Life Science is an attractive market

## RESEARCH

~€42 bn

Low single digit



- Growth in volume of experiments
- Mild growth in academic funding
- Investment in industry R&D

## PROCESS

~€38 bn

High single digit



- Drug volume growth
  - from biologics
  - from emerging modalities
- Continued shift to single-use

## APPLIED

~€45 bn

Mid single digit



- Volume growth from
  - Population growth
  - Increased testing needs

# Success driven by portfolio breadth and differentiation, a customer-centric approach and world-class capabilities

## RESEARCH



Broad, relevant and innovative portfolio

Simple customer interface

Ability to manage complexity across organization (e.g., reliability of supply)

## PROCESS



Developed market:  
Deep expertise in each unit operation

Emerging market:  
Broad portfolio

Demonstrated quality & regulatory leadership

## APPLIED



Customized workflows for specific applications

Ability to manage complexity across organization (e.g., reliability of supply)

Demonstrated quality & regulatory leadership

# Process Solutions

## Our end-to-end portfolio for manufacturing mAbs



### MAKE

Produce antibodies



### PURIFY

Remove cell debris, virus, etc.



### FORMULATE

Final drug product



EX-CELL®  
Advanced™  
CHO Fed-batch  
Medium  
**Cell culture media  
to enhance cell  
growth**



2000L CellReady  
bioreactor  
**Tank for  
cultivating cells**



Clarisolve®  
clarification  
filters  
**Removing cell  
debris**



FlexReady®  
chromatography  
**Purifying mAbs**



Viresolve® Pro  
solution  
**Removing viruses  
from protein  
solutions**



Pellicon®  
cassette filters  
**Washing and  
removing cells,  
lipids, particles**



Opticap® capsules  
**Sterile filtration**

Provantage®

BioReliance®

EMPROVE®

cGMP SOLUTIONS & SERVICES



# #1 website in research life science industry

Industry leading e-commerce platform and supply chain capability



SEARCH



Hundreds of thousands of products at your fingertips



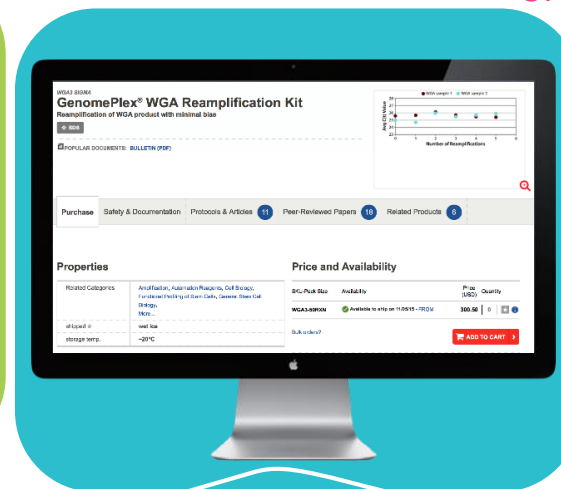
CONTENT



Online leader in scientific content: articles, protocols and peer reviewed papers



ORDER



Real-time pricing and availability



Convenient and simple customer interface: no more than 2 clicks from shopping cart



# Life Science delivers synergies and integrates as planned

## synergies

Delivery of 2016 synergy target of €105 m:

- HQ measures complete
- >50% of headcount targets met
- 4 site closures in progress
- Procurement actions moving
- Preparing distribution consolidation



## integration

Smooth integration ongoing with early achievements:

- Organization structure implemented
- High engagement from organization
- Common definition and implementation of processes well underway, e.g. pricing, customer excellence

**No disruption of growth momentum during integration**

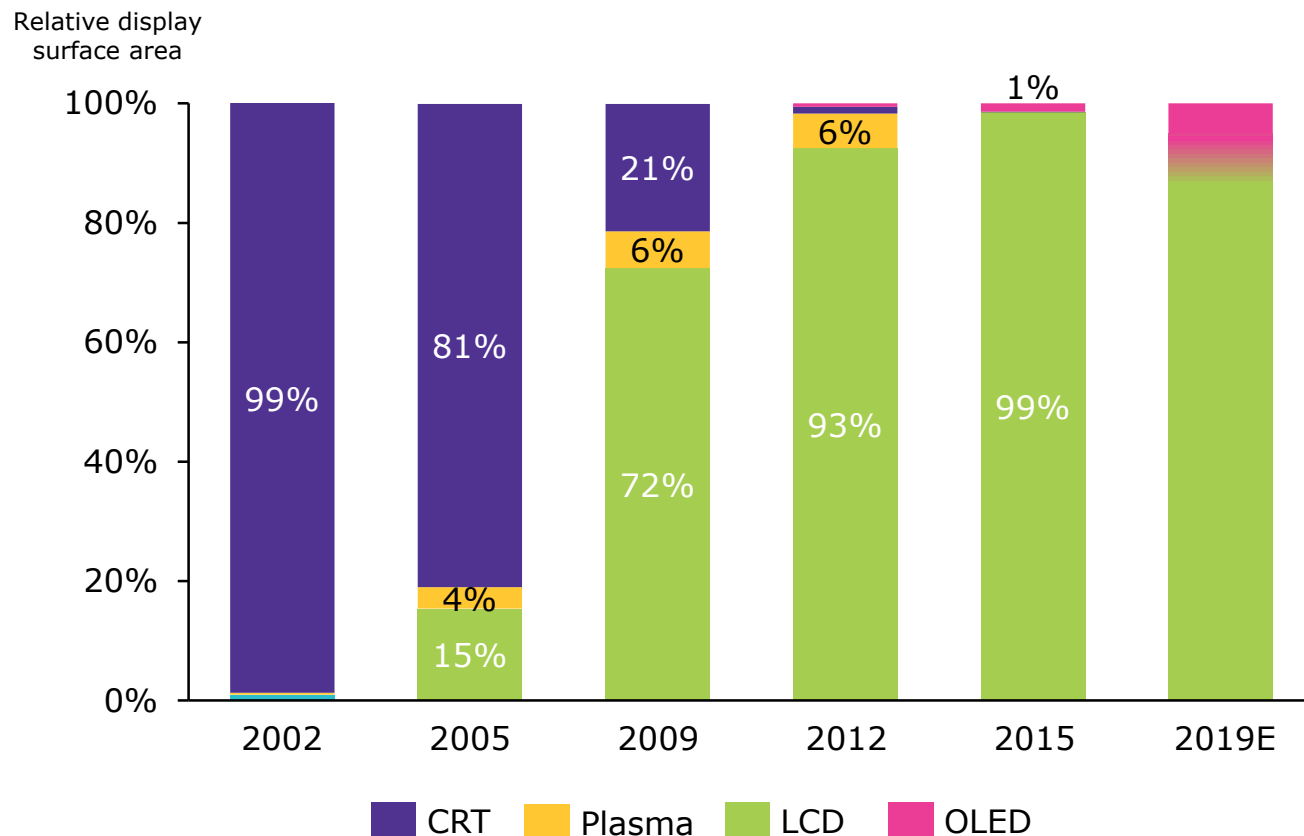


04

## PERFORMANCE MATERIALS

# Liquid crystals are clearly the dominant display technology

## Market share by display technology



### Rationale for LCD leadership

#### For consumers:

- Price
- Thinner frames
- Higher resolution in all sizes
- Proven track record of extreme reliability

