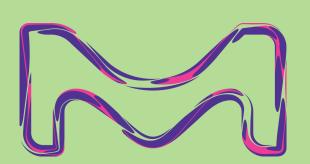
capital markets Day 2020

Meet Management

1st Virtual CMD of Merck KGaA, Darmstadt, Germany September 16, 2020





Disclaimer

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Meet Management

Merck KGaA, Darmstadt, Germany, Capital Markets Day 2020

Group & Business sectors update & outlook

September 16, 10:00-12:00 CEST

Delivering growth

Stefan Oschmann - CEO

O2 Financial perspectives

Marcus Kuhnert - CFO

03 Sector intros & Q&A

Group Executive Board

Follow this <u>link</u> for all sessions.

Rey Growth Drivers Deep Dive sessions

September 16, 12:45-13:45 CEST

Ol Process Solutions

Management presentation & Q&A

September 16, 14:00-15:00 CEST

O2 Semiconductor Solutions

Management presentation & Q&A

September 25, 14:30-16:00 CEST

D3 Healthcare R&D Update Call

Management presentation & Q&A





Stefan Oschmann, CEO

1st Virtual CMD of Merck KGaA, Darmstadt, Germany September 16, 2020

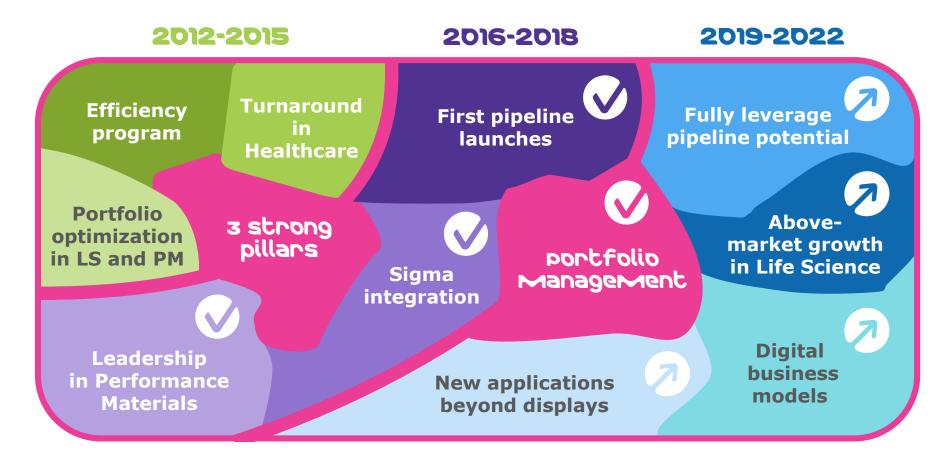
Agenda

- Transformation into a leading science and technology company
- **D2** Executing on the growth and expansion phase
- The "BIG3" key growth drivers to 2022 and beyond
- **D4** Executive summary





