2021, a year of record growth and margin expansion

Merck KGaA, Darmstadt, Germany FY 2021 results

Belén Garijo, CEO
Marcus Kuhnert, CFO

March 3, 2022
Disclaimer

Publication of Merck KGaA, Darmstadt, Germany. In the United States and Canada the group of companies affiliated with Merck KGaA, Darmstadt, Germany operates under individual business names (EMD Serono, Millipore Sigma, EMD Performance Materials). To reflect such fact and to avoid any misconceptions of the reader of the publication certain logos, terms and business descriptions of the publication have been substituted or additional descriptions have been added. This version of the publication, therefore, slightly deviates from the otherwise identical version of the publication provided outside the United States and Canada.

Cautionary Note Regarding Forward-Looking Statements and financial indicators

This communication may include “forward-looking statements.” Statements that include words such as “anticipate,” “expect,” “should,” “would,” “intend,” “plan,” “project,” “seek,” “believe,” “will,” and other words of similar meaning in connection with future events or future operating or financial performance are often used to identify forward-looking statements. All statements in this communication, other than those relating to historical information or current conditions, are forward-looking statements. We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements in the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to a number of risks and uncertainties, many of which are beyond control of Merck KGaA, Darmstadt, Germany, which could cause actual results to differ materially from such statements.

Risks and uncertainties include, but are not limited to: the risks of more restrictive regulatory requirements regarding drug pricing, reimbursement and approval; the risk of stricter regulations for the manufacture, testing and marketing of products; the risk of destabilization of political systems and the establishment of trade barriers; the risk of a changing marketing environment for multiple sclerosis products in the European Union; the risk of greater competitive pressure due to biosimilars; the risks of research and development; the risks of discontinuing development projects and regulatory approval of developed medicines; the risk of a temporary ban on products/production facilities or of non-registration of products due to non-compliance with quality standards; the risk of an import ban on products to the United States due to an FDA warning letter; the risks of dependency on suppliers; risks due to product-related crime and espionage; risks in relation to the use of financial instruments; liquidity risks; counterparty risks; market risks; risks of impairment on balance sheet items; risks from pension obligations; risks from product-related and patent law disputes; risks from antitrust law proceedings; risks in human resources; risks from e-crime and cyber attacks; risks due to failure of business-critical information technology applications or to failure of data center capacity; environmental and safety risks; unanticipated contract or regulatory issues; a potential downgrade in the rating of the indebtedness of Merck KGaA, Darmstadt, Germany; downward pressure on the common stock price of Merck KGaA, Darmstadt, Germany and its impact on goodwill impairment evaluations as well as the impact of future regulatory or legislative actions.

The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included elsewhere, including the Report on Risks and Opportunities Section of the most recent annual report and quarterly report of Merck KGaA, Darmstadt, Germany. Any forward-looking statements made in this communication are qualified in their entirety by these cautionary statements, and there can be no assurance that the actual results or developments anticipated by us will be realized or, even if substantially realized, that they will have the expected consequences to, or effects on, us or our business or operations. Except to the extent required by applicable law, we undertake no obligation to update publicly or revise any forward-looking statement, whether as a result of new information, future developments or otherwise.

This presentation contains certain financial indicators such as EBITDA pre adjustments, net financial debt and earnings per share pre adjustments, which are not defined by International Financial Reporting Standards (IFRS). These financial indicators should not be taken into account in order to assess the performance of Merck KGaA, Darmstadt, Germany in isolation or used as an alternative to the financial indicators presented in the consolidated financial statements and determined in accordance with IFRS. The figures presented in this statement have been rounded. This may lead to individual values not adding up to the totals presented.
Agenda

01 Executive summary
02 Strategic review
03 Financial overview
04 ESG update
05 Outlook & Guidance
Executive summary
Highlights 2021

Operations

Life Science:
- Record growth (+21% org.) driven by strong core business (~12pp.) and COVID-19 demand (~9pp)
- Largest sales contribution to group (org. +€1.6 bn)
- Process Solutions main driver; all business units grow well above mid-term guidance

Healthcare:
- +8.5% org. growth (+€565 m) vs. impacted comps
- +144% org. growth in Bavencio® and +33% org. Mavenclad® ramp up amid muted high efficacy market
- Fertility recovery drives growth in established portfolio despite China VBP impact

Electronics:
- Semiconductor Solutions growing +15% org. contributing ~ €280 m org. growth to the group
- Above mid-term guidance org. growth of +8% (+€259 m)

Financials

FY organic sales: growth of +13.8%
FY organic EBITDA pre: growing +27.0% (+18.1% org. incl. 2020 reversal of Biogen provision)

Guidance delivered: Net sales: €19.7 bn EBITDA pre: €6.1 bn EPS pre: €8.72

Net financial debt to EBITDA pre: Declines further to 1.4 on December 31, 2021
Guidance delivered

**2021 Guidance**
- **Net Sales**: €19.3 – 19.85 bn
- **EBITDA pre**: €6.00 – 6.30 bn
- **EPS pre**: €8.50 – 9.00

**2021 Results**
- **Net Sales**: €19.7 bn
- **EBITDA pre**: €6.10 bn
- **EPS pre**: €8.72
Strong Life Science continues to be primary growth driver across all regions

Regional breakdown of net sales [€m]

- APAC: Process & Semiconductor Solutions, drive +11% growth
- Europe: Process Solutions and Research Solutions remain primary growth drivers, Fertility and recent Healthcare launches also contributing
- North America: Process Solutions, Research Solutions, and Bavencio® top three growth drivers, further supported by Fertility & Semiconductor Solutions
- LATAM growth driven primarily by CM&E, Applied Solutions and Fertility
- Fertility continues driving ME&A growth

Regional organic development

- FY 2021
- Net sales: €19,687 m
- Totals may not add up due to rounding
Strong company performance drives all time high payment to shareholders

Dividend\(^1\) development 2015 - 2021

- 2021 dividend
  - Dividend of €1.85 (+32% YoY) per share proposed\(^4\) for 2021
  - Payout ratio of 21.2% of EPS pre in 2021; aiming for 20% to 25%
  - Dividend yield\(^2\) of 0.8%

\(^1\)Final decision is subject to Annual General Meeting approval

\(^2\)Calculated with 2021 year-end share price of €227.00 per share.
strategic review
Life Science: +12% org. growth from core business driven by strong industry position, further supported by +9% org. growth from COVID-19

**Business performance**

- Successfully delivering record sales (+21% org.) and EBITDA pre (+38% org.) with Process Solutions as key driver
- Strong core business drives majority of growth in 2021 (+12% org.), supported by double-digit performance in all businesses
- Additional business from COVID-19, almost tripling y-o-y to total sales of €1.15 bn, growth leveling out in H2 as anticipated
- Strong EBITDA pre growth and exceptional margin level reflect favorable mix, positive pricing, and operating leverage
- Margin slightly lower in H2 amid planned ramp-up of strategic investments

**Sector focus**

- Continuous focus on key growth trends as leading diversified life science player
- Strengthening the core
  - Significant capacity and regional network expansion to enable growth of key portfolios
  - Driving productivity to maximize output from existing assets amid surging demand
  - Go-to-market optimization including upgraded e-commerce platform and collaboration centers
- Expanding in high growth segments
  - Organic & inorganic scale up to become leading multimodality CDMO (mAbs, ADCs, hp-APIs, viral vectors, mRNA); Amptec & Exelead\(^1\) M&A
  - Increasing focus on innovation and digital to complement holistic offering (e.g. AI, Bio4C)
  - Driving growth in emerging regions, esp. China