#### For manufacturers:

- Price and scalability
- Production costs and capacities

**LCD progress creates higher technological and commercial entry barriers**

**OLED share will increase in mobile applications**

# Our leading OLED business is well set to exploit display market opportunities

## Market position

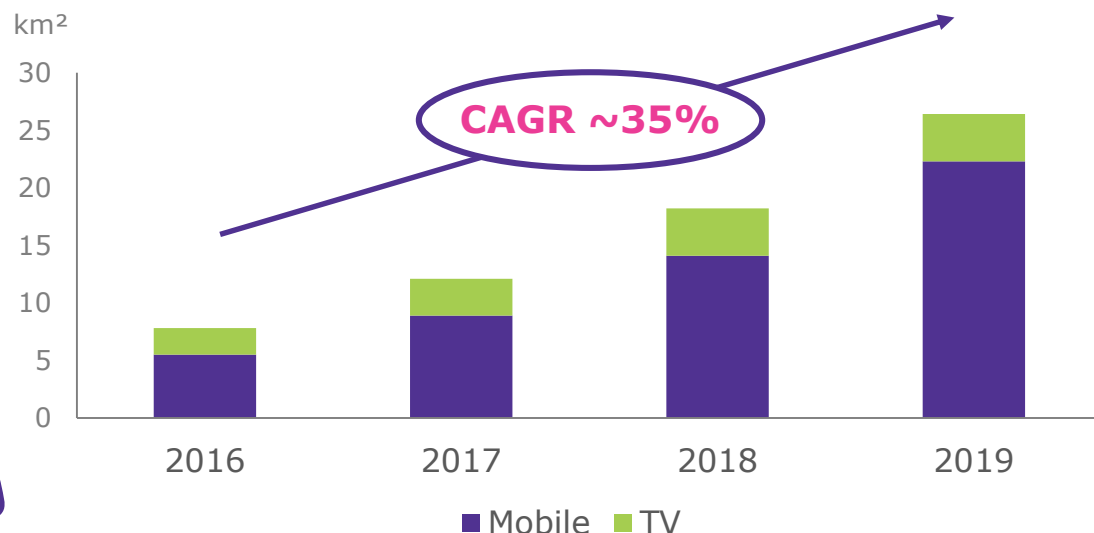
- Among top 3 OLED material provider
- Unrivalled experience and expertise in displays
- Long & intimate relationships with all display producers
- Recent capacity expansion to serve growing demand

## our ambition

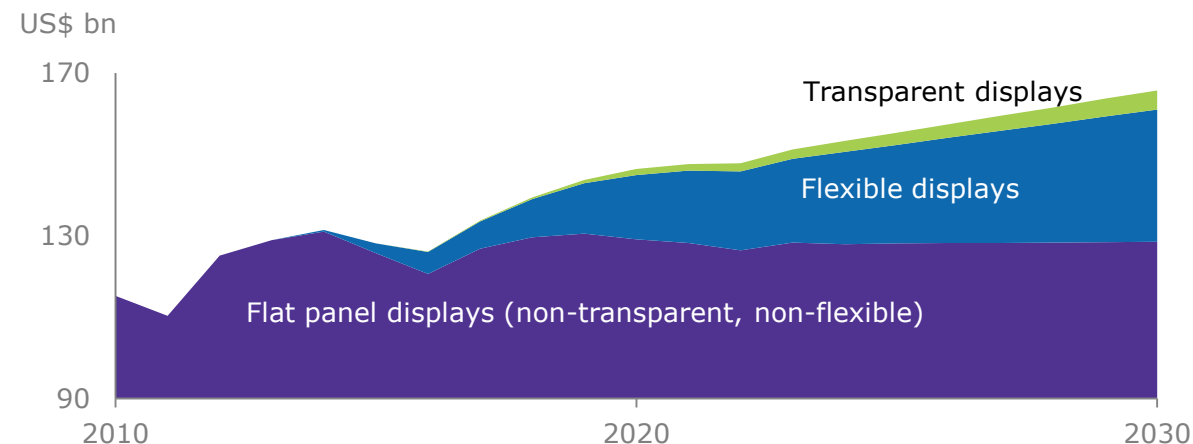
## solution provider

- Supplier of all OLED stack layers
- Excellence in vapor & printable materials
- In-house testing of materials
- Tailor-made solutions for customers

## Announced OLED capacity expansion<sup>1</sup>



## Display market development<sup>1</sup>





# Liquid crystals OFFER a variety of opportunities



1

3

4

5

2

6

1. Adaptive lighting for automotive
2. Adaptive lighting for architecture
3. Smart antenna
4. Liquid crystal windows for architecture
5. Holography
6. Free form LCD

# 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

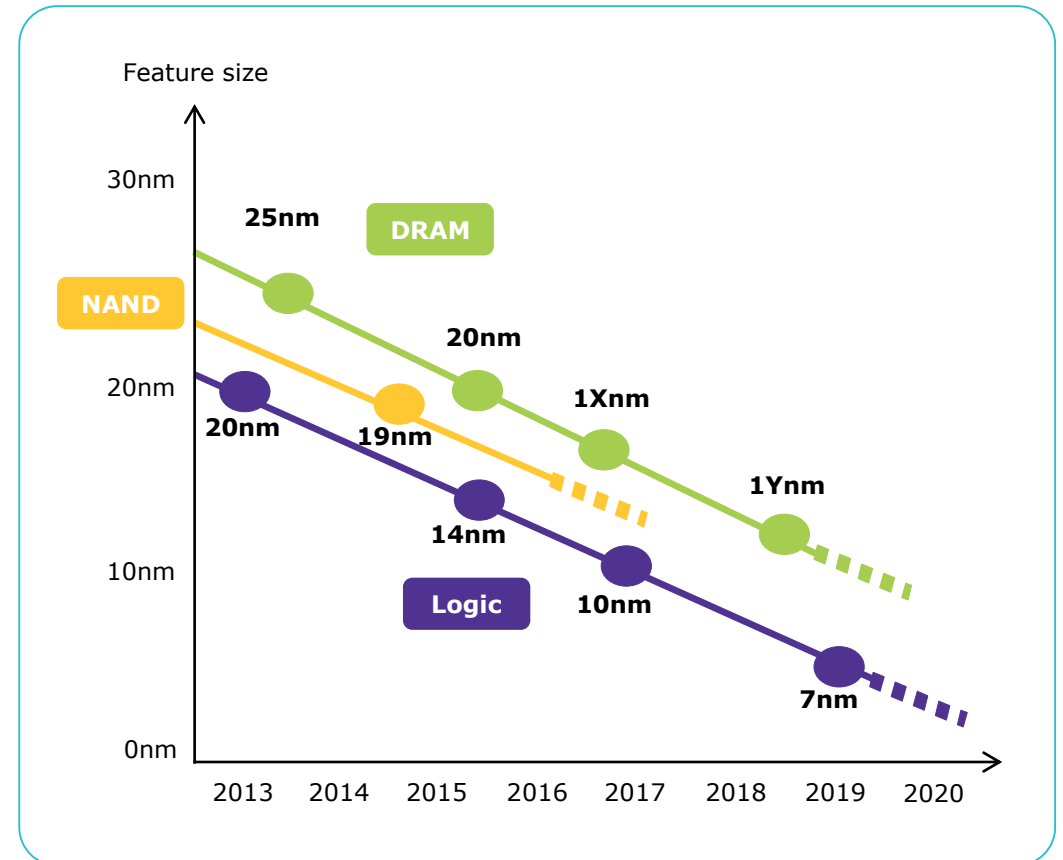
**Big Data:** Increasing need for intelligent data storage

- Switch from hard disk drives (HDD) to solid state drives (SSD)