The 2016 vision – a strategic agenda until 2022



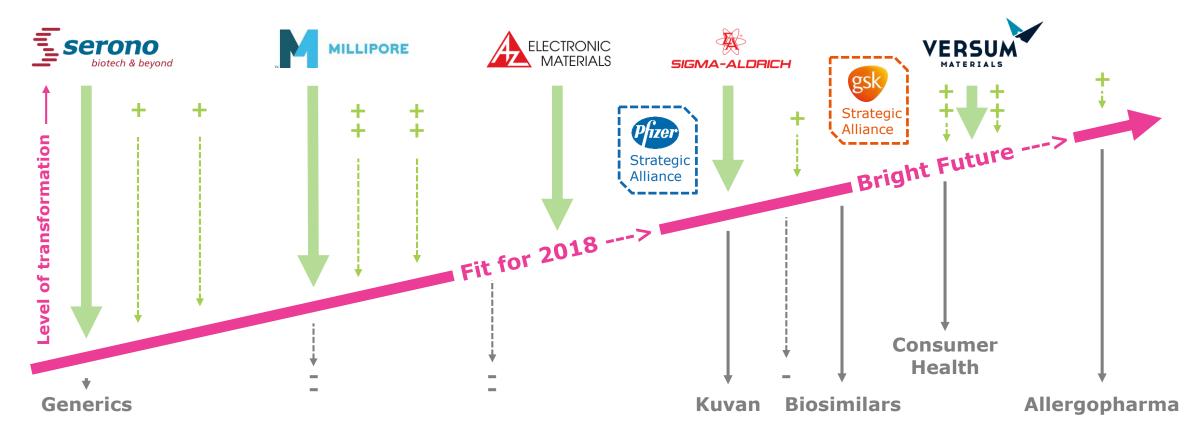


Executing on the growth and expansion phase of the 2016-22 strategic agenda





Transformation into a leading science and technology company





Total deal volume of ~€50 billion¹ as proof of successful journey

¹ Since 2007: acquisitions worth \sim €36 bn and divestments worth \sim €10 bn, plus two strategic alliances with combined upfront payments of \sim €1 bn and potential milestone payments of \sim €5 bn " \rightarrow " = larger acquisition; "+" = bolt-on acquisition; " \rightarrow " = larger divestment; "-" = smaller divestment

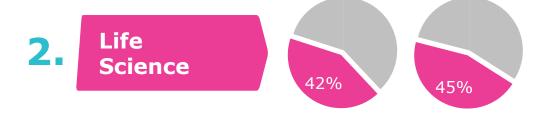


Group today – three strong pillars as basis for profitable growth



Global specialty innovator poised for above-industry growth

- Resilient core business backed by excellent life cycle management
- Strong growth from new products, late-stage pipeline assets with blockbuster potential
- Rigorous cost discipline and value-maximizing pipeline prioritization



Diversified industry leader poised for above-market growth

- Portfolio advantage and outperformance drive above-market growth
- Strengthen core: products (PS), chemistry (RS), lab water (AS)
- Establish new pillars: PS services, gene editing and novel modalities



Leading electronics player poised for accelerating growth

- Growing semiconductor share as key driver for acceleration
- More resilient growth through rising diversification
- Strict cost discipline in maturing parts of the portfolio







2020 - strong resilience in times of global crisis

- 2020 guidance confirmed; recovery started in June
- Most businesses growing despite COVID-19
- Largest business growing and positively affected
- Smallest businesses with biggest impact

Delivery on priorities during crisis

- √ Health & safety of employees
- ✓ Business continuity
- ✓ Contributions to public health and society
- ✓ Sustainability aspects further enforced



Growth and COVID-19 impact by business¹



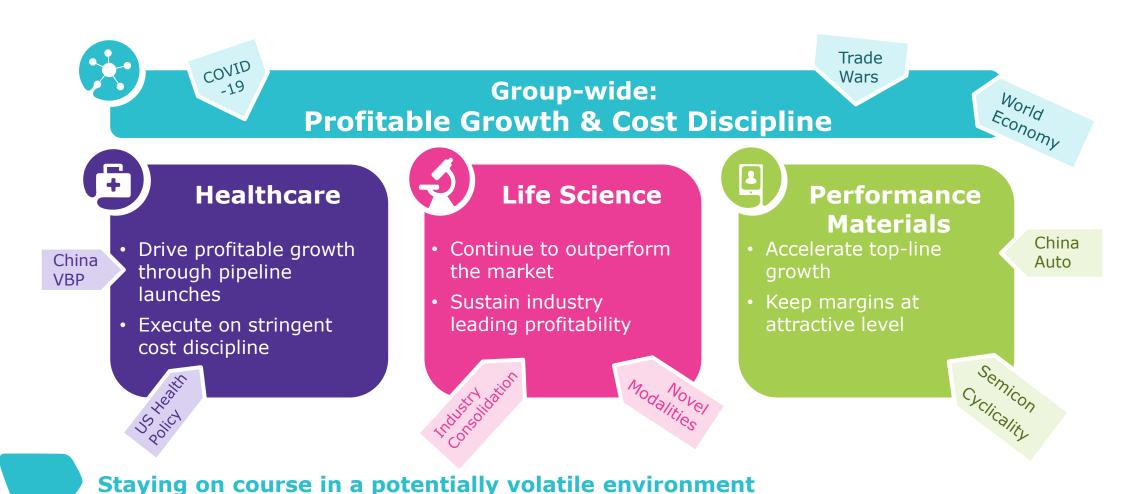


Merck KGaA, Darmstadt, Germany - steady earnings growth with high margins and a low risk profile



