SOUND FINANCIAL PERFORMANCE

Merck KGaA, Darmstadt, Germany, Q3 2016 results

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Walter Galinat, CEO Performance Materials

November 15, 2016
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Agenda

01 Executive summary

02 Financial overview

03 Guidance
Highlights of Q3 2016

Operations
- Healthcare – positive organic growth, high profitability and pipeline on track
- Life Science – healthy growth dynamics and faster synergy realization
- Performance Materials – strong profitability despite display destocking

Financials
- Acquisition-driven sales growth of 19.3%; EBITDA pre up 24.3% to €1,174 m
- EBITDA pre margin increases to 31.5% driven by Life Science growth, Sigma synergies, release of R&D provisions and higher royalty income
- Guidance upgrade: EBITDA pre €4,450 – 4,600 m, EPS pre €6.15 – 6.40
Swift Sigma integration and organic growth drive EBITDA pre

Q3 2016 YoY net sales

<table>
<thead>
<tr>
<th></th>
<th>Organic</th>
<th>Currency</th>
<th>Portfolio</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare</td>
<td>1.3%</td>
<td>-1.4%</td>
<td>-1.0%</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Life Science</td>
<td>5.7%</td>
<td>-0.0%</td>
<td>77.4%</td>
<td>83.1%</td>
</tr>
<tr>
<td>Performance Materials</td>
<td>-5.8%</td>
<td>1.0%</td>
<td>3.5%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Group</td>
<td>0.9%</td>
<td>-0.6%</td>
<td>19.0%</td>
<td>19.3%</td>
</tr>
</tbody>
</table>

Q3 YoY EBITDA pre contributors [€ m]

- Strong Fertility business and Xalkori commission income more than offset Rebif decline in Healthcare
- Life Science solid organic growth reflects strong Process Solutions
- Last significant effects of display industry destocking impacts Performance Materials
- Portfolio reflects Sigma and Kuvan
- Healthcare reflects Rebif decline more than offset by end of Rebif commission expenses, ~€40 m release of R&D provisions and higher royalty income
- LS driven by Sigma portfolio effect, solid organic growth and synergies
- Performance Materials lower against record prior year due to LC sales decline

Totals may not add up due to rounding
Q3 2016 sales split reflects growth in North America and Sigma footprint

Group Q3 2015 and Q3 2016 net sales by region [in %]
North and Latin America drive Q3 organic growth

Regional breakdown of net sales [€ m]

- Europe: €3,120, +19.3%
- North America: €996, +13.6%
- Asia-Pacific: €1,074, +13.5%
- Latin America: €266, +7.7%
- Middle East & Africa: €265, +2.1%
- Totals: €3,724

Organic sales growth:
- Europe: +19.3%
- North America: -2.1%
- Asia-Pacific: 0.0%
- Latin America: +9.7%
- Middle East & Africa: -3.8%

Regional organic development

- Europe slightly lower as competitive pressure on Rebif outweighs strong demand for bioprocessing products.
- North America continues to benefit from competitive situation for Fertility as well as Xalkori commission income.
- Flat growth in Asia-Pacific reflects solid growth driven by Fertility, GM¹ and Life Science, offset by display destocking.
- Very strong growth in LatAm driven by all businesses; significant contribution from PDP² in Brazil for Rebif.

¹General Medicine and CardioMetabolic Care; ²Productive Development Partnership
Totals may not add up due to rounding.
# Q3 2016: Overview

## Key figures

<table>
<thead>
<tr>
<th></th>
<th>Q3 2015</th>
<th>Q3 2016</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>3,120</td>
<td>3,724</td>
<td>19.3%</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>944</td>
<td>1,174</td>
<td>24.3%</td>
</tr>
<tr>
<td>Margin (in % of net sales)</td>
<td>30.3%</td>
<td>31.5%</td>
<td></td>
</tr>
<tr>
<td>EPS pre</td>
<td>1.32</td>
<td>1.70</td>
<td>28.8%</td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>872</td>
<td>1,067</td>
<td>22.4%</td>
</tr>
</tbody>
</table>

## Comments

- EBITDA pre increase driven by Sigma, end of Rebif commission expenses, R&D provision release and higher royalties.
- EPS pre up due to EBITDA pre increase and improved financial result.
- Strong operating cash flow from EBITDA pre progression and improved working capital in Q3.
- Net financial debt reduction reflects strong focus on deleveraging.
- Working capital increase in line with higher level of business activity.