## Selected competitors

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

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



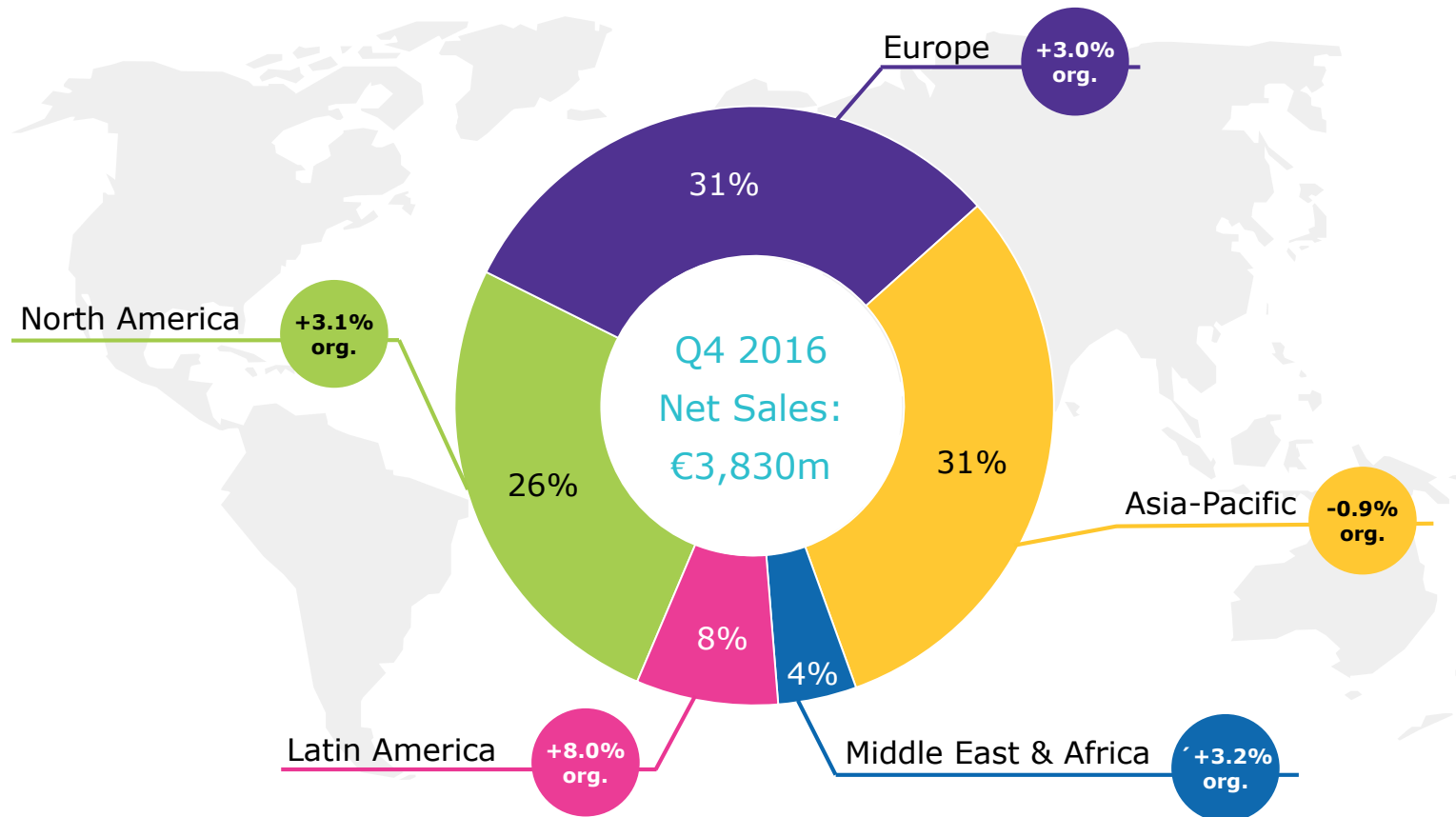


05

## FINANCIAL OVERVIEW

# Organic growth in all regions

## Regional breakdown of net sales [€ m]



## Regional organic development

- Europe moderately growing as strong performance of Life Science outweighs competitive pressure on Rebif
- North America continues to benefit from competitive situation for Fertility as well as Rebif pricing
- Slightly lower Asia-Pacific reflects solid growth of Life Science, offset by Liquid Crystals decline in tough environment
- Strong growth in LatAm mainly driven by General Medicine and Consumer Health products



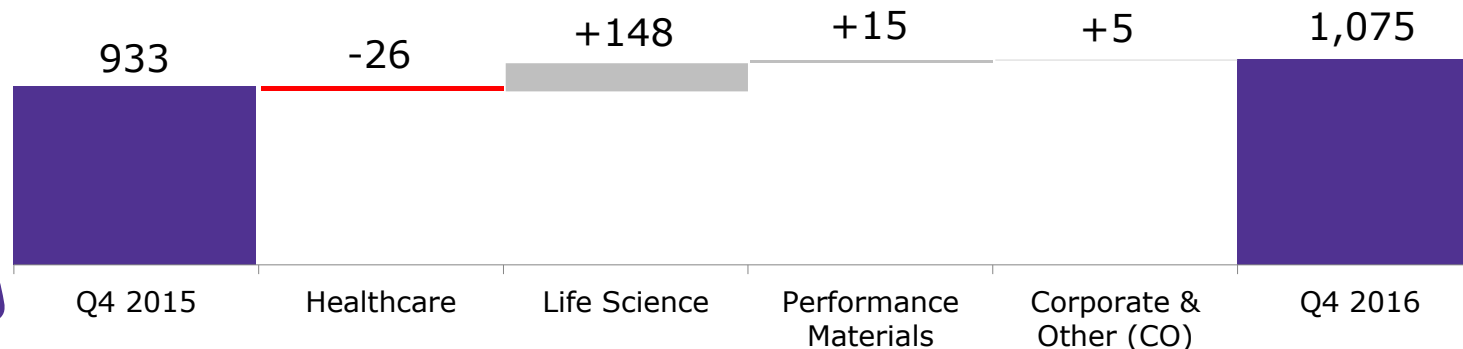
# Seamless Sigma integration and organic growth drive EBITDA pre

## Q4 2016 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	4.2%	-1.0%	-1.5%	<b>1.7%</b>
Life Science	3.7%	0.3%	28.8%	<b>32.8%</b>
Performance Materials	-5.9%	1.4%	1.5%	<b>-3.0%</b>
Group	2.2%	-0.1%	8.5%	<b>10.6%</b>

- Solid organic growth of Healthcare driven by strong Fertility, Xalkori commissions and stable Rebif sales, offsetting softer Erbitux
- Life Science organic growth reflects phasing of larger orders in Process Solutions
- LC market share normalization impacts PM
- Portfolio reflects Sigma and Kuvan

## Q4 YoY EBITDA pre contributors [€ m]



- Healthcare reflects higher R&D and M&S costs offsetting end of Rebif commissions, organic growth and higher royalty income
- LS driven by Sigma portfolio effect, moderate organic growth and synergies
- Performance Materials slightly higher, but versus weak comparables

## Q4 2016: Overview

### Key figures

[€m]	Q4 2015	Q4 2016	Δ
Net sales	3,464	<b>3,830</b>	10.6%
EBITDA pre	933	<b>1,075</b>	15.1%
Margin (in % of net sales)	26.9%	28.1%	
EPS pre	1.13	<b>1.43</b>	26.5%
Operating cash flow	718	<b>787</b>	9.6%

[€m]	Dec. 31, 2015	Dec. 31, 2016	Δ
Net financial debt	12,654	<b>11,513</b>	-9.0%
Working capital	3,438	<b>3,486</b>	1.4%
Employees	49,613	<b>50,414</b>	1.6%