\(^1\)Transaction is expected to close in the first quarter of 2022
Healthcare: +8.5% org. growth driven by recent launches, complemented by strong Fertility recovery

Business performance

- Strongest organic growth in past 5 years
- Oncology up +28% org. mainly driven by Bavencio® mUC 1L and supported by strong Erbitux performance
- Mavenclad® drives slight Neurology & Immunology franchise growth, despite continued Rebif® decline and suppressed dynamic high-efficacy market
- Established portfolio up +3% org. as Fertility recovery more than offsets Rebif®; around flat CM&E business with fading China VBP impact (as of Q4)
- Sales growth, Bavencio® milestones and stringent cost management drive +17% EBITDA pre growth and margin expansion¹

²Excluding €365 m Biogen Provision Release, the reported margin is 34.1%; Acronyms: mUC = metastatic urothelial cancer, CM&E = Cardiology Metabolism & Endocrinology, HE = High Efficacy

EBITDA pre Margin

28.7%¹

30.4%

+8.5% organic

+6.8%

sales [€ bn]

6.6

7.1

2020

2021

Sector focus

- Well positioned in a dynamic environment, focused leadership in R&D
- Pipeline with transformative potential
  - Novel mechanisms with potential to redefine SoC in MS, Lupus and several cancer types
  - 14 clinical development programs underway
  - Evobrutinib and Xevinapant PhIII assets with first-in-class opportunities
- Recent Launches
  - Significant opportunity to drive further growth of Bavencio® in mUC 1L
  - Mavenclad® holding or gaining share in most markets amid muted high-efficacy market
- Established Portfolio
  - Resilient CM&E business across diversified geographies; strengthened Fertility leadership & China resume growth
Electronics: Shifting to accelerated growth ambitions

**Business performance**

- Strong organic sales growth of +8% delivers on “Bright Future” turn-around commitment
- Semiconductor Solutions growth accelerating above mid-term guidance well into double-digits, with additional support from DS&S project business
- Display Solutions rate of decline nearly halves to -6% org. vs. COVID-19-impacted LY; OLED increasingly compensates decline
- Surface Solutions with double-digit organic growth amid market recovery
- Margin expansion to 31% supported by Versum synergies, despite raw materials & logistic headwinds in H2

**Sector focus**

- Successful “Bright Future” transformation; €85 m Versum cost synergies 2022 target already delivered in 2021
- Ready for growth with “Level Up” program
- Fueling accelerated growth ambitions
  - Aiming to invest more than €2 bn capex from 2021 to 2025, primarily to support capacity expansion of Semi customers
  - Driving profitable innovation & partnerships accelerating use of Big Data, AI & IoT
  - Strengthening manufacturing sites and opening new facilities to continue localizing footprint close to customers
  - Supporting node transitions and accelerating customer innovations in leading edge technologies

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBITDA pre Margin</td>
<td>3.4</td>
<td>3.6</td>
</tr>
<tr>
<td>Margin</td>
<td>30.3%</td>
<td>31.3%</td>
</tr>
<tr>
<td>+7.7% organic</td>
<td>+6.7%</td>
<td></td>
</tr>
</tbody>
</table>
## FY 2021: Overview

### Key figures

<table>
<thead>
<tr>
<th></th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>Δ</th>
<th>FY 2020</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>17,534</td>
<td>19,687</td>
<td>12.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>5,201</td>
<td>6,103</td>
<td>17.3%</td>
<td>4,836</td>
<td>26.2%</td>
</tr>
<tr>
<td>Margin (in % of net sales)</td>
<td>29.7%</td>
<td>31.0%</td>
<td>1.3pp</td>
<td>27.6%</td>
<td>3.4 pp</td>
</tr>
<tr>
<td>EPS pre</td>
<td>6.70</td>
<td>8.72</td>
<td>30.1%</td>
<td>6.07</td>
<td>43.7%</td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>3,477</td>
<td>4,616</td>
<td>32.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Comments

- Sales up +12%, driven by strong growth across all sectors, particularly Life Science
- 340 bps uplift in underlying EBITDA pre margin\(^1\) fueled by strong Life Science performance and operating leverage
- EPS pre growth of +44%\(^1\) mainly driven by EBIT pre contribution, further supported by better financial result
- Operating cash flow up +33% supporting strong net debt reduction of €2 bn
- Sound working capital management ensures growth significantly below sales
- Headcount mainly driven by Life Science

\(^1\)Excluding €365 m Biogen Provision Release

### Totals may not add up due to rounding

(Excl. Biogen provision reversal)
FY 2021: +14% org. growth mainly driven by double-digit growth of Life Science, supported by strong Healthcare and Electronics performance

- Life Science: Record growth across all business units; +31% org. in Process Solutions driven by strong core business and COVID-19 demand; Research and Applied grow +15% org. and +9% org.
- Healthcare: Recent launches up +60% org. on top of growing established portfolio (+3% org.) supported by Fertility recovery; driving strong +8.5% org. growth in the sector
- Electronics: Double digit growth of Semiconductor Solutions (+15% org.) and Surface recovery (+13% org.) more than offset Display decline (-6% org.), driving +8% org. growth overall

FY YoY Net Sales

<table>
<thead>
<tr>
<th>FY YOY Net Sales</th>
<th>Organic</th>
<th>Currency</th>
<th>Portfolio</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2021</td>
<td>19.6%</td>
<td>-1.6%</td>
<td>0.0%</td>
<td>13.8%</td>
</tr>
<tr>
<td>FY 2020</td>
<td>18.1%</td>
<td>-1.4%</td>
<td>-0.3%</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

FY YoY EBITDA pre

- EBITDA pre up +18% org. (+27% org. excl. 2020 Biogen provision reversal), ahead of sales
- Life Science operating leverage main driver for margin expansion, supported by stringent cost management across the enterprise
- Slight negative FX effects driven primarily by USD, JPY & TRY, partly offset by positive effects from CNY
**FY 2021: Reported figures – comps impacted by Biogen provision reversal**

**Reported results**

<table>
<thead>
<tr>
<th>[€m]</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>2,985</td>
<td>4,179</td>
<td>40.0%</td>
</tr>
<tr>
<td>Financial result</td>
<td>-354</td>
<td>-255</td>
<td>-28.1%</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>2,630</td>
<td>3,924</td>
<td>49.2%</td>
</tr>
<tr>
<td>Income tax</td>
<td>-637</td>
<td>-859</td>
<td>34.9%</td>
</tr>
<tr>
<td><strong>Effective tax rate (%)</strong></td>
<td>24.2%</td>
<td>21.9%</td>
<td>-2.3pp</td>
</tr>
<tr>
<td>Net income</td>
<td>1,987</td>
<td>3,055</td>
<td>53.7%</td>
</tr>
<tr>
<td>EPS (€)</td>
<td>4.57</td>
<td>7.03</td>
<td>53.8%</td>
</tr>
</tbody>
</table>

**Comments**

- EBIT growth of +40% mainly driven by leveraged business growth, understated by €365 m for Biogen provision reversal in 2020.
- Improved financial result reflects lower interest expenses driven by continuous deleveraging.
- Lower effective tax rate due to favorable country mix, primarily in Life Science.
- Net income and EPS reflect EBIT growth and improved financial result.
Life Science Q4: Sequential growth drives another record quarter; 14% org. growth normalizing but still well above mid-term guidance