## Financials

<table>
<thead>
<tr>
<th></th>
<th>Dec. 31, 2015</th>
<th>Sep. 30, 2016</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net financial debt</td>
<td>12,654</td>
<td>11,649</td>
<td>-7.9%</td>
</tr>
<tr>
<td>Working capital</td>
<td>3,448</td>
<td>3,684</td>
<td>6.8%</td>
</tr>
<tr>
<td>Employees</td>
<td>49,613</td>
<td>50,967</td>
<td>2.7%</td>
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</table>

Totals may not add up due to rounding.
## Reported figures reflect Sigma acquisition

### Reported results

<table>
<thead>
<tr>
<th></th>
<th>Q3 2015</th>
<th>Q3 2016</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>564</td>
<td>676</td>
<td>19.9%</td>
</tr>
<tr>
<td>Financial result</td>
<td>-81</td>
<td>-67</td>
<td>-18.0%</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>482</td>
<td>609</td>
<td>26.3%</td>
</tr>
<tr>
<td>Income tax</td>
<td>-117</td>
<td>-149</td>
<td>27.6%</td>
</tr>
<tr>
<td><strong>Effective tax rate (%)</strong></td>
<td><strong>24.2%</strong></td>
<td><strong>24.4%</strong></td>
<td></td>
</tr>
<tr>
<td>Net income</td>
<td>364</td>
<td>457</td>
<td>25.5%</td>
</tr>
<tr>
<td>EPS (€)</td>
<td>0.84</td>
<td>1.05</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

### Comments

- EBIT reflects increased EBITDA pre-amid integration costs and Sigma D&A
- Financial result contains Sigma interest expenses, improvements vs. last year from LTIP and FX
- Effective tax rate within guided range of ~23% to 25%

Totals may not add up due to rounding
Healthcare: Higher profitability amid positive organic growth

Healthcare P&L

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q3 2015</th>
<th>Q3 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>1,708</td>
<td>1,689</td>
</tr>
<tr>
<td>Marketing and selling</td>
<td>-683</td>
<td>-623</td>
</tr>
<tr>
<td>Administration</td>
<td>-60</td>
<td>-65</td>
</tr>
<tr>
<td>Research and development</td>
<td>-322</td>
<td>-322</td>
</tr>
<tr>
<td>EBITDA</td>
<td>349</td>
<td>375</td>
</tr>
<tr>
<td>EBIT</td>
<td>538</td>
<td>560</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>537</td>
<td>565</td>
</tr>
<tr>
<td>Margin (in % of net sales)</td>
<td>31.5%</td>
<td>33.5%</td>
</tr>
</tbody>
</table>

Net sales bridge

- €1,708 m
- 1.3%
- -1.4%
- -1.0%
- €1,689 m

Q3 2016 share of group net sales

Comments

- Organic decline of Rebif from volume erosion in Europe and U.S. outweighs U.S. pricing and sound development of PDP\(^1\) in Brazil
- Erbitux organically flat as EU pricing and competition offsets volume growth in China, Middle East and Latin America
- Fertility portfolio remains strong, especially in U.S. and China
- Softer Glucophage impacted by phasing and macro trends in MEA\(^2\)
- Marketing & selling reflects end of commission expenses for Rebif (U.S.) partially offset by reinvestments in salesforce & launch preparations
- R&D spend contains ~€ 40 m release of pipeline termination provisions
- Higher EBITDA pre due to end of Rebif commissions, R&D provision release & higher royalties

\(^1\)Productive Development Partnership; \(^2\)Middle East & Africa

Totals may not add up due to rounding
Life Science: Solid organic growth built on strong base

Life Science P&L

<table>
<thead>
<tr>
<th></th>
<th>Q3 2015</th>
<th>Q3 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>759</td>
<td>1,391</td>
</tr>
<tr>
<td>Marketing and selling</td>
<td>-238</td>
<td>-414</td>
</tr>
<tr>
<td>Administration</td>
<td>-30</td>
<td>-56</td>
</tr>
<tr>
<td>Research and development</td>
<td>-45</td>
<td>-63</td>
</tr>
<tr>
<td>EBIT</td>
<td>97</td>
<td>216</td>
</tr>
<tr>
<td>EBITDA</td>
<td>180</td>
<td>399</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>201</td>
<td>424</td>
</tr>
</tbody>
</table>