### Comments

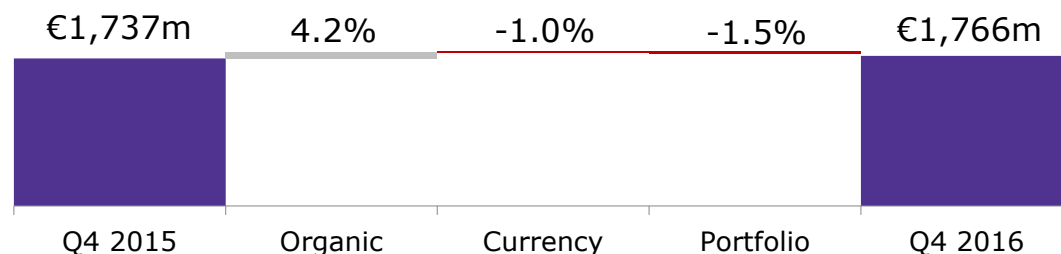
- EBITDA pre increase driven by Sigma, end of Rebif commission expenses and higher royalties, offsetting higher R&D
- EPS pre up due to EBITDA pre increase and improved financial result
- Strong operating cash flow from EBITDA pre progression and improved working capital management in Q4
- Net financial debt reduction reflects strong focus on deleveraging
- Working capital increase due to higher business activity and FX

# Healthcare: Solid organic growth and pick-up of pipeline investments

## Healthcare P&L

[€m]	Q4 2015	Q4 2016
Net sales	1,737	<b>1,766</b>
Marketing and selling	-728	<b>-709</b>
Administration	-64	<b>-68</b>
Research and development	-283	<b>-418</b>
EBIT	213	<b>279</b>
EBITDA	522	<b>478</b>
EBITDA pre	524	<b>497</b>
Margin (in % of net sales)	30.2%	<b>28.2%</b>

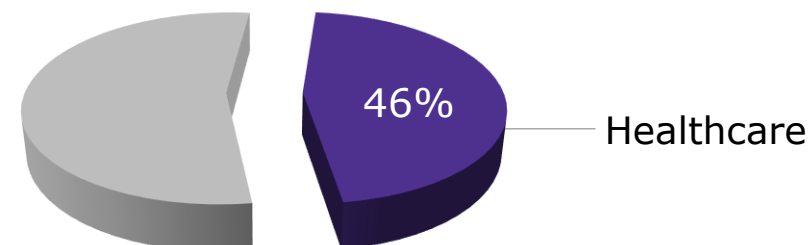
## Net sales bridge



## Comments

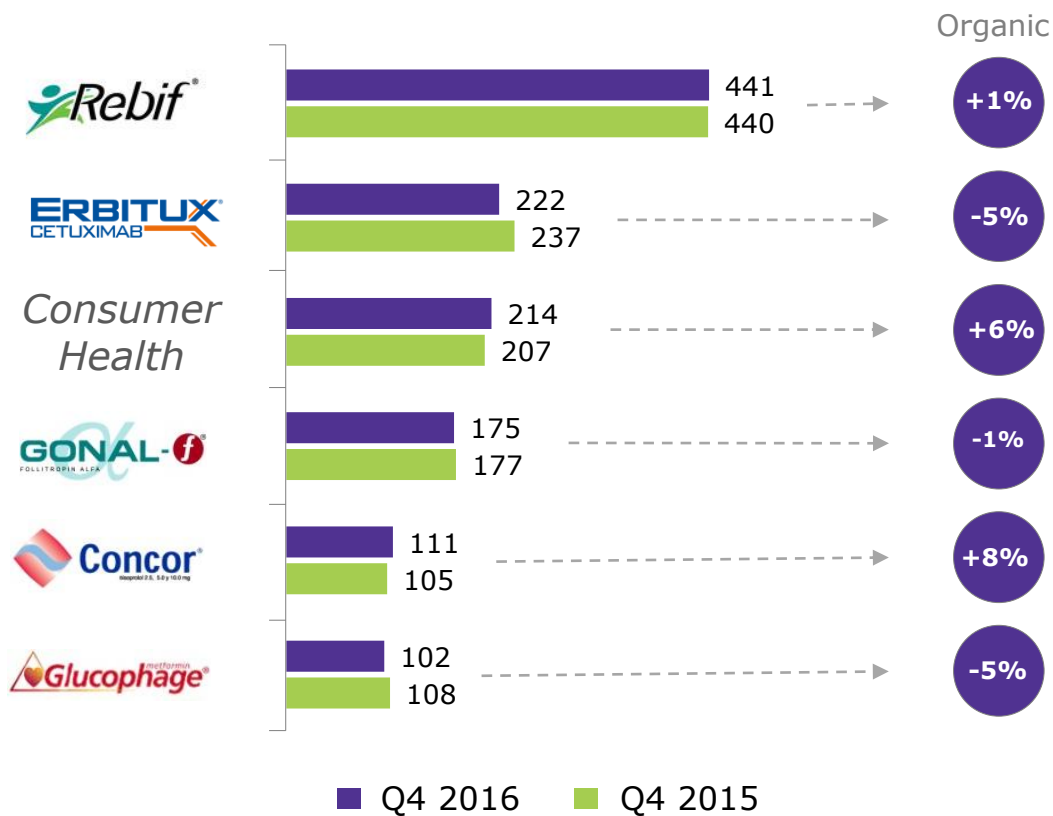
- Rebif stable, volume erosion in EU due to competition is outweighed by U.S. pricing and higher U.S. year-end demand due to pharmacy stocking
- Moderate organic decline of Erbitux driven by mandatory EU price cuts and competition offsetting volume growth in China and Brazil
- Fertility portfolio remains strong, especially in U.S. and China, despite softer Gonal-f sales
- Marketing & selling reflect end of commission expenses for Rebif (U.S.) partially offset by year-end investments in launch preparations
- R&D spend pick-up reflects progress of key pipeline projects (avelumab, TGF-beta, BTK-i); low base last year
- Lower EBITDA pre and margin due to higher R&D costs

## Q4 2016 share of group net sales

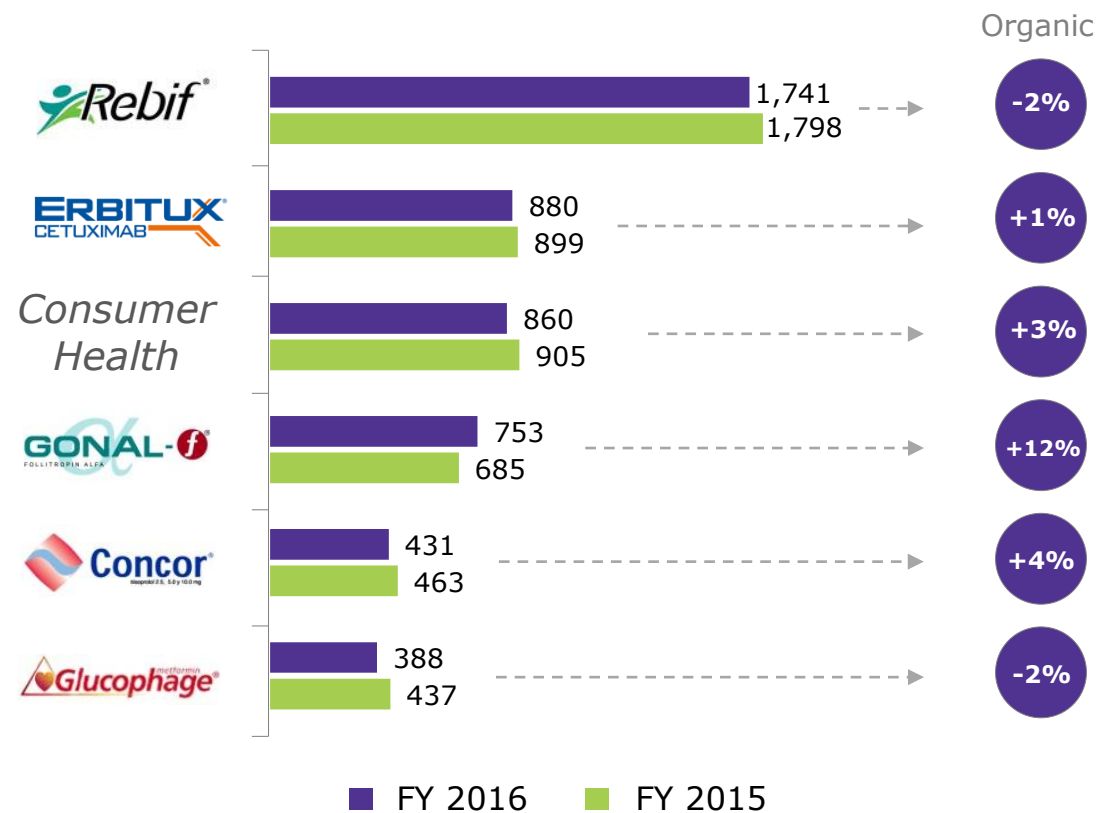


# Healthcare organic growth by franchise/product

Q4 2016 organic sales growth [%]  
by key product [€ m]