Life Science P&L

<table>
<thead>
<tr>
<th></th>
<th>IFRS</th>
<th>Pre</th>
<th>IFRS</th>
<th>Pre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q4 2020</td>
<td>Q4 2021</td>
<td>Q4 2020</td>
<td>Q4 2021</td>
</tr>
<tr>
<td>Net sales</td>
<td>2,030</td>
<td>2,386</td>
<td>2,030</td>
<td>2,386</td>
</tr>
<tr>
<td>M&amp;S*</td>
<td>-531</td>
<td>-584</td>
<td>-529</td>
<td>-582</td>
</tr>
<tr>
<td>Admin</td>
<td>-76</td>
<td>-85</td>
<td>-73</td>
<td>-89</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>-87</td>
<td>-101</td>
<td>-86</td>
<td>-99</td>
</tr>
<tr>
<td>EBIT</td>
<td>451</td>
<td>628</td>
<td>457</td>
<td>643</td>
</tr>
<tr>
<td>EBITDA</td>
<td>650</td>
<td>837</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>653 (32.2%)</td>
<td>840 (35.2%)</td>
<td>653 (32.2%)</td>
<td>840 (35.2%)</td>
</tr>
</tbody>
</table>

Net sales bridge

- Q4 2020: 2,030
- Organic: 14.2%
- Currency: 3.3%
- Portfolio: 0.0%
- Q4 2021: 2,386

EBITDA pre bridge

- Q4 2020: €653 m
- Organic: 25.4%
- Currency: 3.5%
- Portfolio: -0.2%
- Q4 2021: €840 m

Comments

- Process Solutions: Strong organic growth of +25%, majority of growth driven by robust core business performance, continuously supported by COVID-19 demand; comps also include significant COVID-19 business
- Research Solutions: Slight organic growth of +1.5% against strong comps, elevated by Q4 2020 post lockdown laboratory rebound and additional COVID-19 business
- Applied Solutions: +7% organic growth ahead of mid-term guidance, despite no significant COVID-19 tailwind
- M&S in % of sales declining from 26% to 24% due to strong top line leverage, higher in absolute terms with logistics being the largest driver
- Higher R&D spend in absolute terms with continued focused investments in high growth and emerging segments, e.g. next gen bioprocessing
- Strong EBITDA pre growth (+25% org.) again exceeding sales growth driven by strong performance, favorable product mix & pricing; margin expansion vs. LY sequentially levelling out as anticipated
Healthcare Q4: Continued strong Bavencio® ramp up and strong growth in Fertility drive +4.7% organic growth in the sector

**Healthcare P&L**

<table>
<thead>
<tr>
<th>[€m]</th>
<th>IFRS Q4 2020</th>
<th>IFRS Q4 2021</th>
<th>Pre Q4 2020</th>
<th>Pre Q4 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>1,738</td>
<td>1,875</td>
<td>1,738</td>
<td>1,875</td>
</tr>
<tr>
<td>M&amp;S*</td>
<td>-449</td>
<td>-452</td>
<td>-414</td>
<td>-453</td>
</tr>
<tr>
<td>Admin</td>
<td>-84</td>
<td>-84</td>
<td>-80</td>
<td>-79</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>-479</td>
<td>-395</td>
<td>-454</td>
<td>-392</td>
</tr>
<tr>
<td>EBIT</td>
<td>305</td>
<td>424</td>
<td>397</td>
<td>407</td>
</tr>
<tr>
<td>EBITDA</td>
<td>433</td>
<td>518</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>EBITDA pre (in % of net sales)</td>
<td>525</td>
<td>498</td>
<td>525</td>
<td>498</td>
</tr>
</tbody>
</table>

**Comments**

- Oncology up +21% org., primarily driven by continuous strong uptake of Bavencio® (+132% org.) supported by ongoing Europe launch
- Mavenclad® growing organically amid suppressed dynamic market, not fully offsetting Rebif® org. decline of -12%
- CM&E returning to growth (+3% org.) post VBP impact, continuous strong growth in Fertility (+9% org.)
- M&S increase driven by ramp up of promotional activities vs. pandemic-related lower activity level in prior year
- Bintrafusp study termination and related provisions in Q3 main driver for lower absolute R&D level
- EBITDA pre and margin decline driven by phasing in other operating expenses & income from BD deals and missing bintrafusp income, as well as production yield fluctuations, in parts compensated by +7% FX
Electronics Q4: +24% growth in Semi continues to drive double-digit organic sales growth for the sector

Electronics P&L

<table>
<thead>
<tr>
<th>[Cm]</th>
<th>IFRS</th>
<th>Pre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q4 2020</td>
<td>Q4 2021</td>
</tr>
<tr>
<td>Net sales</td>
<td>831</td>
<td>952</td>
</tr>
<tr>
<td>M&amp;S*</td>
<td>-136</td>
<td>-154</td>
</tr>
<tr>
<td>Admin</td>
<td>-41</td>
<td>-35</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>-68</td>
<td>-72</td>
</tr>
<tr>
<td>EBIT</td>
<td>79</td>
<td>140</td>
</tr>
<tr>
<td>EBITDA</td>
<td>228</td>
<td>282</td>
</tr>
<tr>
<td>EBITDA pre (in % of net sales)</td>
<td>246</td>
<td>300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>%</th>
<th>Q4 2020</th>
<th>Q4 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>M&amp;S*</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Admin</td>
<td>-13.6%</td>
<td>-13.3%</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>-6.8%</td>
<td>-7.2%</td>
</tr>
<tr>
<td>EBIT</td>
<td>7.9%</td>
<td>10.8%</td>
</tr>
<tr>
<td>EBITDA</td>
<td>29.6%</td>
<td>31.5%</td>
</tr>
</tbody>
</table>

Net sales bridge

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q4 2020</th>
<th>Organic</th>
<th>Currency</th>
<th>Portfolio</th>
<th>Q4 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>831</td>
<td>10.4%</td>
<td>€246 m</td>
<td>4.2%</td>
<td>€952 m</td>
</tr>
</tbody>
</table>

EBITDA pre bridge

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q4 2020</th>
<th>Organic</th>
<th>Currency</th>
<th>Portfolio</th>
<th>Q4 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBITDA pre</td>
<td>246</td>
<td>12.1%</td>
<td>€246 m</td>
<td>9.7%</td>
<td>€300 m</td>
</tr>
</tbody>
</table>

Comments

- Semiconductor Solutions: Record organic sales growth of +24% fueled by over +20% org. growth in materials; additional DS&S project business expected to last throughout all of 2022
- Display Solutions: Strong OLED performance and growth in remaining portfolio party offset LC decline (-10% org. overall)
- Surface Solutions: Slight organic growth of +1% against higher comps amid business recovery onset in prior year quarter
- M&S flat as percentage of sales, absolute growth mainly driven by higher logistic cost from price and volume increases
- R&D with absolute increase driven by investments in Semiconductor Materials business
- EBITDA pre growth and margin expansion driven by strong business performance (+12% org.) and favorable FX development (+10%)
Higher cash level driven by strong operating cash flow
- Receivables & inventories driven by strong sales growth and FX effects
- Increase in intangible assets primarily driven by FX effects
- PP&E reflects ongoing investments supporting growth ambitions

Lower financial debt reflects deleveraging driven by strong performance
- Reduction in provisions for employee benefits driven by actuarial gains from higher interest rates
- Equity ratio up to 47% (vs. 41% in 2020) driven by retained earnings and translational FX effects
Cash flow statement