Margin (in % of net sales)  
26.5%  30.5%

Comments

• Process Solutions shows double-digit growth especially driven by strong demand for filtration & single-use products in all key markets
• Moderate organic growth of Applied Solutions, as demand for pharma biomonitoring & for analytical testing outweighs lower instrument sales
• Research Solutions organically flat, as growth in Emerging Markets is offset by slower demand in Europe and large one-time orders last year
• Absolute costs higher due to Sigma, but improve in relation to sales
• Strong profitability reflects Sigma, business mix and faster synergy ramp-up

Net sales bridge

Q3 2016 share of group net sales

Totals may not add up due to rounding
Market leadership and differentiation in four highly profitable businesses

- Integrated Circuit Materials: ~15-20% of sales
- Display Materials: ~50-60% of sales
- Pigments & Functional Materials: ~15-20% of sales
- Advanced Technologies: ~5-10% of sales
Performance Materials: Sound performance despite display destocking

Performance Materials P&L

<table>
<thead>
<tr>
<th></th>
<th>[€m]</th>
<th>Q3 2015</th>
<th>Q3 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td></td>
<td>653</td>
<td>645</td>
</tr>
<tr>
<td>Marketing and selling</td>
<td>-54</td>
<td>-59</td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>-16</td>
<td>-14</td>
<td></td>
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<tr>
<td>Research and development</td>
<td>-50</td>
<td>-55</td>
<td></td>
</tr>
<tr>
<td>EBIT</td>
<td>233</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>EBITDA</td>
<td>292</td>
<td>274</td>
<td></td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>298</td>
<td>282</td>
<td></td>
</tr>
<tr>
<td>Margin (in % of net sales)</td>
<td></td>
<td>45.5%</td>
<td>43.7%</td>
</tr>
</tbody>
</table>

Comments

- LC shows expected impact from display destocking and ongoing decline of mature technologies (TN-TFT)
- Industry supply chain inventories back to normal levels in Q4
- Strong growth of Integrated Circuit Materials in all major material classes driven by increasing chip complexity and wafer volumes
- Solid growth of Pigments & Functionals due to demand for automotive coating pigments and active cosmetic ingredients
- Resiliently strong profitability reflects leading market position in four high-margin businesses

Net sales bridge

Q3 2016 share of group net sales

Performance Materials 17%
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 increases in mobile applications

Source: DisplaySearch/IHS, WWF & Long Term Demand Report
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

2. Costs
   - Lower material costs as alignment material not needed anymore
   - Lower Capex requirements

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

4. Green
   - Less energy and waste
   - Reduced need for solvents

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

SA-VA = Self Aligned Vertical Alignment
Our leading OLED business is well set to exploit display market opportunities

**Market position**

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

**Solution provider**

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

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**Announced OLED capacity expansion**

- **CAGR ~35%**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mobile</th>
<th>TV</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>2017</td>
<td>10</td>
<td>10</td>
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<tr>
<td>2018</td>
<td>15</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>2019</td>
<td>20</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>

**Display market development**

- Flat panel displays (non-transparent, non-flexible)
- Flexible displays
- Transparent displays

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1Source: IHS, Merck KGaA, Darmstadt, Germany, VLSI
Liquid crystals offer a variety of opportunities:

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
Balance sheet – strong Q3 cash flow accelerates deleveraging process

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

- Decline in interest rates drives increase in pension provisions

Totals may not add up due to rounding
High EBITDA pre drives strong operating cash flow