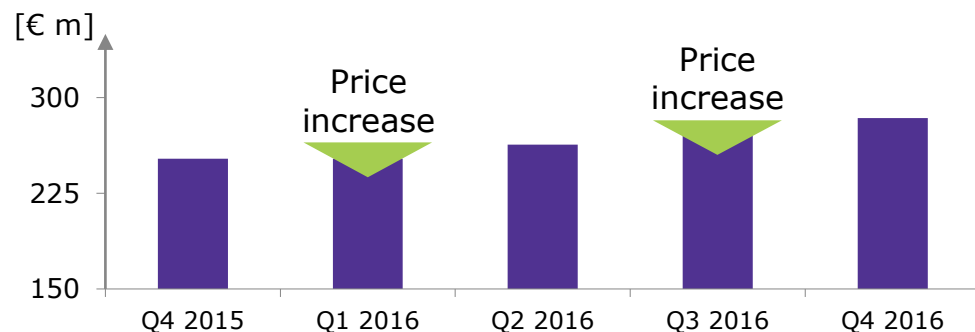
FY 2016 organic sales growth [%]  
by key product [€ m]



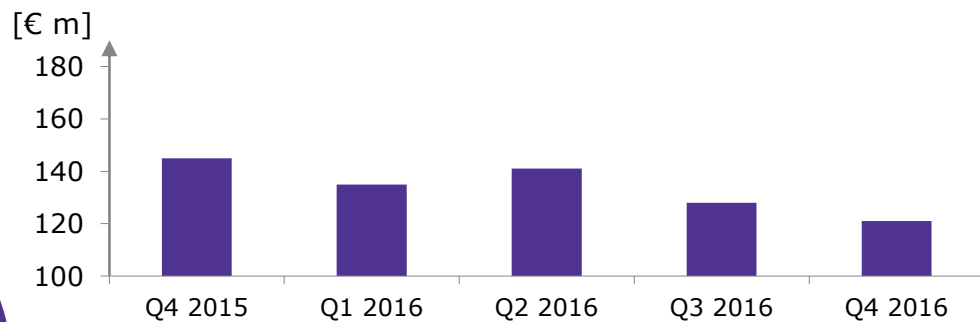
# Rebif: Relief in the U.S. – competitive ramp-up in Europe ongoing

## Rebif sales evolution

### North America



### Europe



Q4 drivers  
+11.4% org.

- Price
- Volume
- FX

Q4 drivers  
-15.9% org.

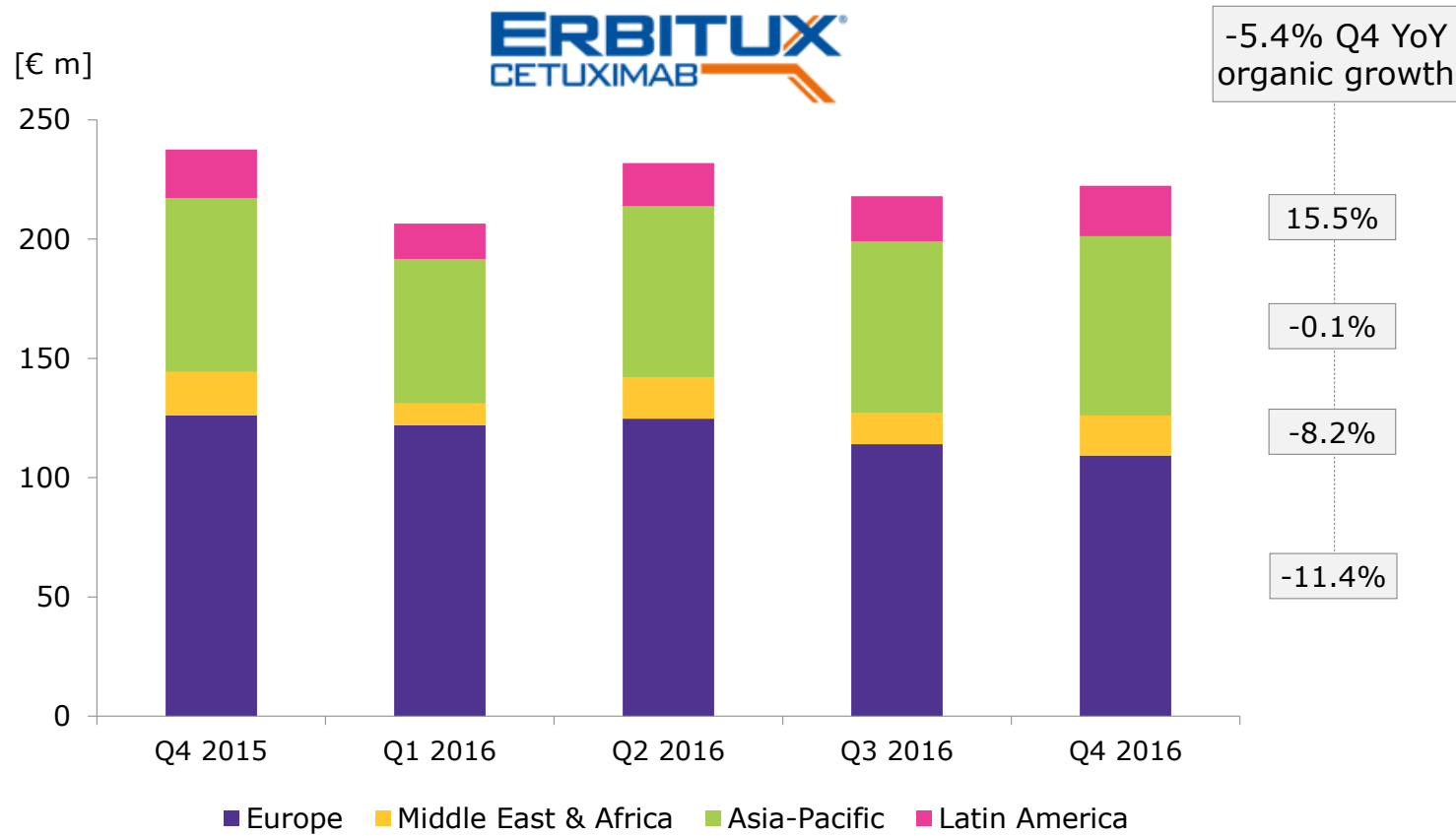
- Price
- Volume

## Rebif performance

- Rebif sales of €441 m in Q4 2016 reflect stable organic sales amid slight negative FX effects mainly from LatAm
- U.S. performance was positively influenced by year-end demand due to pharmacy inventory stocking
- Market share within interferons stable due to high retention rates and long-term safety track record
- U.S. pricing & market share stabilization partially offset decline of interferon class
- Ongoing volume decline in Europe due to phased market entry of orals