Q4 2021 – Cash flow statement

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q4 2020</th>
<th>Q4 2021</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit after tax</td>
<td>440</td>
<td>807</td>
<td>366</td>
</tr>
<tr>
<td>D&amp;A</td>
<td>496</td>
<td>475</td>
<td>-21</td>
</tr>
<tr>
<td>Changes in provisions</td>
<td>185</td>
<td>-50</td>
<td>-235</td>
</tr>
<tr>
<td>Changes in other assets/liabilities</td>
<td>-48</td>
<td>-192</td>
<td>-144</td>
</tr>
<tr>
<td>Other operating activities</td>
<td>-60</td>
<td>16</td>
<td>76</td>
</tr>
<tr>
<td>Changes in working capital</td>
<td>275</td>
<td>-11</td>
<td>-285</td>
</tr>
<tr>
<td><strong>Operating cash flow</strong></td>
<td>1,288</td>
<td>1,045</td>
<td>-243</td>
</tr>
<tr>
<td>Investing cash flow</td>
<td>-98</td>
<td>-352</td>
<td>-254</td>
</tr>
<tr>
<td>thereof Capex on PPE</td>
<td>-609</td>
<td>-199</td>
<td>409</td>
</tr>
<tr>
<td>Financing cash flow</td>
<td>-1,381</td>
<td>-319</td>
<td>1,062</td>
</tr>
</tbody>
</table>

Cash flow drivers

- +83% growth in profit after tax driven by strong business performance, lower tax rate and improved financial result
- Changes in provisions primarily driven by lower restructuring provisions
- Other assets & liabilities mainly driven by Life Science tax prepayments in U.S.
- Working capital primarily driven by higher inventories to support sales and supply security in Life Science and Electronics
- Lower operating cashflow reflects working capital and tax prepayment
- 2020 investing cash flow suppressed by reversal of Q3 temporary excess cash investment, 2020 PPE elevated by Burlington and Tempe purchases
- LY financing cash flow reflects bank loans and commercial paper repayment

Totals may not add up due to rounding
ESG update 04
Delivered on all 2021 goals; optimally positioned to accomplish 2030 ESG ambition

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Development</th>
<th>In place</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis of requirements: Strategy, business, regulation, stakeholders</td>
<td>Ongoing</td>
<td></td>
<td>Ongoing due to developing field of ESG stakeholder expectations and new regulations</td>
</tr>
<tr>
<td>Build effective <strong>data platform</strong> for internal steering</td>
<td></td>
<td></td>
<td>Feed in internal &amp; external data, industry benchmarks, <strong>modelling projects</strong> in 2021</td>
</tr>
<tr>
<td>Develop <strong>SBV tool</strong>(^1) to measure product sustainability value</td>
<td></td>
<td></td>
<td>SBV tool <strong>developed and tested</strong> in 8 cases by 2021</td>
</tr>
<tr>
<td>Develop ESG <strong>KPIs</strong> for reporting</td>
<td></td>
<td></td>
<td>ESG KPIs developed and evaluated for reporting in 2021</td>
</tr>
<tr>
<td>Link ESG(^2) to <strong>Board compensation</strong> with 20% sustainability factor from 2022 on</td>
<td></td>
<td></td>
<td>Approved by AGM, qualitatively included, <strong>quantitative factor developed in 2021</strong></td>
</tr>
<tr>
<td><strong>Further incorporate</strong> ESG in R&amp;D, Controlling, M&amp;A and Supply Chain</td>
<td></td>
<td></td>
<td>ESG-Framework M&amp;A/Capex in 2021, progress in supply chain, controlling, R&amp;D</td>
</tr>
<tr>
<td>Decide on <strong>dedicated investments and initiatives</strong> to achieve targets</td>
<td></td>
<td></td>
<td>Business strategies and priorities: <strong>decisions &amp; budgeting</strong> in 2021</td>
</tr>
</tbody>
</table>

\(^1\)Sustainable Business Value: Dive in deeper and read the research article on the **SBV method**; \(^2\)ESG: Environmental, Social, Governance
Improved transparency on sustainability following major standards

Today

- Combined Annual Reporting
- EU Taxonomy
- Set of Sustainability Metrics
- LTIP Sustainability Factor

Apr 12

- Sustainability Report incl. GRI
- TCFD Reporting
- SASB Reporting for all 3 sectors
- Science-based target commitment\(^1\)

\(^1\)Result from SBTi valuation expected in Q2 2022

LTIP: Long-Term Incentive Plan
GRI: Global Reporting Initiative
TCFD: Task Force on Climate-related Financial Disclosures
SASB: Sustainability Accounting Standards Board
SBTi: Science-based Target Initiative
Outlook & Guidance
Net sales:
Strong organic growth
Positive FX of 1% to 4% YoY

EBITDA pre:
Strong organic growth
Positive FX of 2% to 5% YoY
### Group

#### 2022 business sector guidance

**Life Science**
- **Net sales**
  - Strong organic growth
  - Strong core business, Process Solutions
  - COVID-19 sales of up to ~€900 m
  - Process Solutions as main growth driver
- **EBITDA pre**
  - Strong organic growth
  - Slight to moderate positive FX

**Healthcare**
- **Net sales**
  - Solid organic growth
  - Mainly driven by Mavenclad® and Bavencio®
  - CM&E back to growth post VBP
- **EBITDA pre**
  - Moderate to solid organic growth
  - Mainly driven by Mavenclad® sales
  - Solid to strong positive FX

**Electronics**
- **Net sales**
  - Solid to strong organic growth
  - Strong contribution by Semiconductor Solutions
  - Continuous strong OLED performance
- **EBITDA pre**
  - Solid organic growth
  - Solid to strong positive FX

---

1 Divisional guidances are only support to the group guidance and do not have to add up.
Appendix
## Additional financial guidance 2022

### Further financial details

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate &amp; Other EBITDA pre</td>
<td>Slightly higher costs driven by hedging</td>
</tr>
<tr>
<td>Interest result</td>
<td>~€-150 to -190 m</td>
</tr>
<tr>
<td>Effective tax rate</td>
<td>~22% to 24%</td>
</tr>
<tr>
<td>Capex on PPE&lt;sup&gt;1&lt;/sup&gt;</td>
<td>~€1.6 to 1.7 bn</td>
</tr>
<tr>
<td>Hedging/USD assumption</td>
<td>FY 2022 hedge ratio ~50% at EUR/USD ~1.16</td>
</tr>
<tr>
<td>2022 Ø EUR/USD assumption</td>
<td>~1.11 to 1.16</td>
</tr>
</tbody>
</table>

<sup>1</sup>Based on gross additions to PPE on balance sheet in fiscal year, to reflect planned Capex expansion more accurately.
Credit details

Maturity profile as of Dec 31, 2021

Credit rating information

<table>
<thead>
<tr>
<th>LT Rating</th>
<th>Since</th>
<th>Outlook</th>
<th>ST Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moody's</td>
<td>A3</td>
<td>21.10.21</td>
<td>Stable</td>
</tr>
<tr>
<td>S&amp;P Global</td>
<td>A</td>
<td>29.05.13</td>
<td>Stable</td>
</tr>
<tr>
<td>Scope</td>
<td>A-</td>
<td>11.10.21</td>
<td>Positive</td>
</tr>
</tbody>
</table>
Clear Metrics to drive execution and progress towards 2030 ambition

