



MERCK KGAA, DARMSTADT, GERMANY

BERENBERG EUROPEAN CONFERENCE

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Agenda

- 01 Business overview & Strategy recap**
- 02 Healthcare – Funding for success**
- 03 Life Science – Focusing on profitable growth**
- 04 Performance Materials – Strength and innovation**
- 05 Outlook & Guidance**

Group

Portfolio of three high-tech businesses



Leading in specialty pharma markets

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



Leading life science company

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

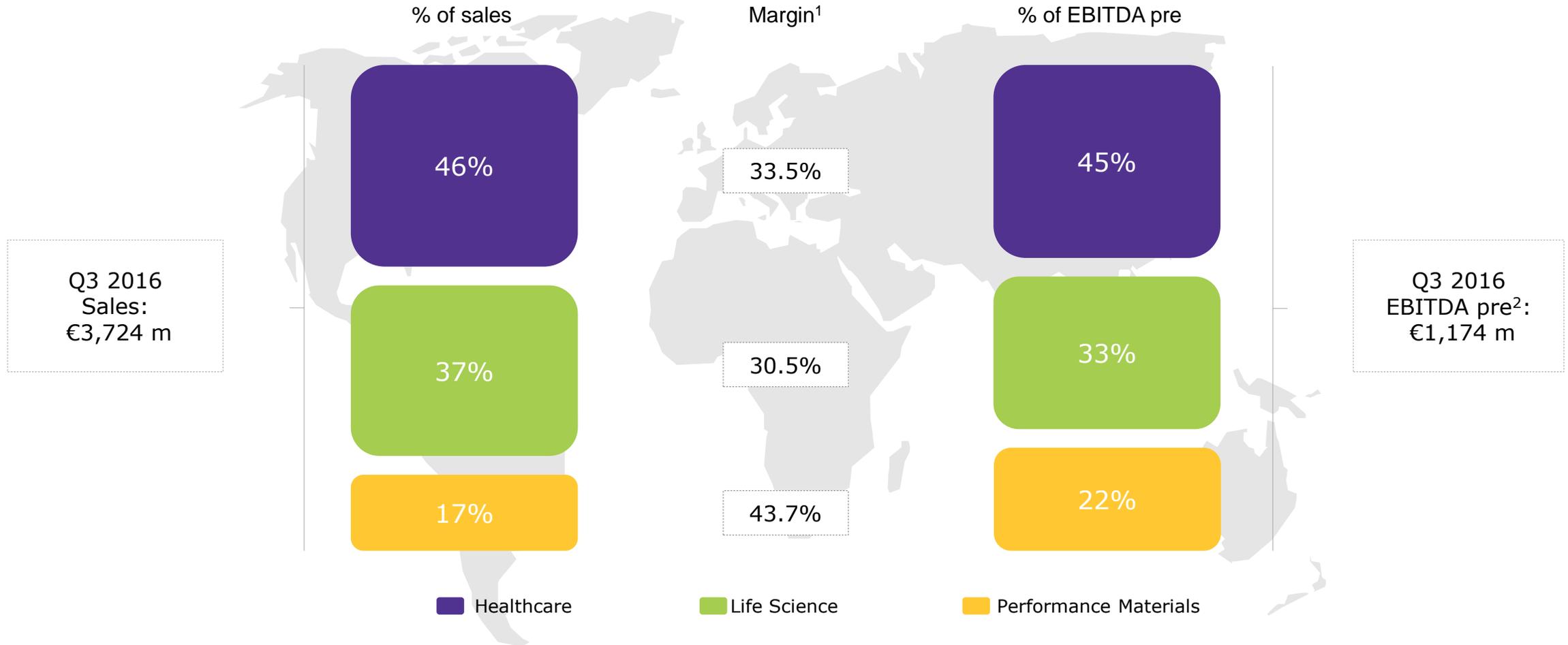


Market leader in specialty materials

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

Group

Strong businesses with attractive margins



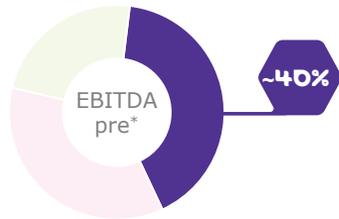
¹EBITDA pre margin in % of net sales; ²Including Corporate/Others (-€97 m)