# Erbitux: A challenging market environment

## Erbitux sales by region



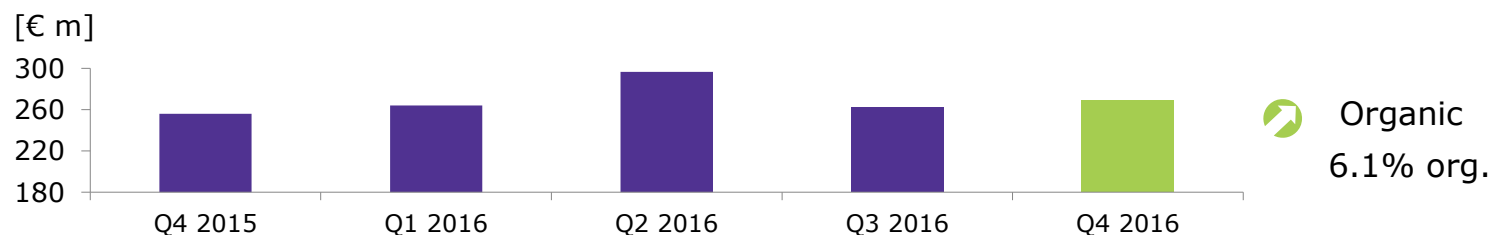
## Erbitux performance

- Sales decrease to €222m due to moderate organic decline and FX headwinds mainly from LatAm
- Europe organically lower in ongoing tough environment (price & competition)
- Asia-Pacific shows strong volume growth in China offset by softness in Japan
- Organic growth in LatAm reflects growing demand especially in Brazil

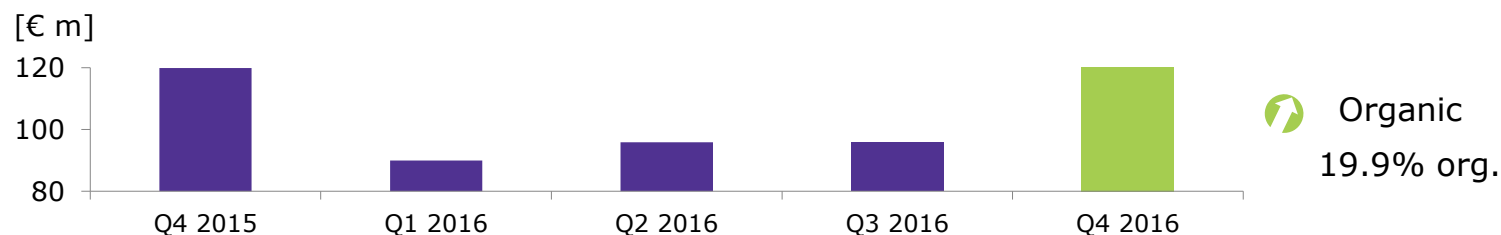
# Solid organic growth in Fertility, General Medicine and Endocrinology

## Sales evolution

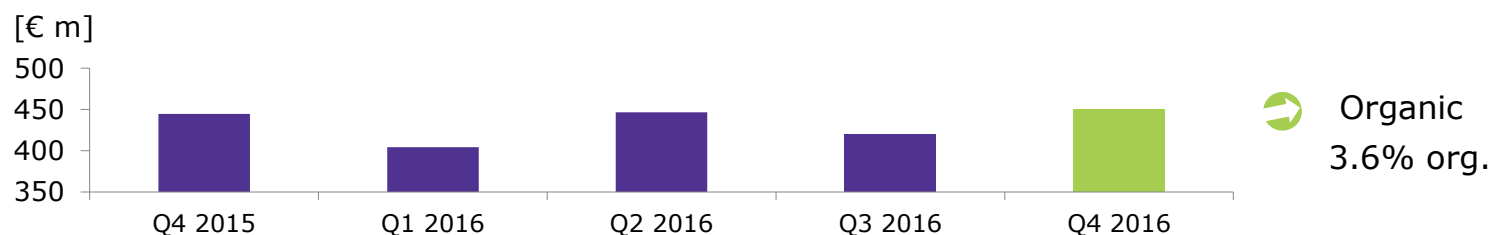
### Fertility



### Endocrinology



### General Medicine (GM)\*



## Q4 drivers

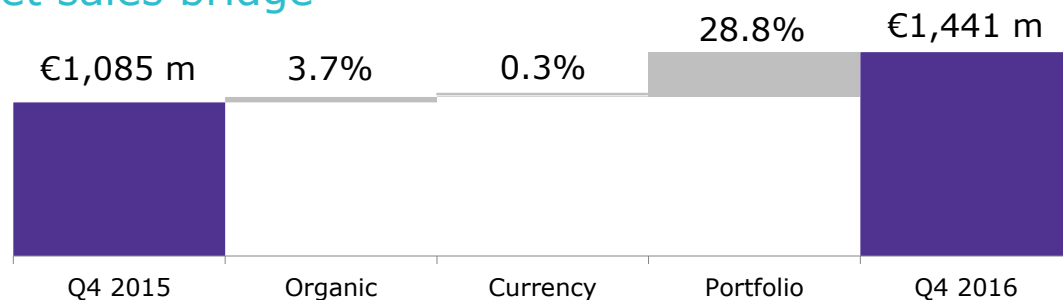
- Fertility shows ongoing growth especially in the U.S. and China
- Gonal-f flat as growth in the U.S. is offset by slight uptake of biosimilars in Europe and softer demand in MEA
- Sales jump in Endocrinology reflects slight volume growth and larger release of accruals for rebates
- GM organic sales growth driven by solid developments in all growth markets; neg. FX from LatAM and China
- Glucophage still impacted by phasing of tenders especially in MEA

# Life Science: Record sales quarter amid tough comparables

## Life Science P&L

[€m]	Q4 2015	Q4 2016
Net sales	1,085	<b>1,441</b>
Marketing and selling	-324	<b>-458</b>
Administration	-63	<b>-71</b>
Research and development	-59	<b>-70</b>
EBIT	34	<b>70</b>
EBITDA	161	<b>352</b>
EBITDA pre	271	<b>419</b>
Margin (in % of net sales)	25.0%	<b>29.1%</b>

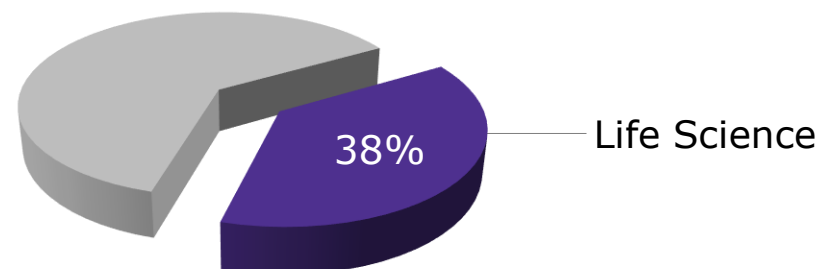
## Net sales bridge



## Comments

- Process Solutions growth driven by single-use products and services business, however some customer orders delayed
- Good demand from EU and U.S. pharma for biomonitoring yields solid organic growth of Applied Solutions
- Research Solutions shows slight organic growth – growth in Europe and Asia is almost offset by lower demand in the U.S.
- Absolute costs higher due to Sigma and investments in Process Solutions field force
- Strong profitability reflects Sigma, business mix & synergy ramp-up