<table>
<thead>
<tr>
<th>Goal</th>
<th>Metric</th>
<th>2021 (2020)</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Percentage of newly published patent families with positive sustainability impact</td>
<td>from 2022</td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>People treated with our Healthcare products*</td>
<td>2021 (April)</td>
<td>1 bn people ambition¹: HC</td>
</tr>
<tr>
<td></td>
<td>Percentage of women in leadership positions</td>
<td>36% (35%)</td>
<td>Gender parity by 2030²</td>
</tr>
<tr>
<td></td>
<td>Percentage of employees trained on sustainability</td>
<td>from 2022</td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>Percentage of relevant suppliers covered by valid sustainability assessment*</td>
<td>21%/³⁶/⁶⁵/(n.a.)</td>
<td>visible increase until 2024³</td>
</tr>
<tr>
<td></td>
<td>Environment, Health and Safety (EHS) Incident Rate</td>
<td>3.9 (3.4)⁴</td>
<td>As low as possible</td>
</tr>
<tr>
<td></td>
<td>Lost Time Injury Rate (LTIR)</td>
<td>1.2 (1.3)</td>
<td>&lt;1.0 by 2025⁶</td>
</tr>
<tr>
<td>2</td>
<td>Greenhouse gas emissions Scope 1+2*</td>
<td>1,843 kt (2,028 kt)</td>
<td>-50% by 2030⁷</td>
</tr>
<tr>
<td></td>
<td>Greenhouse gas emissions Scope 3</td>
<td>5,716 kt (5,030 kt)</td>
<td>-1,500 kt CO₂e by 2030⁸</td>
</tr>
<tr>
<td></td>
<td>Percentage of purchased electricity from renewable resources</td>
<td>30% (27%)</td>
<td>80% by 2030</td>
</tr>
<tr>
<td></td>
<td>Company Waste Score (WS)</td>
<td>2021 (April)</td>
<td>-5% by 2025⁹</td>
</tr>
<tr>
<td></td>
<td>Company Water Intensity Score (WIS)</td>
<td>from 2022</td>
<td>-10% by 2025¹⁰</td>
</tr>
<tr>
<td></td>
<td>Wastewater quality: no harmful emission residues</td>
<td>from 2022</td>
<td>100% completion by 2030¹¹</td>
</tr>
</tbody>
</table>

*LTIP relevant

¹92 mio HC + 90.5 mio Prazi in 2020
²considers room for non-binary people
³by a)number, b)purchase volume
⁴incidents + severity vs. man-hours
⁵confirmed violations
⁶accidents with min. 1 day of missed work per 1 mio. man-hours
⁷vs. 2020 ~2,100 kt CO₂e
⁸vs. 2020 ~2,100 kt CO₂e
⁹vs. 2016 WS 443
¹⁰vs. 2020 (updated) WIS considering local availability of water and no. of man-hours
¹¹below scientifically defined threshold
Q4 2021: Double-digit growth of Sales and EBITDA pre, Life Science business performance remains main contributor

Q4 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>Life Science</td>
<td>14.2%</td>
<td>3.3%</td>
<td>0.0%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>4.7%</td>
<td>3.2%</td>
<td>0.0%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Electronics</td>
<td>10.4%</td>
<td>4.2%</td>
<td>0.0%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Group</td>
<td>9.9%</td>
<td>3.4%</td>
<td>0.0%</td>
<td>13.4%</td>
</tr>
</tbody>
</table>

- Double-digit org. sales growth of +14% in Life Science, mainly driven by outstanding +25.5% organic growth of Process Solutions
- Healthcare up +4.7% organically, driven by Oncology (+20.6% org) and Fertility recovery (+8.8% org.)
- +24% organic growth in Semiconductor Solutions and favorable FX development partially offset by organic decline of -10.5% in Display Solutions, resulting in +14.7% growth in Electronics

Q4 YoY EBITDA pre

<table>
<thead>
<tr>
<th>Q4 2020</th>
<th>Organic</th>
<th>Currency</th>
<th>Portfolio</th>
<th>Q4 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>€1,245 m</td>
<td>11.0%</td>
<td>6.7%</td>
<td>-0.1%</td>
<td>€1,464 m</td>
</tr>
</tbody>
</table>

- EBITDA pre growing +11% organically driven by higher EBIT and decrease in D&A
- Margin expansion mainly due to strong Life Science performance
- Favorable FX responsible for +6.7% growth
## Q4 2021: Overview

### Key figures

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q4 2020</th>
<th>Q4 2021</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>4,599</td>
<td><strong>5,213</strong></td>
<td><strong>13.4%</strong></td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>1,245</td>
<td><strong>1,464</strong></td>
<td><strong>17.6%</strong></td>
</tr>
<tr>
<td>Margin (in % of net sales)</td>
<td>27.1%</td>
<td><strong>28.1%</strong></td>
<td><strong>1.0pp</strong></td>
</tr>
<tr>
<td>EPS pre</td>
<td>1.57</td>
<td><strong>2.06</strong></td>
<td><strong>31.2%</strong></td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>1,288</td>
<td><strong>1,045</strong></td>
<td><strong>-18.9%</strong></td>
</tr>
</tbody>
</table>

### Comments

- Net sales up +13%, driven by strong org. performance across all sectors, particularly Life Science
- EBITDA pre up +18%, driven primarily by Life Science and Electronics
- EBIT pre contribution main driver for EPS pre improvement
- Operating cash flow down -19% from tax cash-out and inventory build up to serve sales and ensure supply security
- Sound working capital management ensures growth significantly below sales growth

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q4 2020</th>
<th>Q4 2021</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net financial debt</td>
<td>-10,758</td>
<td><strong>-8,753</strong></td>
<td><strong>-18.6%</strong></td>
</tr>
<tr>
<td>Working capital</td>
<td>3,938</td>
<td><strong>4,207</strong></td>
<td><strong>6.8%</strong></td>
</tr>
<tr>
<td>Employees</td>
<td>58,096</td>
<td><strong>60,335</strong></td>
<td><strong>3.85%</strong></td>
</tr>
</tbody>
</table>
Q4 2021: Reported figures

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q4 2020</th>
<th>Q4 2021</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>611</td>
<td>1,039</td>
<td>70.0%</td>
</tr>
<tr>
<td>Financial result</td>
<td>-52</td>
<td>-47</td>
<td>-10.0%</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>559</td>
<td>992</td>
<td>77.4%</td>
</tr>
<tr>
<td>Income tax</td>
<td>-119</td>
<td>-185</td>
<td>56.1%</td>
</tr>
<tr>
<td><strong>Effective tax rate (%)</strong></td>
<td>21.2%</td>
<td><strong>18.7%</strong></td>
<td>-2.6pp</td>
</tr>
<tr>
<td>Net income</td>
<td>436</td>
<td>802</td>
<td>84.1%</td>
</tr>
<tr>
<td>EPS (€)</td>
<td>1.00</td>
<td><strong>1.84</strong></td>
<td>84.0%</td>
</tr>
</tbody>
</table>

Comments

- Strong performance across all sectors, particularly in Life Science, drive +70% EBIT growth
- Improved financial result driven by ongoing deleveraging
- Income tax developing in line with profit before tax, tax rate temporarily below guidance corridor as FY closes above the lower end
- Higher net income and EPS reflect higher EBIT, improved financial result and lower tax rate
FY Life Science: Largest group contributor with +21.3% org. sales growth driven by all three business units