Q3 2016 – cash flow statement

<table>
<thead>
<tr>
<th></th>
<th>Q3 2015</th>
<th>Q3 2016</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit after tax</td>
<td>366</td>
<td>460</td>
<td>94</td>
</tr>
<tr>
<td>D&amp; A</td>
<td>337</td>
<td>434</td>
<td>97</td>
</tr>
<tr>
<td>Changes in provisions</td>
<td>11</td>
<td>4</td>
<td>-7</td>
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<tr>
<td>Changes in other assets/liabilities</td>
<td>153</td>
<td>36</td>
<td>-117</td>
</tr>
<tr>
<td>Other operating activities</td>
<td>12</td>
<td>1</td>
<td>-11</td>
</tr>
<tr>
<td>Changes in working capital</td>
<td>-7</td>
<td>131</td>
<td>138</td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>872</td>
<td>1,067</td>
<td>195</td>
</tr>
<tr>
<td>Investing cash flow</td>
<td>418</td>
<td>-223</td>
<td>-641</td>
</tr>
<tr>
<td>thereof Capex on PPE</td>
<td>-130</td>
<td>-171</td>
<td>-41</td>
</tr>
<tr>
<td>Financing cash flow</td>
<td>2,217</td>
<td>-702</td>
<td>-2,919</td>
</tr>
</tbody>
</table>

Cash flow drivers

- D&A increases due to Sigma
- Other assets/liabilities include higher tax payments due to higher profits
- Changes in working capital driven by improved inventory and receivable management
- LY investing cash flow contained sale of financial assets for Sigma purchase
- Capex higher due to HQ & Sigma; FY guidance unchanged
- Financing cash flow reflects repayment of debt; LY included ~€2 bn eurobond issuance
03 GUIDANCE
Upgrade of full-year 2016 guidance

Group guidance for 2016

Net sales: ~ €14.9 – 15.1 bn

EBITDA pre: ~ €4,450 – 4,600 m

EPS pre: ~ €6.15 – 6.40
2016 business sector guidance

Healthcare
- Solid organic growth
- Organic Rebif decline
- Strong growth in Fertility
- Other franchises growing

Net sales
- EBITDA pre
  ~ €2,100 – 2,200 m

Life Science
- Mid to high single-digit organic growth
- Main driver Process Solutions
- High double-digit contribution from Sigma

Net sales
- EBITDA pre
  ~ €1,640 – 1,670 m

Performance Materials
- Moderate organic decline
- Improving macro signs amid display industry destocking in LC
- Growing demand in all businesses

Net sales
- EBITDA pre
  ~ €1,100 – 1,150 m
APPENDIX
## Additional financial guidance 2016

### Further financial details

<table>
<thead>
<tr>
<th>Description</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>Corporate &amp; Other EBITDA pre</td>
<td>~ €370 – €400 m</td>
</tr>
<tr>
<td>Interest result</td>
<td>~ €270 – €300 m</td>
</tr>
<tr>
<td>Intangibles amortization from Sigma PPA</td>
<td>~ €250 – 300 m p.a.</td>
</tr>
<tr>
<td>Underlying tax rate</td>
<td>~ 23% to 25%</td>
</tr>
<tr>
<td>Capex on PPE</td>
<td>~ €750 – 800 m</td>
</tr>
<tr>
<td>Hedging/USD assumption</td>
<td>2016 &amp; 2017 hedge ratio ~40%–45% at EUR/USD ~ 1.11 to 1.16</td>
</tr>
<tr>
<td>2016 Ø EUR/USD assumption</td>
<td>~ 1.09 – 1.12</td>
</tr>
</tbody>
</table>
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)

*Last twelve months EBITDA pre/net financial debt (without pensions) as of Sept. 30, 2016
Well-balanced maturity profile reflects capital market transactions related to Sigma-Aldrich

Maturity profile as of Sept. 30, 2016

Financing structure enables flexible and swift deleveraging

*No decision on call rights taken yet
Life Science and Healthcare drive growth and profitability

**9M 2016 YoY net sales**

<table>
<thead>
<tr>
<th></th>
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<th>Currency</th>
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<tbody>
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<td>-5.8%</td>
<td>-1.0%</td>
<td>-2.1%</td>
</tr>
<tr>
<td>Life Science</td>
<td>7.6%</td>
<td>-1.4%</td>
<td>79.5%</td>
<td><strong>85.8%</strong></td>
</tr>
<tr>
<td>Performance Materials</td>
<td>-4.3%</td>
<td>-0.2%</td>
<td>3.1%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>Group</td>
<td>3.6%</td>
<td>-3.6%</td>
<td>19.3%</td>
<td><strong>19.3%</strong></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,696</td>
<td>+153</td>
<td>+648</td>
<td>-41</td>
<td>-41</td>
<td>3,416</td>
</tr>
</tbody>
</table>