## Q4 2016 share of group net sales



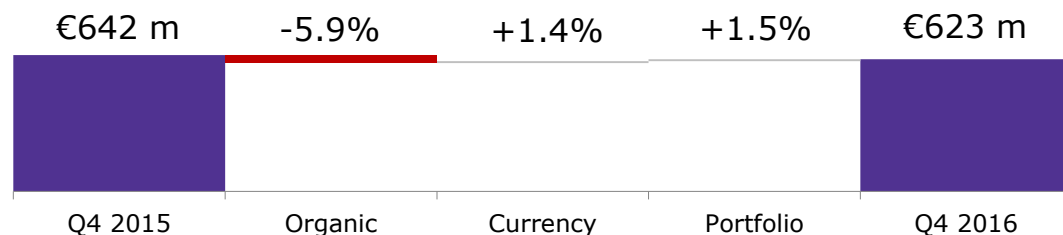


# Performance Materials: Resilient profitability despite tougher LC environment

## Performance Materials P&L

[€m]	Q4 2015	Q4 2016
Net sales	642	<b>623</b>
Marketing and selling	-54	<b>-57</b>
Administration	-15	<b>-16</b>
Research and development	-52	<b>-56</b>
EBIT	193	<b>210</b>
EBITDA	257	<b>269</b>
EBITDA pre	263	<b>278</b>
Margin (in % of net sales)	40.9%	<b>44.6%</b>

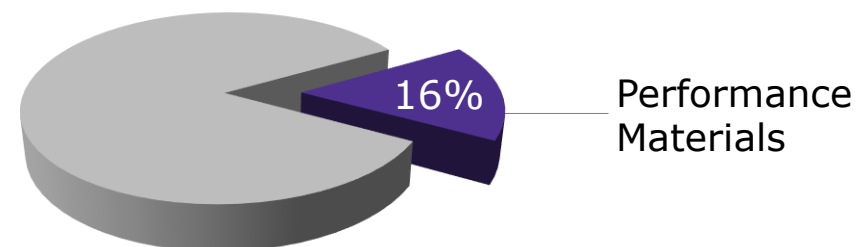
## Net sales bridge



## Comments

- 2016 display industry destocking still muting Liquid Crystals amid first signs of a normalization of market shares
- Innovative UB-FFS technology with record quarter, SA-VA launch in H2 2017
- Strong growth of Integrated Circuit Materials driven by all major material classes, esp. strong dielectrics demand for complex structures
- Solid growth of Pigments & Functionals due to demand for automotive coating pigments and highly differentiated functional materials
- Resiliently strong profitability reflects leading market position in four high-margin businesses

## Q4 2016 share of group net sales



## Reported figures reflect Sigma acquisition

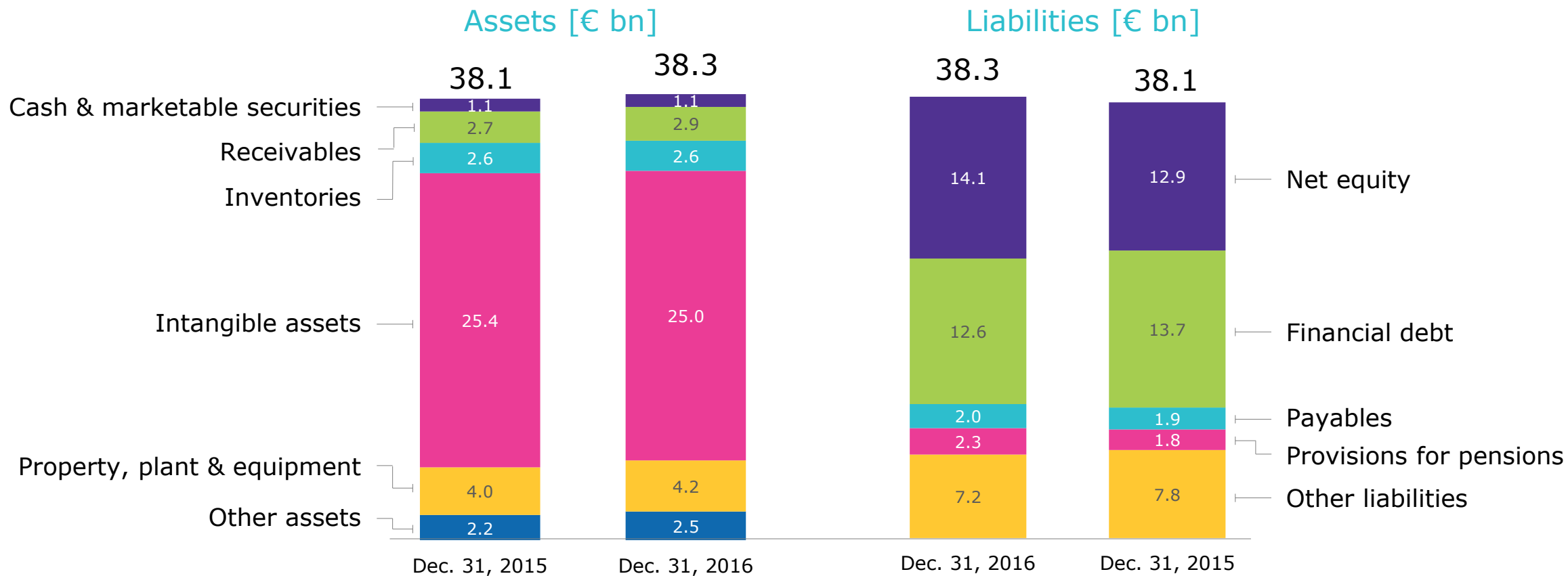
### Reported results

[€m]	Q4 2015	Q4 2016	Δ
EBIT	298	<b>405</b>	36.0%
Financial result	-134	<b>-70</b>	-47.8%
Profit before tax	164	<b>335</b>	104.3%
Income tax	-42	<b>-70</b>	65.6%
<i>Effective tax rate (%)</i>	25.9%	<b>21.0%</b>	
Net income	126	<b>269</b>	113.8%
EPS (€)	0.29	<b>0.62</b>	113.8%

### Comments

- EBIT reflects increased EBITDA pre amid integration costs and Sigma D&A
- Financial result contains lower Sigma financing costs; LY included charges for Sigma bond repayment and LTIP
- Improved effective tax rate due to higher profits in low tax jurisdictions
- Guidance range of ~23% to 25% confirmed for 2017