¹ Indicative only and based on guidance from August 6: slight to moderate organic sales and EBITDA pre growth, COVID-19 with up to a mid single-digit impact on sales of which 50-60% hitting EBITDA pre

2021 and beyond - poised for growth in a challenging environment



Acronym: VBP = volume based procurement



All three business sectors delivering on their strategic priorities

Healthcare

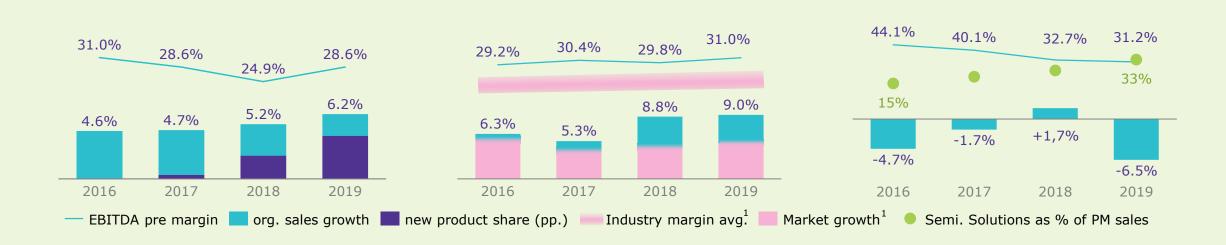
- Accelerating organic growth with rising contribution from launches (Mavenclad[®], Bavencio[®])
- Margin trough behind, pipeline progressing well

Life Science

- Above-market organic growth paired with industry-leading margin
- Significant growth investments (organic, inorganic & partnerships)

Performance Materials

- Significant portfolio change towards higher growth business (Semi, OLED)
- Margin stabilizing at ~30% amid sound execution of Bright Future





¹ Company estimate based on industry data and reporting by peers

Healthcare

Creating optionality through focused pipeline approach

Pipeline and launch progress supported by strong core

Pipeline quality

- Early stage pipeline fueled by in-house innovation
- Potentially transformative late-stage pipeline assets (Evobrutinib, Bintrafusp alfa)
- Optimized risk profile through strategic partnerships (Pfizer and GSK) and focused externalization

Launch activity

- Mavenclad[®] approved in 80 countries including the U.S.
- Bavencio[®] launched in MCC¹, RCC², and UC 1L/2L³
- **Tepotinib** first-in-class approval of an oral MET inhibitor •