*General Medicine and CardioMetabolic Care

Totals may not add up due to rounding

- Growth in Healthcare driven by strong Fertility, GM* as well as Xalkori commissions
- Strong organic growth in Life Science driven by Process Solutions
- Organic decline in Performance Materials reflects destocking in display supply chain
- Portfolio reflects Sigma and Kuvan
- HC benefits from good organic growth, end of Rebif commission expenses and R&D termination provision release
- Life Science driven by Sigma, strong organic growth and positive business mix
- Performance Materials slightly lower due to Liquid Crystal sales decrease
- Corporate EBITDA pre contains hedging and investments in corporate initiatives
### 9M 2016: Overview

#### Key figures

<table>
<thead>
<tr>
<th>[€m]</th>
<th>9M 2015</th>
<th>9M 2016</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>9,381</td>
<td><strong>11,194</strong></td>
<td>19.3%</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>2,696</td>
<td><strong>3,416</strong></td>
<td>26.7%</td>
</tr>
<tr>
<td>Margin (in % of net sales)</td>
<td>28.7%</td>
<td>30.5%</td>
<td></td>
</tr>
<tr>
<td>EPS pre</td>
<td>3.74</td>
<td><strong>4.79</strong></td>
<td>28.1%</td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>1,477</td>
<td><strong>1,731</strong></td>
<td>17.2%</td>
</tr>
</tbody>
</table>

#### Comments

- EBITDA pre & margin increase driven by Sigma, organic performance and end of Rebif commission expenses
- EPS pre grows in line with EBITDA pre
- Healthy operating cash flow driven by business performance and Sigma
- Net financial debt reflects cash-in for Kuvan & strong cash generation partially offset by dividend payments
- Working capital increase in line with higher business activity
Reported figures reflect solid business performance and Kuvan divestment

### Reported results

<table>
<thead>
<tr>
<th></th>
<th>9M 2015</th>
<th>9M 2016</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>1,545</td>
<td>2,075</td>
<td>34.3%</td>
</tr>
<tr>
<td>Financial result</td>
<td>-223</td>
<td>-256</td>
<td>15.1%</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>1,322</td>
<td>1,819</td>
<td>37.5%</td>
</tr>
<tr>
<td>Income tax</td>
<td>-326</td>
<td>-451</td>
<td>38.5%</td>
</tr>
<tr>
<td>Effective tax rate (%)</td>
<td>24.6%</td>
<td>24.8%</td>
<td></td>
</tr>
<tr>
<td>Net income</td>
<td>989</td>
<td>1,360</td>
<td>37.5%</td>
</tr>
<tr>
<td>EPS (€)</td>
<td>2.27</td>
<td>3.13</td>
<td>37.9%</td>
</tr>
</tbody>
</table>

### Comments

- EBIT reflects increased EBITDA pre and Kuvan disposal gain amid integration costs and D&A from Sigma
- Financial result contains Sigma financing interest expenses
- Effective tax rate within guidance range of ~23% to 25%
Healthcare: Good organic growth and product mix drive profitability

Healthcare P&L

<table>
<thead>
<tr>
<th></th>
<th>9M 2015</th>
<th>9M 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>5,197</td>
<td>5,089</td>
</tr>
<tr>
<td>Marketing and selling</td>
<td>-2,073</td>
<td>-1,878</td>
</tr>
<tr>
<td>Administration</td>
<td>-195</td>
<td>-202</td>
</tr>
<tr>
<td>Research and development</td>
<td>-1,027</td>
<td>-1,078</td>
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<tr>
<td>EBIT</td>
<td>884</td>
<td>1,314</td>
</tr>
<tr>
<td>EBITDA</td>
<td>1,448</td>
<td>1,947</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>1,478</td>
<td>1,631</td>
</tr>
<tr>
<td>Margin (in % of net sales)</td>
<td>28.4%</td>
<td>32.0%</td>
</tr>
</tbody>
</table>

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 and ~€40 m R&D provision releases

9M 2016 share of group net sales

Net sales bridge

- 4.7% Organic
- -5.8% Currency
- -1.0% Portfolio

Net sales: €5,197 m
9M 2016: €5,089 m

*Productive Development Partnership
Totals may not add up due to rounding
Healthcare organic growth by franchise/product

Q3 2016 organic sales growth [%] by key product [€ m]