Group

Clear set of priority goals to be realized by 2018



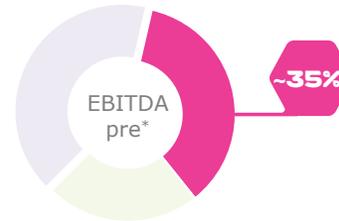
Healthcare



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



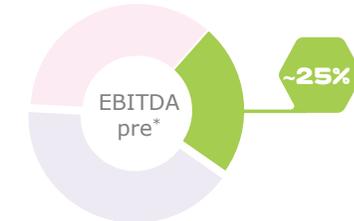
Life science



- 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

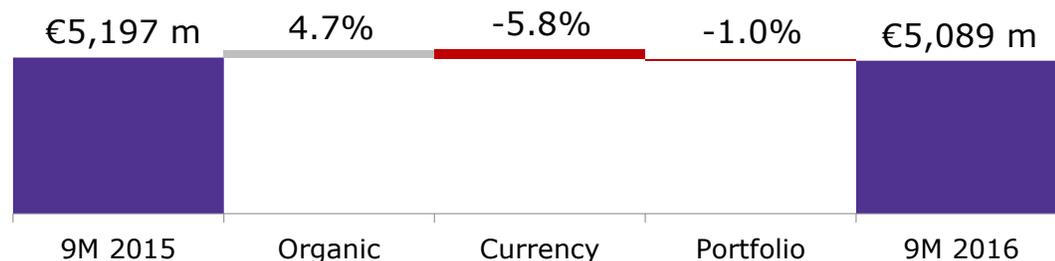
Healthcare

Current performance: Good organic growth and product mix drive profitability

Healthcare P&L

[€m]	9M 2015	9M 2016
Net sales	5,197	5,089
Marketing and selling	-2,073	-1,878
Administration	-195	-202
Research and development	-1,027	-1,078
EBIT	884	1,314
EBITDA	1,448	1,947
EBITDA pre	1,478	1,631
Margin (in % of net sales)	28.4%	32.0%

Net sales bridge

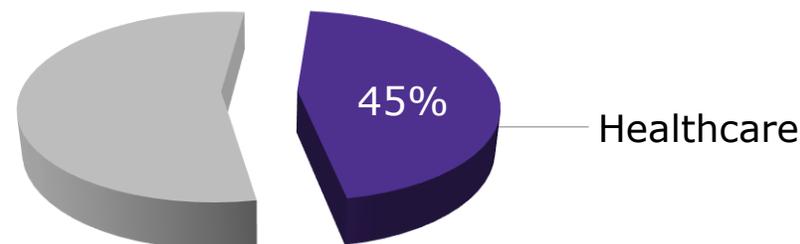


*Productive Development Partnership
Totals may not add up due to rounding

Comments

- Rebif still impacted by ramp-up of competition in Europe, while U.S. pricing and PDP* in Brazil support performance
- Erbitux shows moderate organic growth against low base
- Strong Fertility driven by favorable competitive situation in U.S.
- Marketing & selling reflects end of commission expenses for Rebif (U.S.) partially offset by reinvestments in sales force & launch preparations
- R&D spend increases as pipeline development progresses
- EBIT reflects Kuvan disposal gain of €324 m in Q1 2016
- Profitability improves due to good organic growth, end of Rebif commissions, ~€30 m disposal gain, ~€40 m R&D provision releases