Life Science P&L

<table>
<thead>
<tr>
<th>[%]</th>
<th>IFRS</th>
<th>Pre adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2020</td>
<td>FY 2021</td>
<td>FY 2020</td>
</tr>
<tr>
<td>Net sales</td>
<td>7,515</td>
<td>8,990</td>
</tr>
<tr>
<td>M&amp;S*</td>
<td>-1,995</td>
<td>-2,119</td>
</tr>
<tr>
<td>Admin</td>
<td>-354</td>
<td>-352</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>-313</td>
<td>-312</td>
</tr>
<tr>
<td>EBIT</td>
<td>1,599</td>
<td>2,479</td>
</tr>
<tr>
<td>EBITDA</td>
<td>2,387</td>
<td>3,257</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>2,405</td>
<td>3,286</td>
</tr>
</tbody>
</table>

Comments

+31% organic growth of Process Solutions with close to mid-teens growth in the core business and significant COVID-19 contributions; bioprocessing and formulation portfolios are the key drivers

Research Solutions growing +15% org. due to strong core business and supported by additional growth opportunities from COVID in H1

Applied Solutions growing +9% org. with robust performance across all business lines and customers segments

Net sales bridge

| €m | FY 2020 | Organic | Currency | Portfolio | FY 2021 |
|-----|---------|---------|----------|-----------|
| Net sales | 7,515 | 21.3% | -1.6% | 0.0% | 8,990 |

EBITDA pre bridge

| €m | FY 2020 | Organic | Currency | Portfolio | FY 2021 |
|-----|---------|---------|----------|-----------|
| EBITDA pre | 2,405 | 37.7% | -0.9% | -0.2% | 3,286 |
BIG 3 - Process Solutions: Record Q4 2021 in absolute terms, declining growth rate against high comps

Sales development [€m] - org. growth [%]

- Continued strong core business explaining >50% of Q4 growth; additional COVID-19 demand (mainly vaccine related) fading sequentially and facing tougher comps
- BioProcessing remains biggest growth driver, followed by formulations (e.g. lipids for mRNA)
- Growth moderating further as expected amid rising comps, including significant COVID-19 business
- Sequentially higher sales as output increases on the back of ongoing productivity gains and successful capacity ramp-up
- Order intake growth slowing further sequentially in Q4; slightly up Y-o-Y amid normalization against tough comps
Research Solutions: normalizing growth against rising comps

Sales development [€m] - org. growth [%]

- Organic growth slowing to +1.5% against strong comps as Q4 2020 was elevated by post lockdown laboratory rebound and additional COVID-19 demand
- Core business slightly growing despite strong comps given recovery in Q4 2020
- COVID-19 sales (diagnostics raw materials) weighing on growth and fading further sequentially albeit at reduced pace
- Stable development in NA and Europe, all other regions growing
- Industrial & Testing and Pharma & Biotech growing, mitigated by declines in other customer segments
Applied Solutions: Record absolute sales and robust growth despite strong baseline

Sales development [€m] - org. growth [%]

- **Strong finish** with robust growth despite high comps with Q4 2020 benefitting from post-lockdown recovery
- **Core business as main driver** with broad-based performance across business lines
- **Small COVID-19-related sales contribution**, below Q4-2020
- All regions contributing to growth in Q4 with **North America** and **APAC** as key drivers
- All customer segments growing, led by **Diagnostics**
FY Healthcare: 8.5% org. growth driven by recent launches and Fertility recovery; underlying EBITDA pre growing +17% organically

Healthcare P&L

<table>
<thead>
<tr>
<th></th>
<th>IFRS FY 2020</th>
<th>Pre FY 2020</th>
<th>IFRS FY 2021</th>
<th>Pre FY 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>€6,639 m</td>
<td>€6,639</td>
<td>€7,089 m</td>
<td>€7,089</td>
</tr>
<tr>
<td>M&amp;S*</td>
<td>-€1,664 m</td>
<td>-€1,617</td>
<td>-€1,593 m</td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td>-€320 m</td>
<td>-€313</td>
<td>-€302 m</td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td>-€1,640 m</td>
<td>-€1,616</td>
<td>-€1,702 m</td>
<td></td>
</tr>
<tr>
<td>EBIT</td>
<td>€1,804 m</td>
<td>€1,889</td>
<td>€1,836 m</td>
<td></td>
</tr>
<tr>
<td>EBITDA</td>
<td>€2,184 m</td>
<td></td>
<td>€2,146 m</td>
<td></td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>€2,267 m</td>
<td></td>
<td>€2,153 m</td>
<td></td>
</tr>
</tbody>
</table>

Comments

- Sales of Bavencio® more than double, growing +144% org. driven by ramp-up in the U.S., EU and Japan. Erbitux® up +12% organically, boosted by ~€60 m Eli Lilly supply agreement
- Mavenclad® growing +33% organically, offsetting Rebif® decline despite a suppressed dynamic market driving slight org. growth in N&I overall
- Established portfolio growing +3% org., as +26% org. growth in Fertility from a strong recovery more than offsets CM&E VBP impact

Net sales bridge

- FY 2020: €6,639 m
- Organic: +8.5%
- Currency: -1.4%
- Portfolio: -0.3%
- FY 2021: €7,089 m

EBITDA pre bridge

- FY 2020: €2,267 m
- Organic: -1.7%
- Currency: -3.2%
- Portfolio: -0.1%
- FY 2021: €2,153 m

- Ongoing rigorous cost management drives absolute M&S decrease despite higher level of activities vs. 2020
- Increase in R&D primarily driven by Bintrafusp termination provision set up in Q3 2021
- EBITDA pre impacted by Biogen provision reversal; underlying EBITDA pre growth of +17.1%1 driven by sales growth and stringent cost management

1Excluding €365 m Biogen Provision Release, the reported 2020 margin would have been 28.7%

Merck KGaA, Darmstadt, Germany Q4 21 Results Presentation | March 3, 2022
Today’s commercialized products foundation for growth until 2025, fueled by recent launches; not yet reflecting further pipeline potential

Commercialized products

- **N&I**
  - **Mavenclad®** MS
    - On its way to become a blockbuster product. In the short-term, headwind as suppressed dynamic market
  - **Rebif®** MS
    - Decline in line with interferon market

- **Fertility**
  - Mid single-digit growth, capitalizing on increasing awareness and access to treatment

- **Oncology**
  - **Bavencio®** UC, RCC, MCC
    - Strong growth driven by mUC 1L
  - **Tepmetko®** METex14 NSCLC
    - Targeted launch in niche indication
  - **Erbitux®** mCRC, SCCHN
    - Stable outlook³, leading in mCRC continuum of care

- **CM&E**
  - Mid single-digit growth
  - Increasing prevalence of diabetes and cardiovascular diseases
  - Mitigate VBP pressure in China through EM growth, life cycle management and portfolio expansion

---

1. Commercialized products = Established Portfolio + Recent Launches, excludes future launches/indications until 2025; 2. Graph excludes Consumer Health Business, Biosimilars Business and others; 3. Sales in 2021 fueled by 59 m€ due to Eli Lilly supply agreement; 4. Includes Bavencio® (UC, RCC, MCC), Mavenclad®, and Tepmetko® METex14

Merck KGaA, Darmstadt, Germany Q4 21 Results Presentation | March 3, 2022
Healthcare organic growth by product