- **Rebif**
  - Q3 2016: 436
  - Q3 2015: 468
  - % change: -5%

- **Erbitux/Cetuximab**
  - Q3 2016: 219
  - Q3 2015: 223
  - % change: -1%

- **Consumer Health**
  - Q3 2016: 219
  - Q3 2015: 219
  - % change: +2%

- **Gonal-f**
  - Q3 2016: 182
  - Q3 2015: 167
  - % change: +10%

- **Concor**
  - Q3 2016: 106
  - Q3 2015: 106
  - % change: +2%

- **Glucophage**
  - Q3 2016: 89
  - Q3 2015: 103
  - % change: -13%

9M 2016 organic sales growth [%] by key product [€ m]

- **Rebif**
  - 9M 2016: 1,300
  - 9M 2015: 1,358
  - % change: -2%

- **Erbitux/Cetuximab**
  - 9M 2016: 657
  - 9M 2015: 661
  - % change: +3%

- **Consumer Health**
  - 9M 2016: 646
  - 9M 2015: 698
  - % change: +3%

- **Gonal-f**
  - 9M 2016: 578
  - 9M 2015: 508
  - % change: +17%

- **Concor**
  - 9M 2016: 320
  - 9M 2015: 359
  - % change: +3%

- **Glucophage**
  - 9M 2016: 286
  - 9M 2015: 329
  - % change: -1%
Rebif: Relief in the U.S. – competitive ramp-up in Europe ongoing

Rebif sales evolution

North America

<table>
<thead>
<tr>
<th></th>
<th>Price increase</th>
<th>Price increase</th>
<th>Price increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3 2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4 2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1 2016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2 2016</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Q3 2016</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Europe

<table>
<thead>
<tr>
<th></th>
<th>Price increase</th>
<th>Price increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3 2016</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rebif performance

• Rebif sales of €436 m in Q3 2016 reflect organic decline of 5.5% amid negative FX effects mainly from LatAm
• 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; Q3 2015 contained tender in Russia
• LatAm shows very strong growth due to PDP* in Brazil

*Productive Development Partnership
Erbitux: A challenging market environment

Erbitux sales by region

Erbitux performance

- Sales decrease to €219 m as solid volume development in growth markets is more than offset by price cuts
- Europe organically lower in ongoing tough environment (price & competition)
- Asia-Pacific contains strong volume growth in China partially offset by softness in Japan
- Organic growth in LatAm and MEA reflects growing demand especially in Brazil
Solid organic growth in Fertility, General Medicine and Endocrinology

Sales evolution

Fertility

Endocrinology

General Medicine*

Q3 drivers

• Fertility shows strong growth across all products, especially in China

• Gonal-f still benefiting from competitive situation in the U.S. outweighing slight uptake of biosimilars in Europe

• Sales drop in Endocrinology reflects Kuvan divestment; remaining portfolio growing organically

• General Medicine sales burdened by FX headwinds from LatAM and China, underlying trends remain intact

• Euthyrox posts good growth in Europe and across APAC and LatAm

• Glucophage decline linked to phasing & difficult macroeconomic environment in parts of MEA

* includes "CardioMetabolic Care & General Medicine and Others"
Clinical pipeline

**Phase I**
- Tepotinib – c-Met kinase inhibitor
  - Solid tumors
- M2698 – p70S6K & Akt inhibitor
  - Solid tumors
- M3814 – DNA-PK inhibitor
  - Solid tumors
- Beigene-283 – BRAF inhibitor
  - Solid tumors
- M7583 – BTK inhibitor
  - Hematological malignancies

**Avelumab** – Anti-PD-L1 mAb
- Solid tumors
- Hematological malignancies
- M9241 (NHS-IL12)
  - Cancer immunotherapy
  - Solid tumors
- M7824 – Bifunctional immunotherapy
  - Solid tumors

**Phase II**
- Tepotinib
  - c-Met kinase inhibitor
  - Non-small cell lung cancer
- Tepotinib
  - c-Met kinase inhibitor
  - Hepatocellular cancer
- Sprifermin
  - Fibroblast growth factor 18
  - Osteoarthritis
- Atacicept
  - Anti-Blys/anti-APRIL fusion protein
  - Systemic lupus erythematosus
- M2951
  - BTK inhibitor
  - Rheumatoid arthritis