Strong core business due to excellent life cycle management

Mid-term outlook Healthcare

~€2 bn
pipeline sales
& stable core business
until 2022
+
significant growth

potential beyond

More details at **R&D update** call on Sep 25



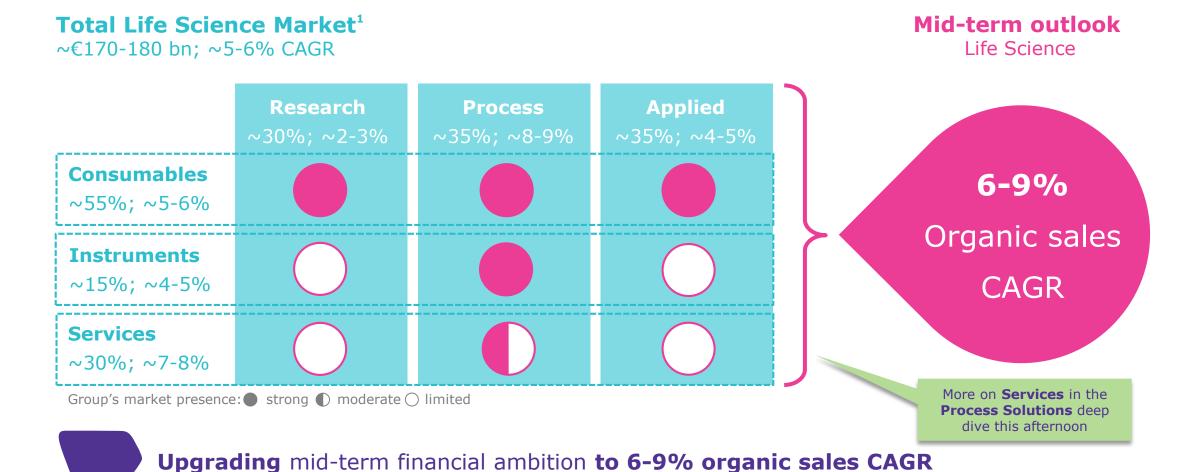
Confirming financial ambition of a stable core business and ~€2 bn pipeline sales until 2022 with further significant growth potential beyond

¹ MCC = Merkel Cell Carcinoma, launched in all major jurisdictions; ² RCC = Renal Cell Carcinoma, launched in all major jurisdictions; ³ UC = Urothelial Carcinoma, 1L = first line, 2L = second line, launched in the U.S., filed for approval in Europe and Japan; ⁴ approved in Japan for advanced NSCLC (non-small cell lung cancer), filed for approval in the U.S. under RTOR (Real-Time Oncology Review)