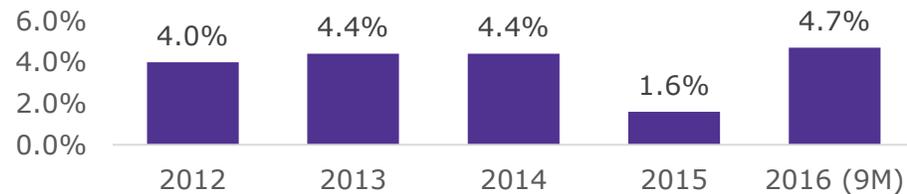
9M 2016 share of group net sales



Healthcare

Until 2018, continued and sustainable growth of in-market portfolio

Historic organic sales growth development



Average organic growth of ~+4% for >20 consecutive quarters

9M 2016 organic sales growth and qualitative guidance until 2018



-2%

rebif®: Decline in line with IFN market



+3%

oncology: Stable sales

Consumer Health

+3%

CH: Mid single-digit growth



+17%

fertility: Mid single-digit growth



+3%

GM: Mid to high single-digit growth



-1%

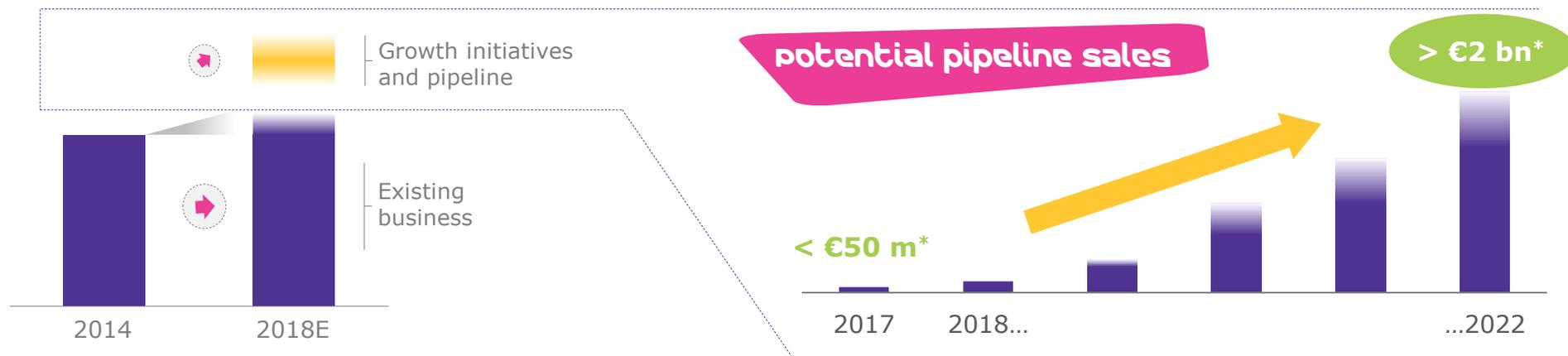
endocrinology: Low single-digit growth

COMMITMENT TO AT LEAST STABLE ORGANIC SALES UNTIL 2018

Healthcare

Well on track to deliver pipeline sales of >€2bn in 2022

Deliver the pipeline



Increase R&D spending

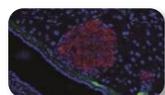
Key investments



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

Focused pipeline: two compounds in registration in EU and US

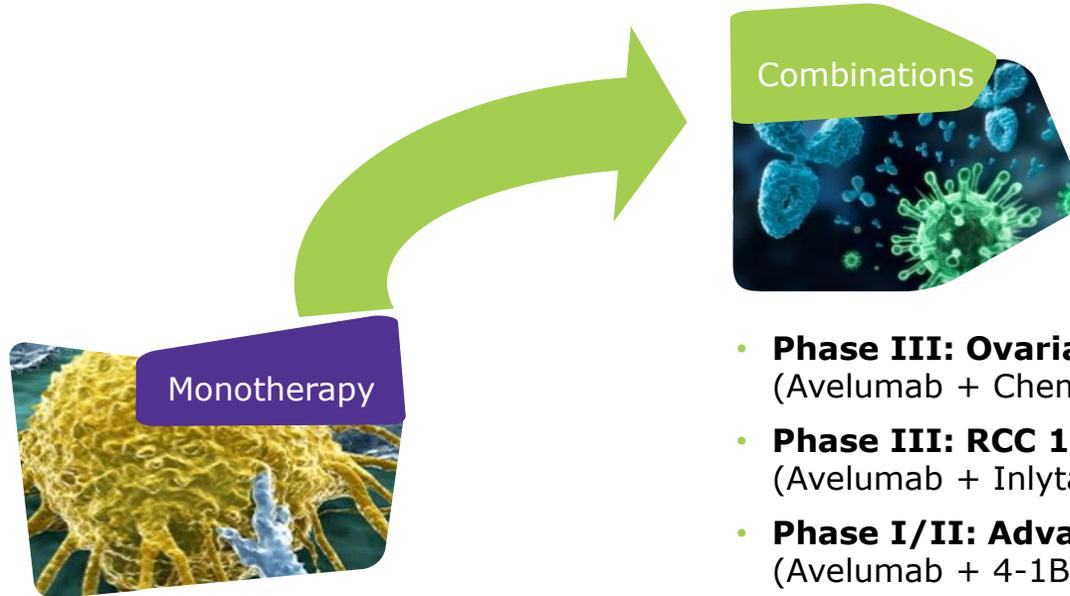
	Immunology	Immuno-Oncology	Oncology
Phase I	<ul style="list-style-type: none"> BTK inhibitor (SLE) 	<ul style="list-style-type: none"> Avelumab (solid tumors) M9241 (NHS-IL12) M7824 (TGF-beta trap) 	<ul style="list-style-type: none"> BTK inhibitor (hematol. malignancies) Tepotinib (solid tumors) DNA-PK inhibitor (solid tumors)
Phase II	<ul style="list-style-type: none"> Atacicept (SLE) BTK (RA) 		<ul style="list-style-type: none"> Tepotinib (HCC, NSCLC)
Phase III	<ul style="list-style-type: none"> MSB11022 (proposed biosimilar of Adalimumab) 	<ul style="list-style-type: none"> Avelumab (Bladder, Gastric 1L/3L, NSCLC 1L/2L, Ovarian 1L/plat res./ref., Renal Cell) 	
Registration	<ul style="list-style-type: none"> Cladribine tablets (MS) 	<ul style="list-style-type: none"> Avelumab (mMCC) 	