**Phase III**
- Avelumab – Anti-PD-L1 mAb
  - Non-small cell lung cancer 1L
  - Non-small cell lung cancer 2L
  - Gastric cancer 1L
  - Gastric cancer 3L
  - Bladder cancer 1L
  - Ovarian cancer platinum resistant/refractory
- Avelumab – Anti-PD-L1 mAb
  - Ovarian cancer 1L
  - Renal cell cancer 1L

**MSB11022**
- Proposed biosimilar of Adalimumab
  - Chronic plaque psoriasis

**Registration**
- Clad ribine Tablets – Lymphocyte targeting agent
  - Relapsing-remitting multiple sclerosis
- Avelumab® – Anti-PD-L1 mAb
  - Merkel cell carcinoma

---

1 Sponsored by the National Cancer Institute (USA); 2 1st line treatment; 3 2nd line treatment; 4 3rd line treatment; 5 European Medicines Agency accepted Marketing Authorization Application from Merck KGaA, Darmstadt, Germany in October 2016

Pipeline as of November 7th, 2016

Pipeline products are under clinical investigation and have not been proven to be safe and effective. There is no guarantee any product will be approved in the sought-after indication.
Life Science: Strong top-line growth and fast synergy realization

Life Science P&L

<table>
<thead>
<tr>
<th>[€m]</th>
<th>9M 2015</th>
<th>9M 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>2,270</td>
<td>4,217</td>
</tr>
<tr>
<td>Marketing and selling</td>
<td>-715</td>
<td>-1,248</td>
</tr>
<tr>
<td>Administration</td>
<td>-88</td>
<td>-176</td>
</tr>
<tr>
<td>Research and development</td>
<td>-139</td>
<td>-190</td>
</tr>
<tr>
<td>EBIT</td>
<td>266</td>
<td>486</td>
</tr>
<tr>
<td>EBITDA</td>
<td>514</td>
<td>1,026</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>585</td>
<td>1,233</td>
</tr>
<tr>
<td>Margin (in % of net sales)</td>
<td>25.8%</td>
<td>29.2%</td>
</tr>
</tbody>
</table>

Comments
- Double-digit growth of Process Solutions driven by increasing production of large molecules across global and regional accounts
- Applied Solutions shows moderate organic growth, driven by bio-monitoring products for pharma & demand for analytical testing
- Research Solutions benefits from increased research on biologics as well as solid demand for analytical chemicals
- Cost base contains Sigma, but improves in relation to sales
- Profitability reflects Sigma, business mix and synergies

Net sales bridge

9M 2016 share of group net sales

Totals may not add up due to rounding
Performance Materials: Healthy profitability amid display supply chain destocking

Performance Materials P&L

<table>
<thead>
<tr>
<th>[€m]</th>
<th>9M 2015</th>
<th>9M 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>1,914</td>
<td>1,888</td>
</tr>
<tr>
<td>Marketing and selling</td>
<td>-154</td>
<td>-175</td>
</tr>
<tr>
<td>Administration</td>
<td>-48</td>
<td>-45</td>
</tr>
<tr>
<td>Research and development</td>
<td>-145</td>
<td>-157</td>
</tr>
<tr>
<td>EBIT</td>
<td>685</td>
<td>613</td>
</tr>
<tr>
<td>EBITDA</td>
<td>864</td>
<td>808</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>870</td>
<td>829</td>
</tr>
</tbody>
</table>

*Margin (in % of net sales)*

45.4% | 43.9%

Comments

- LC impacted by volume declines of mature TN-TFT and inventory correction in supply chain, while premium technologies see high demand
- OLED continues to grow on industry capacity expansion & investments
- Integrated Circuit Materials (ICM) shows good growth in all major product categories driven by increasing complexity of chips
- Pigments & Functionals post solid growth esp. due to cosmetic API*
- Marketing & selling reflects contribution from Sigma’s SAFC Hitech
- Healthy profitability due to leading market position with highly differentiated products, despite destocking in display supply chain

Net sales bridge

€1,914 m | -4.3%
9M 2015

-0.2% |
Currency

3.1% |
Portfolio

€1,888 m |
9M 2016

9M 2016 share of group net sales

17% Performance Materials

*Active pharmaceutical ingredient

Totals may not add up due to rounding
Our customers, panel and set makers alike, are based in Asia