15

Life Science

Building growth momentum with focus on attractive market segments

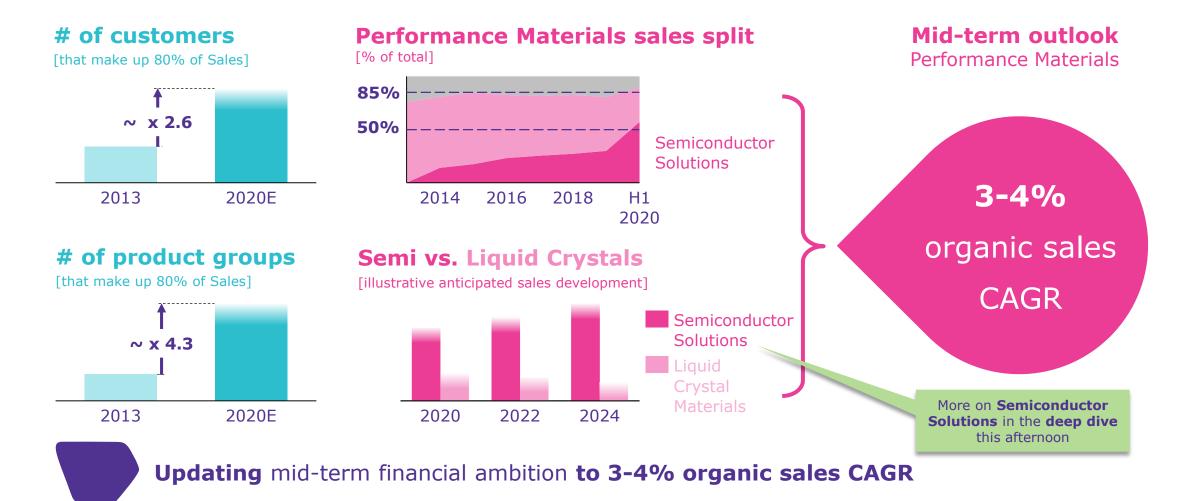


¹ Company estimate based on industry forecast over 5-year horizon



Performance Materials

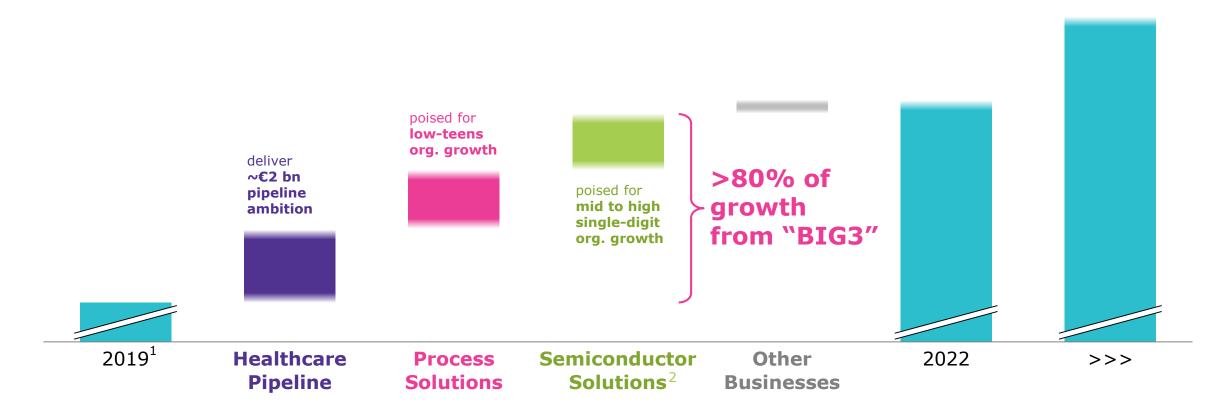
Electronics focus leads to greater resilience and accelerated growth







Three main drivers of growth to 2022 and beyond



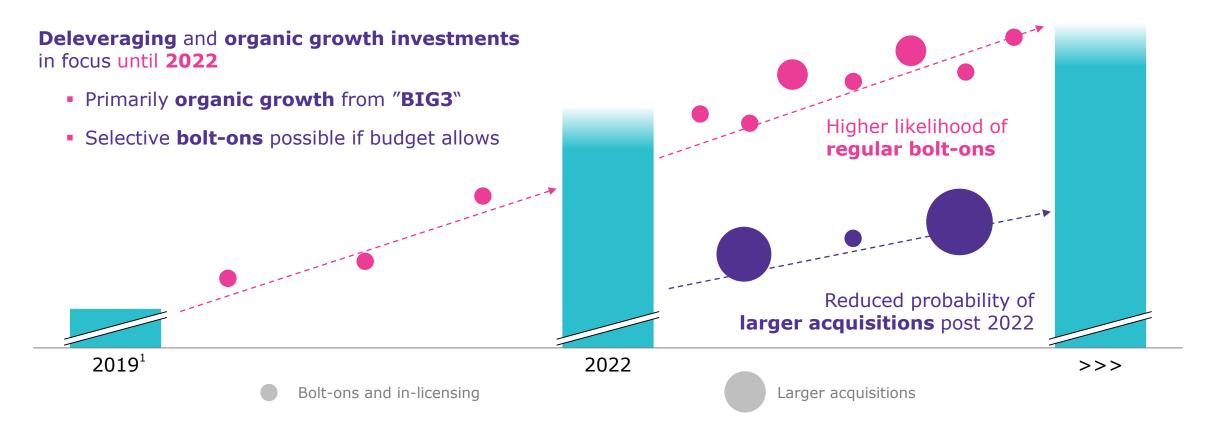


Beyond 2022: further significant growth potential from "BIG3" and increasing contributions from other businesses

¹ 2019 Group sales of €16.2 bn; ² Including Versum portfolio effect



Portfolio strategy - from transformation to evolution





Strong portfolio: significant organic growth potential to 2022 and beyond ...and higher likelihood of regular bolt-ons post 2022

¹ 2019 Group sales of €16.2 bn





Executive SUMMary



steady earnings growth with high margins and a low risk profile









Successfully driving transformation into a leading science and technology company



Three-pillar structure strengthened further as a resilient basis; COVID-19 crisis as another proof point



Healthcare pipeline, Process Solutions and Semiconductor Solutions will be key drivers of growth to 2022 and beyond Execution

Delivery on strategic priorities ensures profitable growth; regaining financial flexibility with higher likelihood of regular bolt-ons post 2022