**Q4 2021 organic sales growth [%] by key product [€m]**

- **Rebif**: 244 (2021) vs 268 (2020) → -12%
- **Glucophage**: 225 (2021) vs 218 (2020) → -1%
- **Erbitux**: 261 (2021) vs 255 (2020) → 0%
- **Gonal-F**: 190 (2021) vs 158 (2020) → +17%
- **Concor**: 137 (2021) vs 121 (2020) → +9%
- **Euthyrax**: 128 (2021) vs 111 (2020) → +12%
- **Mavenclad**: 191 (2021) vs 177 (2020) → +5%
- **Bavencio**: 51 (2021) vs 121 (2020) → +132%

**FY 2021 organic sales growth [%] by key product [€m]**

- **Rebif**: 952 (2021) vs 1,131 (2020) → -14%
- **Glucophage**: 864 (2021) vs 903 (2020) → -4%
- **Erbitux**: 987 (2021) vs 891 (2020) → +12%
- **Gonal-F**: 767 (2021) vs 630 (2020) → +24%
- **Concor**: 523 (2021) vs 529 (2020) → 0%
- **Euthyrax**: 470 (2021) vs 455 (2020) → +4%
- **Mavenclad**: 693 (2021) vs 531 (2020) → +33%
- **Bavencio**: 373 (2021) vs 156 (2020) → +144%
Neurology & Immunology: FY Mavenclad® sales up +33% organically, dynamic market volume remains challenging

Sales development N&I, [€m]

- U.S. dynamic market further suppressed as COVID 19 Omicron wave soaring
- Mavenclad® sales flat QoQ when excl. Q3 accrual impact
- Mavenclad® share remains stable within the HE market

dynamic market volume [R3W] 1

- Stable N&I franchise for FY and QoQ (+1% org.)
- Rebif® decline in line with U.S. interferon market trend

1: IQVIA Projected Dynamic National Claims weekly data; Acronyms: HE = High Efficacy
Oncology: Bavencio® mUC 1L ramp-up drives 132% Q4 organic growth

Sales development Oncology, [€m]

Erbitux® net sales, [€m]

Bavencio® net sales, [€m]

- Growth across all major regions, mCRC supported by Erbitux/Braftovi BRAFmt combination therapy
- Tough comps vs. prior year; Eli Lilly supply agreement impacted Q4 2020 +€32 m, while Q4 2021 +€10 m

- Sales more than double (+132% org. growth)
- ~17% QoQ growth driven by mUC 1L launch ramp-up in Europe, further supported by the U.S. and Japan
Bavencio® UC 1L launch: Adoption of BAVENCIO in 1L maintenance continues to grow in both U.S. and ex-U.S.

U.S. – > 1.5 years into launch, adoption of BAVENCIO in 1L maintenance still increases:

- Newly diagnosed metastatic UC cases YTD ~85%
- Platinum eligible YTD ~75%
- PT-based chemo 1L treatment YTD ~70%
- Maintenance therapy eligible² YTD >50%
- 1L Maintenance Therapy (SOC) YTD ~80%

Europe & Japan – Almost a year into launch, BAVENCIO already standard of care in key markets

- Now approved in 55 markets and reimbursed in ~1/3 globally with further reimbursement decisions to support growth
- Strong adoption of BAVENCIO in 1L maintenance in key markets (e.g. Japan, France, Germany) supported by treatment guideline recommendations and KOL support

1: Carboplatin or Cisplatin, 2: Complete / partial response or stable disease based on clinical trial data; Acronyms: PT = Platinum, SOC = Standard of care
Fertility: Strong org. growth of +9% against softer comps, supported by +3% FX

Sales development Fertility, [€m]

Gonal-f® net sales, [€m]

- Gonal-f® org. YoY growth in all markets
- Q4 in line with Q3 despite typical seasonality
- Fertility market back to prepandemic levels, no further rebound expected
- Franchise expected to capitalize on increasing prevalence and awareness of infertility
CM&E: Returning to growth (+2.8% org. QoQ) post China VBP\(^1\) impact

**Sales development CM&E, [€m]**

**Glucophage\(^\circledast\) net sales, [€m]**
- Glucophage slight organic decline of -1.5% offset by +4.6% FX tailwinds
- First quarter of growth after impact from VBP

**Other CM&E net sales, [€m]**
- Other CM&E portfolio growth primarily driven by Euthyrox\(^\circledast\) and Concor\(^\circledast\); Europe contributing ~40% of sales in Q4 2021, followed by APAC

---

\(^1\) Volume Based Procurement
### Healthcare pipeline

#### March 3, 2022

<table>
<thead>
<tr>
<th>Phase I</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M1231</strong> Bispecific MUC1xEGFR ADC</td>
<td>Solid tumors</td>
</tr>
<tr>
<td><strong>M1774</strong> ATR inhibitor</td>
<td>Solid tumors</td>
</tr>
<tr>
<td><strong>M4076</strong> ATM inhibitor</td>
<td>Solid tumors</td>
</tr>
<tr>
<td><strong>M6223</strong> anti-TIGIT mAb</td>
<td>Solid tumors</td>
</tr>
</tbody>
</table>

#### Phase I products

- **peposertib**
  - DNA-PK inhibitor
  - Solid tumors

- **enpatoran**
  - TLR7/8 antagonist
  - Systemic lupus erythematosus / Cutaneous lupus erythematosus

- **berzosertib**
  - ATR inhibitor
  - Small-cell lung cancer

- **binrafusp alfa**
  - TGFbeta trap/anti-PD-L1
  - Cervical cancer 2L

- **tepotinib**
  - MET kinase inhibitor
  - Non-small cell lung cancer, MET amplified

- **xevinapant**
  - IAP inhibitor
  - Locally advanced squamous cell carcinoma of the head and neck

- **evobrutinib**
  - BTK inhibitor
  - Relapsing multiple sclerosis

- **arpraziquantel**
  - Anthelmintic
  - Pediatric schistosomiasis

#### Phase II products

- **berzosertib**
  - ATR inhibitor
  - Small-cell lung cancer

- **binrafusp alfa**
  - TGFbeta trap/anti-PD-L1
  - Cervical cancer 2L

- **tepotinib**
  - MET kinase inhibitor
  - Non-small cell lung cancer, MET amplified

- **xevinapant**
  - IAP inhibitor
  - Locally advanced squamous cell carcinoma of the head and neck

- **evobrutinib**
  - BTK inhibitor
  - Relapsing multiple sclerosis

- **arpraziquantel**
  - Anthelmintic
  - Pediatric schistosomiasis

#### Phase III products

- **tepotinib**
  - MET kinase inhibitor
  - Non-small cell lung cancer, METex14 skipping

#### Registration

- **tepotinib**
  - MET kinase inhibitor
  - Non-small cell lung cancer, METex14 skipping

---

ADC: Antibody drug conjugate; 1L: first-line treatment; 2L: second-line treatment

1 Study as monotherapy and in combination with niraparib. 2 Includes study in combination with binrafusp alfa. 3 Study in combination with avelumab. 4 Includes studies (phase I/II) in collaboration with/ sponsored by external partners, e.g. US National Cancer Institute (NCI). 5 In combination with osimertinib. 6 In combination with cisplatin and radiotherapy in unresected LA SCCHN patients eligible for cisplatin.

7 As announced on February 18, 2022, Tepotinib was approved by the European Commission as monotherapy for the treatment of adult patients with advanced non-small cell lung cancer harboring alterations leading to METex14 skipping, who require systemic therapy following prior treatment.

Unless noted otherwise, clinical programs conducted in collaboration with external partners are not shown unless Merck KGaA, Darmstadt, Germany has co-ownership of data. In such case the indication is shown in italics.