Share of global production capacities* of customers by region

Main customers

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2012</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innolux</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AU Optronics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samsung Display</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LG Display</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOE</td>
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<td>CSOT</td>
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<tr>
<td>Sharp</td>
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</tr>
<tr>
<td>SDP**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Source: IHS data Q2 2016
** Sakai Display Products
TV size increase leads to overproportionate demand increase for liquid crystals

Increasing area requires more LC material

Trend toward bigger TV sizes drives liquid crystal demand
Healthy operating cash flow reflects strong business performance

9M 2016 – cash flow statement

<table>
<thead>
<tr>
<th></th>
<th>9M 2015</th>
<th>9M 2016</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit after tax</td>
<td>997</td>
<td>1,368</td>
<td>371</td>
</tr>
<tr>
<td>D&amp;A</td>
<td>1,006</td>
<td>1,386</td>
<td>380</td>
</tr>
<tr>
<td>Changes in provisions</td>
<td>32</td>
<td>-42</td>
<td>-74</td>
</tr>
<tr>
<td>Changes in other assets/liabilities</td>
<td>-348</td>
<td>-396</td>
<td>-48</td>
</tr>
<tr>
<td>Other operating activities</td>
<td>-6</td>
<td>-421</td>
<td>-415</td>
</tr>
<tr>
<td>Changes in working capital</td>
<td>-204</td>
<td>-165</td>
<td>39</td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>1,477</td>
<td>1,731</td>
<td>254</td>
</tr>
<tr>
<td>Investing cash flow</td>
<td>2,670</td>
<td>-53</td>
<td>-2,723</td>
</tr>
<tr>
<td>thereof Capex on PPE</td>
<td>-297</td>
<td>-456</td>
<td>-159</td>
</tr>
<tr>
<td>Financing cash flow</td>
<td>4,331</td>
<td>-1,631</td>
<td>-5,962</td>
</tr>
</tbody>
</table>

Cash flow drivers

- Profit after tax includes gain from Kuvan divestment, which is neutralized in other operating activities
- D&А increases mainly due to Sigma
- Changes in working capital reflect improved inventory and receivables management
- Investing cash flow contains increased Capex & Kuvan; LY with sale of financial assets & Sigma hedging cash-in
- Financing cash flow reflects first repayments of Sigma-related debt; LY contains € and US$ bond issuances

Totals may not add up due to rounding
## Exceptionals in Q3 2016

### Exceptionals in EBIT

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q3 2015</th>
<th></th>
<th>Q3 2016</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Exceptionals</td>
<td>thereof D&amp;A</td>
<td>Exceptionals</td>
<td>thereof D&amp;A</td>
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<tr>
<td>Healthcare</td>
<td>-1</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Life Science</td>
<td>21</td>
<td>0</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Performance Materials</td>
<td>5</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Corporate &amp; Other</td>
<td>18</td>
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<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>0</td>
<td>63</td>
<td>0</td>
</tr>
</tbody>
</table>

Totals may not add up due to rounding.
## Exceptionals in 9M 2016

### Exceptionals in EBIT

<table>
<thead>
<tr>
<th></th>
<th>9M 2015</th>
<th></th>
<th>9M 2016</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exceptionals</td>
<td>thereof D&amp;A</td>
<td>Exceptionals</td>
<td>thereof D&amp;A</td>
</tr>
<tr>
<td>Healthcare</td>
<td>32</td>
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<td>-245</td>
<td>71</td>
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<td>207</td>
<td>0</td>
</tr>
<tr>
<td>Performance Materials</td>
<td>6</td>
<td>0</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>Corporate &amp; Other</td>
<td>39</td>
<td>0</td>
<td>42</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>148</td>
<td>2</td>
<td>25</td>
<td>71</td>
</tr>
</tbody>
</table>

Totals may not add up due to rounding.
## Financial calendar

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 9, 2017</td>
<td>Q4 2016 Earnings release</td>
</tr>
<tr>
<td>April 28, 2017</td>
<td>Annual General Meeting</td>
</tr>
<tr>
<td>May 18, 2017</td>
<td>Q1 2017 Earnings release</td>
</tr>
<tr>
<td>August 3, 2017</td>
<td>Q2 2017 Earnings release</td>
</tr>
<tr>
<td>November 9, 2017</td>
<td>Q3 2017 Earnings release</td>
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</tbody>
</table>