Marcus Kuhnert, CFO

1st Virtual CMD of Merck KGaA, Darmstadt, Germany September 16, 2020

Agenda

- **Group outlook**
- **D2** Business sector growth drivers
- **Capital allocation priorities**
- **D4** Executive summary





Poised for accelerating EBITDA pre growth in H2 2020

Expected EBITDA pre development in 2020¹

[in € million YoY]



Drivers of accelerating growth in H2

- Healthcare: further uptake of new products and easing COVID-19 effects especially in Fertility, higher nonrecurring income, rigorous cost management continues
- Life Science: ongoing strength of Process paired with improving trends in Applied and Research, mainly driven by rising lab activity
- Performance Materials: continued strength of Semiconductor and ongoing cost discipline
- Group-wide: improving top-line momentum as lockdowns are lifted, ongoing cost focus and active crisis management continue



Confident to achieve 2020 guidance of slight to moderate organic growth in Group sales and EBITDA pre, including confirmed adverse effects from COVID-19



¹ Based on mid-range of guidance from August 6: slight to moderate organic EBITDA pre growth, mid single-digit percentage range growth from Versum, FX headwinds of -2% to -4% YoY

Three-pillar structure - positioned to win in high-growth markets

Focus market areas¹ Global economy¹ End markets¹ Global pharma industry Oncology: ~10% More details at **R&D** update call ~4% to 5% Immunology: ~5% to 9% on Sep 25 More details in **Biologics:** ~10% to 12% **Global life science industry** the **Process** Services: ~7% to 8% ~5% to 6% **Solutions deep** dive this afternoon **Global electronics industry** Semi materials: ~4% to 6% More details on Global ~4% Semiconductor **Solutions** in the **GDP** deep dive this afternoon ~4% to 5% ~3% to 4%



Purposefully positioned in attractive markets with secular growth above global GDP ...further focusing investments on attractive sub-segments



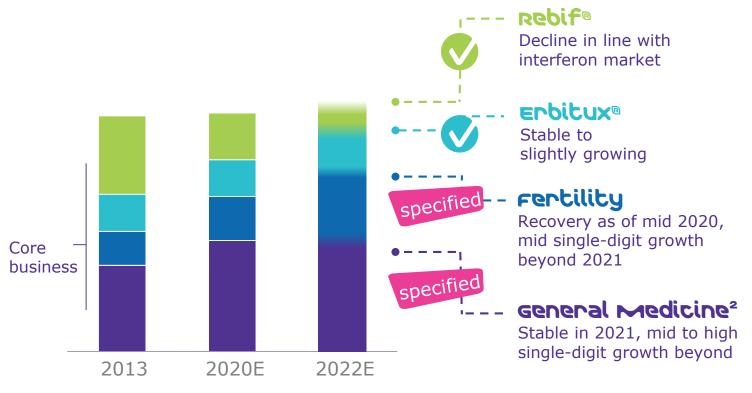
¹ Company estimates of mid-term growth outlook based on industry forecasts and reports from public research institutes (e.g. IMF, IQVIA, EvaluatePharma, Prismark, etc.)



Healthcare

Confirming ambition to keep core business at least stable to 2022

Healthcare core business net sales until 2022



- Maintain solid track record of patient retention
- Integrate into joint franchise with Mavenclad[®]
- Explore new treatment options (COVID-19)
- Drive EM¹ growth and mitigate competitive / price pressure in EU by clear branding
- Expect continued inclusion in China's NRDL post update at the end of 2020
- Drug demand driven by emerging markets growth and demographics
- Leverage competitive strengths (e.g. broad and innovative portfolio, security of supply)
- Drive recovery after COVID-19
- Increasing prevalence of diabetes and cardiovascular diseases
- Mitigate VBP pressure in China through EM growth, effective life cycle management, and portfolio expansion