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.
## Healthcare catalysts

<table>
<thead>
<tr>
<th>Q1 2022</th>
<th>Q2 2022</th>
<th>Q3 2022</th>
<th>Q4 2022</th>
</tr>
</thead>
</table>
| **Tepotinib**  
(c-Met-inhibitor) | **Bintrafusp alfa**  
(TGFbeta trap/anti-PD-L1) | **Bavencio®**  
(Anti-PD-L1 Agent) | **Tepotinib**  
(c-Met-inhibitor) |
| EC approval in NSCLC METex14  
February 2022 | 2L cervical (INTR@PID 017):  
Expected data read-out¹ | Initiation of Combination of Avelumab  
with novel therapies in urothelial cancer | Initiation PhIII confirm. study for  
EGFRm METamp in NSCLC |
| **Enpatoran**  
(Oral TLR7/8 inhibitor ) | **Xevinapant**  
(IAP inhibitor) | | |
| Initiation of PhII combined PoC & dose  
finding study in CLE and SLE | Initiation of PhIII study  
in cisplatin-ineligible LA SCCHN | | |
FY Electronics: organic top-line growth of +8% driven by strong Semiconductor Solutions performance & Surface Solutions recovery

Electronics P&L

<table>
<thead>
<tr>
<th></th>
<th>IFRS FY 2020</th>
<th>IFRS FY 2021</th>
<th>Pre adjustments FY 2020</th>
<th>Pre adjustments FY 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>3,380 m</td>
<td>3,608 m</td>
<td>3,380 m</td>
<td>3,608 m</td>
</tr>
<tr>
<td>M&amp;S*</td>
<td>-539 m</td>
<td>-573 m</td>
<td>-530 m</td>
<td>-569 m</td>
</tr>
<tr>
<td>Admin</td>
<td>-162 m</td>
<td>-138 m</td>
<td>-144 m</td>
<td>-122 m</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>-274 m</td>
<td>-278 m</td>
<td>-272 m</td>
<td>-277 m</td>
</tr>
<tr>
<td>EBIT</td>
<td>240 m</td>
<td>509 m</td>
<td>463 m</td>
<td>600 m</td>
</tr>
<tr>
<td>EBITDA</td>
<td>925 m</td>
<td>1,070 m</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>EBITDA pre</td>
<td>1,024 m</td>
<td>1,128 m</td>
<td>1,024 m</td>
<td>1,128 m</td>
</tr>
</tbody>
</table>

Comments

- Semiconductor Solutions: growing +15% org.; strong underlying demand for materials with double digit organic growth, further supported by DS&S project business
- Display Solutions: high OLED growth partially compensates LC decline with overall -6% org. growth in the business unit
- Surface Solutions: +13% org. growth mainly driven by market recovery after pandemic impact on automotive and cosmetic end markets in 2020
- M&S at a flat 16% of sales; logistic costs main driver for absolute increase in cost line
- R&D with absolute increase mainly driven by investments in Semiconductor Solutions
- EBITDA pre growing faster than sales at +9.7% org. despite first raw materials and logistics price pressures in H2

Net sales bridge

- FY 2020: €3,380 m
- Organic: +7.7%
- Currency: -0.9%
- Portfolio: 0.0%
- FY 2021: €3,608 m

EBITDA pre bridge

- FY 2020: €1,024 m
- Organic: +9.7%
- Currency: 0.5%
- Portfolio: 0.0%
- FY 2021: €1,128 m
BIG 3 - Semiconductor Solutions: Recording org. growth of +24%

- Another record quarter for Semiconductor Solutions, both in terms of absolute sales and organic growth
- Semiconductor Materials biggest contributor to growth with double-digit organic growth rate amid continued strong underlying demand
- Strong DS&S project business in H2, expected to last throughout all of 2022
- Continued strong confidence in mid-term market outperformance reflected in initial 2022 Electronics guidance
## Cash flow statement

### FY 2021 – cash flow statement

<table>
<thead>
<tr>
<th>![€m]</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit after tax</td>
<td>1,994</td>
<td>3,065</td>
<td>1,071</td>
</tr>
<tr>
<td>D&amp;A</td>
<td>1,938</td>
<td>1,762</td>
<td>-176</td>
</tr>
<tr>
<td>Changes in provisions</td>
<td>-110</td>
<td>196</td>
<td>305</td>
</tr>
<tr>
<td>Changes in other assets/liabilities</td>
<td>-123</td>
<td>-121</td>
<td>2</td>
</tr>
<tr>
<td>Other operating activities</td>
<td>-59</td>
<td>62</td>
<td>122</td>
</tr>
<tr>
<td>Changes in working capital</td>
<td>-162</td>
<td>-349</td>
<td>-186</td>
</tr>
<tr>
<td><strong>Operating cash flow</strong></td>
<td>3,477</td>
<td>4,616</td>
<td>1,138</td>
</tr>
<tr>
<td>Investing cash flow</td>
<td>-1,340</td>
<td>-1,578</td>
<td>-238</td>
</tr>
<tr>
<td>thereof Capex on PPE</td>
<td>-1,377</td>
<td>-1,059</td>
<td>318</td>
</tr>
<tr>
<td>Financing cash flow</td>
<td>-1,522</td>
<td>-2,504</td>
<td>-982</td>
</tr>
</tbody>
</table>

### Cash flow drivers

- Operating cash flow growing €1.1 bn or +33% vs. FY 2020
- Increase in profit after tax driven by strong operational performance, particularly in Life Science
- Delta in changes in provisions driven primarily by Biogen provision reversal of €365 m in 2020
- Net working capital outflow driven by inventories to support Life Science and Electronics sales growth & supply security
- 2020 Capex on PPE elevated by building purchases in Burlington and Tempe
- Financing cash flow driven by ongoing strong deleveraging

Totals may not add up due to rounding
## Adjustments in Q4 2021

### Adjustments in EBIT

<table>
<thead>
<tr>
<th>[€m]</th>
<th>Q4 2020</th>
<th>Q4 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adjustments</td>
<td>thereof D&amp;A</td>
</tr>
<tr>
<td>Healthcare</td>
<td>93</td>
<td>0</td>
</tr>
<tr>
<td>Life Science</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Electronics</td>
<td>29</td>
<td>11</td>
</tr>
<tr>
<td>Corporate &amp; Other</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>151</td>
<td>14</td>
</tr>
</tbody>
</table>
# Adjustments in FY 2021

## Adjustments in EBIT

<table>
<thead>
<tr>
<th>[€m]</th>
<th>FY 2020</th>
<th></th>
<th>FY 2021</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adjustments</td>
<td>thereof D&amp;A</td>
<td>Adjustments</td>
<td>thereof D&amp;A</td>
</tr>
<tr>
<td>Healthcare</td>
<td>85</td>
<td>2</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Life Science</td>
<td>21</td>
<td>3</td>
<td>40</td>
<td>11</td>
</tr>
<tr>
<td>Electronics</td>
<td>223</td>
<td>123</td>
<td>91</td>
<td>33</td>
</tr>
<tr>
<td>Corporate &amp; Other</td>
<td>79</td>
<td>0</td>
<td>65</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>407</td>
<td>128</td>
<td>210</td>
<td>53</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>April 22, 2022</td>
<td>Annual General Meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May 12, 2022</td>
<td>Q1 2022 Earnings release</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>August 4, 2022</td>
<td>Q2 2022 Earnings release</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>November 10, 2022</td>
<td>Q3 2022 Earnings release</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>March 2, 2023</td>
<td>Q4 2022 Earnings release</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>