- **Atacicept:** phase II showing unprecedented efficacy in high-disease activity patients
- **BTK inhibitor:** two additional phase II trials to be started in 2016 (e.g. SLE) – RA ongoing
- **Cladribine tablets:** EMA accepted MAA submission for review in July 2016 – 120 days questionnaire received
- **M7824 (TGF-beta trap):** novel, first in-class bifunctional immunotherapy, enrolling in phase Ib cohorts
- **Avelumab:**
 - Currently **eight phase III trials** ongoing
 - MCC: **submission completed** in EU and US
 - Around **30 ongoing therapy programs**, spanning ~3,000 patients across >15 tumor types

key pipeline projects continuously progressing

Abbreviations: HCC: hepatocellular cancer | mMCC: metastatic merkel cell carcinoma | NSCLC: non-small cell lung cancer | RA: rheumatoid arthritis | SLE: systemic lupus erythematosus | MS: multiple sclerosis | plat res./ref.: platinum resistant/refractory | 1L: 1st line treatment | 2L: 2nd line treatment | 3L: 3rd line treatment

For Avelumab, combinations will drive our differentiation strategy



- **Phase II: MCC (2L)**
→ in registration in US & EU
- Phase III: Ovarian (1L & Plat. Res. Ref.)*
- Phase III: Gastric (1L MN & 3L)
- Phase III: NSCLC (1L & 2L)
- Phase III: Bladder (1L MN)
- Phase I: Hodgkins Lymphoma
- Multiple other tumor types

- **Phase III: Ovarian 1L & Plat. Res. Ref.***
(Avelumab + Chemotherapy)
- **Phase III: RCC 1L**
(Avelumab + Inlyta)
- **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)

*Avelumab is explored in both mono- and combination therapy.