## Balance sheet – focus on rapid deleveraging

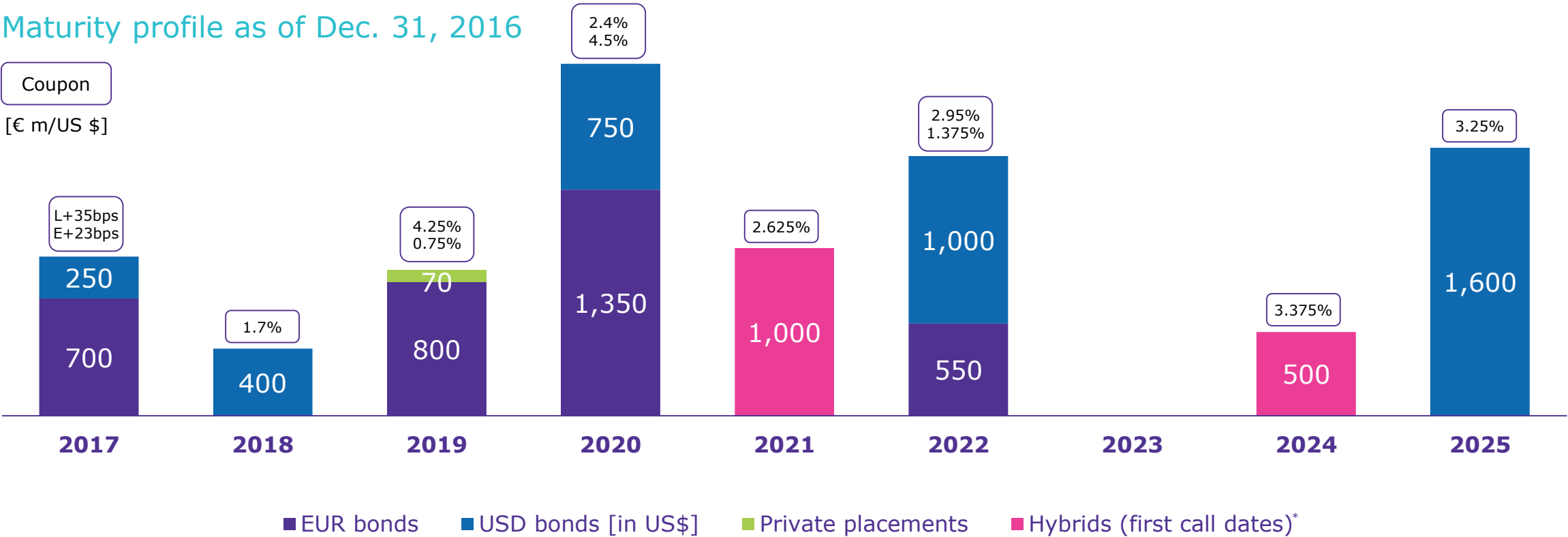


- Ongoing amortization of Sigma-related intangible assets
- Significant reduction of financial debt

- Decline in interest rates drives increase in pension provisions
- Net equity increase reflects net income and FX

Previous year figures adjusted after finalization of purchase price allocation of Sigma-Aldrich acquisition  
Totals may not add up due to rounding

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



Financing structure enables flexible and swift deleveraging

# High EBITDA pre drives strong operating cash flow

## Q4 2016 – cash flow statement

[€m]	Q4 2015	Q4 2016	Δ
Profit after tax	127	<b>265</b>	138
D&A	505	<b>548</b>	43
Changes in provisions	183	<b>-9</b>	-192
Changes in other assets/liabilities	-289	<b>-191</b>	98
Other operating activities	-5	<b>-17</b>	-12
Changes in net working capital	196	<b>191</b>	-5
Operating cash flow	718	<b>787</b>	69
Investing cash flow	-14,606	<b>-450</b>	-14,156
thereof Capex on PPE	-217	<b>-260</b>	-43
Financing cash flow	2,833	<b>-277</b>	-3,110

## Cash flow drivers

- D&A increases due to Sigma, LY contains evofosfamide impairment
- Changes in provisions last year mainly reflect provision build-up for evofosfamide
- Investing cash flow reflects capex and Biocontrol; LY contains Sigma purchase
- Capex higher due to HQ, Sigma and investments in China
- Financing cash flow reflects repayment of debt; commercial paper issuance LY

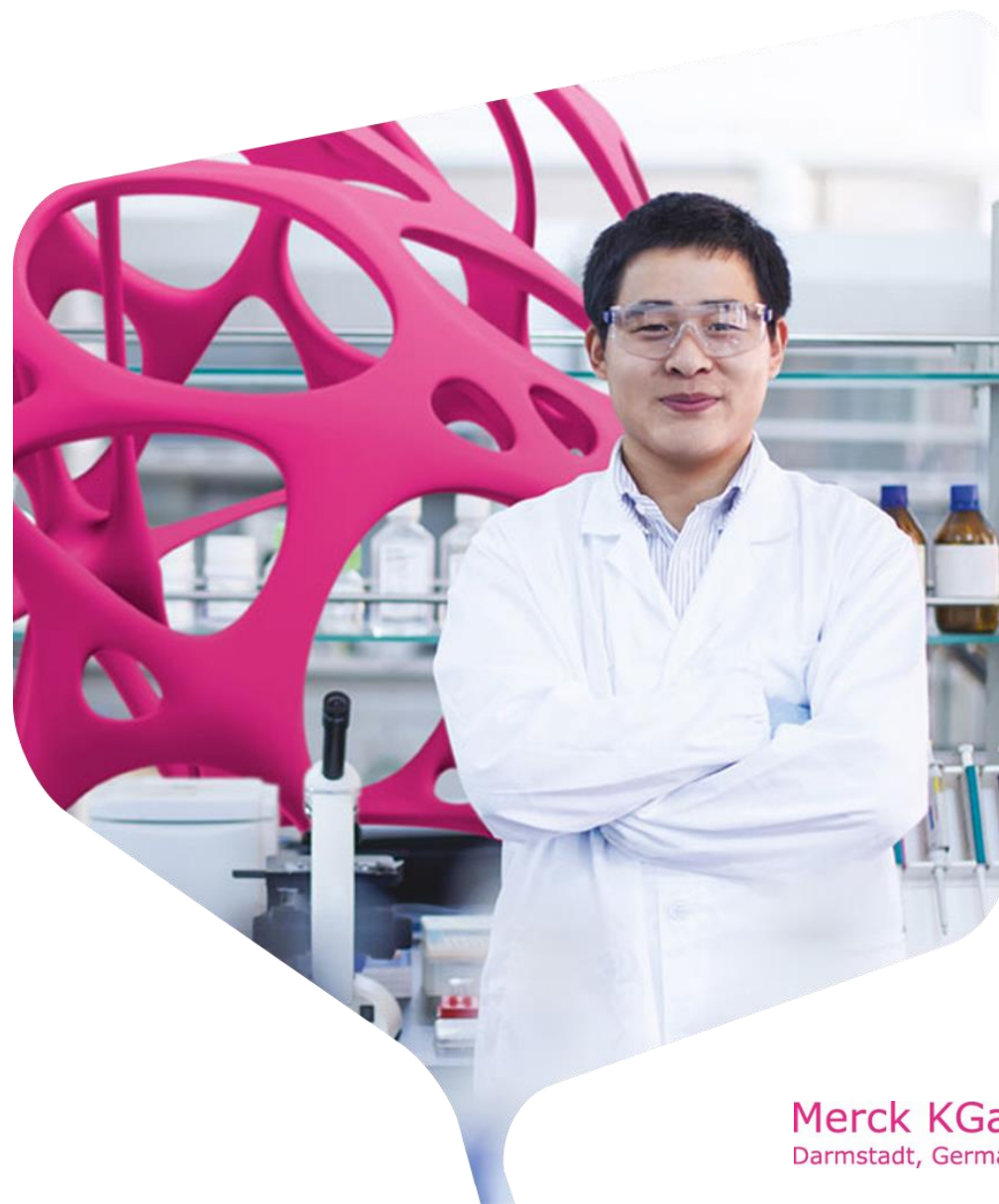
# Exceptionals in Q4 2016

## Exceptionals in EBIT

[€m]	Q4 2015		Q4 2016	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	90	89	20	0
Life Science	111	1	93	27
Performance Materials	6	0	25	16
Corporate & Other	13	0	27	1
Total	220	89	165	44

## Financial calendar

Date	Event
April 28, 2017	Annual General Meeting
May 18, 2017	Q1 2017 Earnings release
August 3, 2017	Q2 2017 Earnings release
November 9, 2017	Q3 2017 Earnings release



## CONSTANTIN FEST



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

## SVENJA BUNDSCHUH



Assistant Investor Relations  
+49 6151 72-3744  
svenja.bundschuh@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

## NILS VON BOTH



Institutional Investors /  
Analysts  
+49 6151 72-7434  
nils.von.both@emdgroup.com

## EVA STERZEL



Private Investors / AGM /  
CMDs / 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](mailto:investor.relations@emdgroup.com)  
**WEB:** [www.emdgroup.com/investors](http://www.emdgroup.com/investors)  
**FAX:** +49 6151 72-913321