Healthcare

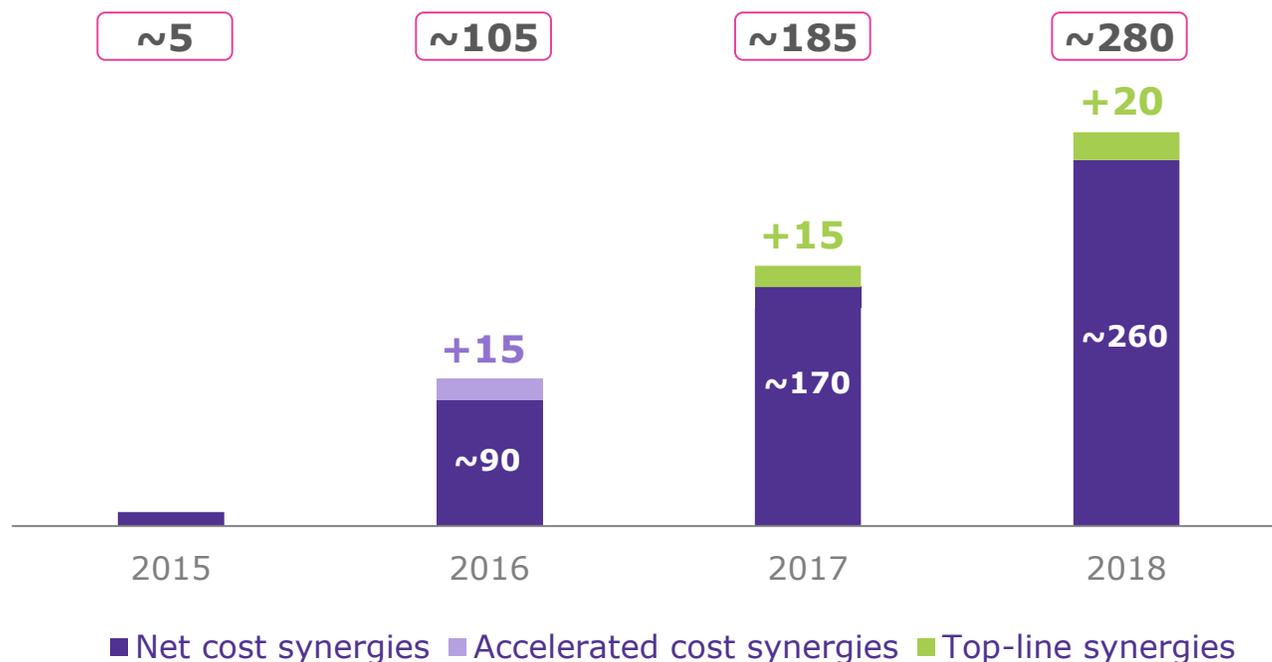
Newsflow: upcoming pipeline catalysts

Atacicept	Phase III decision	Early 2017
Avelumab (MCC)	Expected EMA & FDA decision	H1 2017
BTK inhibitor (RA)	Phase II data readout	Q2 2017
M7824 (PD-L1 – TGF-beta)	Phase I interim data	mid 2017
Cladribine tablets	Expected EMA decision	Q3 2017
Sprifermin	Phase II data readout	Q3 2017

Life Science

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)

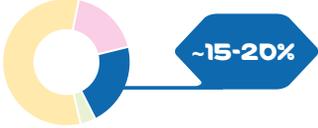
- **faster** implementation of synergy measures in all areas
- **2016** expected total cost synergies of **~€105 M**
- Integration costs remain unchanged at ~€400 m

Top-line synergies (from 2017)

- Strong eCommerce and **IT capabilities** applied to Merck KGaA, Darmstadt, Germany 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

Performance Materials

The four pillars are set for future profitable growth

Business unit	% sales	Products	Mid-term growth trend
 Display Materials	 ~50-60%	<ul style="list-style-type: none"> Liquid crystals (LC) and photoresists for TVs, smartphones and tablet computers Other display and non-display applications (e.g. LC Windows) 	
 Pigments and Functional Materials	 ~15-20%	<ul style="list-style-type: none"> Effect pigments and functional materials for coatings, plastics, printing and cosmetics Functional materials for cosmetics & special applications 	
 Integrated Circuit Materials	 ~15-20%	<ul style="list-style-type: none"> Dielectrics, colloidal silica, lithography materials, yield enhancers, edge-bead removers Polyimide raw materials and printing materials 	
 Advanced Technologies	 ~5-10%	<ul style="list-style-type: none"> Organic and inorganic light emitting diodes Functional materials for electronics and energy solutions 	

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

Group

We are well on track to deliver on major priorities for 2018



Group

Net debt reduced by ~€1 bn¹
Strict financial discipline supports rating



Healthcare

Solid performance of in-market portfolio
Focus on pipeline and launch preparation in 2017



Life Science

Sigma-Aldrich synergies raised
Organic growth above market



Performance Materials

Introduce new technologies
Volatility well managed

Group Upgrade of full-year 2016 guidance

Financial guidance for 2016

▶ **Net sales:** ~ €14.9 – 15.1 bn ◀

▶ **EBITDA pre:** ~ €4,450 – 4,600 m ◀

▶ **EPS pre:** ~ €6.15 – 6.40 ◀





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