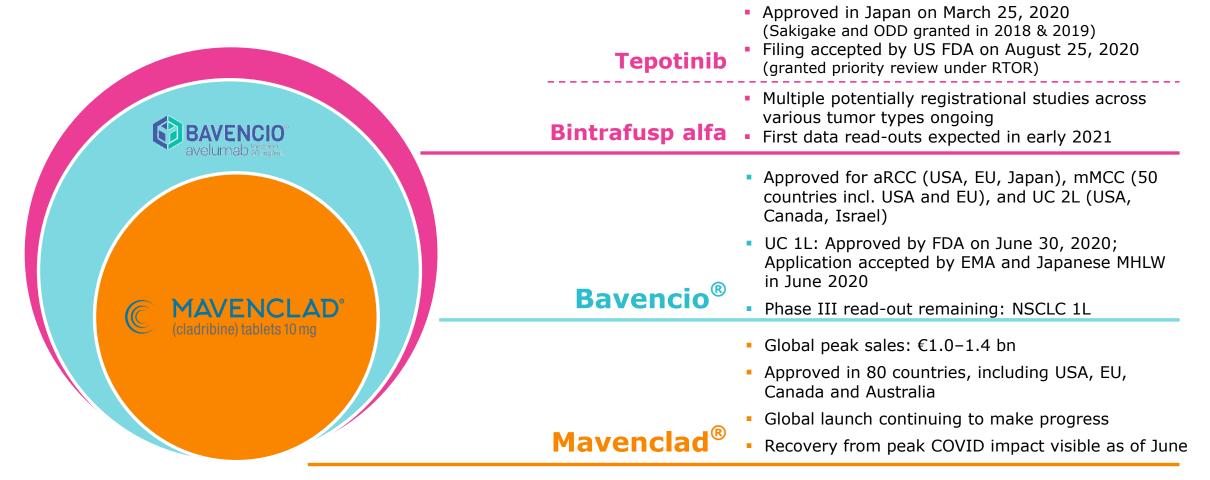
Growth to pick up after COVID-19 impact in Q2 2020, further growth potential after 2022





Healthcare

Mavenclad and Bavencio launches on track for ~€2 bn pipeline ambition in 2022





Life Science

Improved mid-term outlook driven by market and portfolio focus





Market outlook improving further, mainly due to Process segment



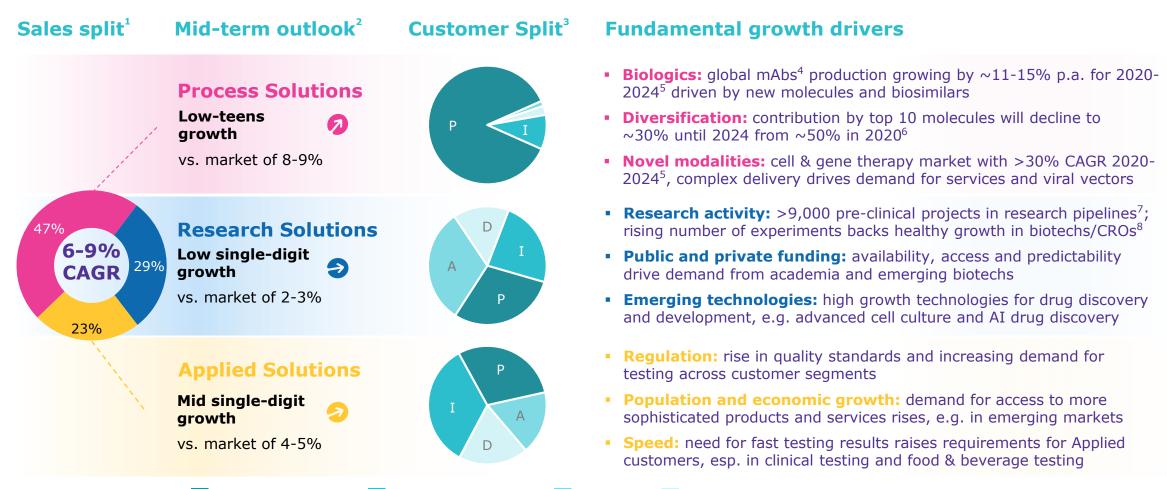
Above-market growth set to continue due to portfolio advantage and outperformance



¹ Company estimate based on industry forecast over 5-year horizon

Life Science

All business units contributing to above-market growth



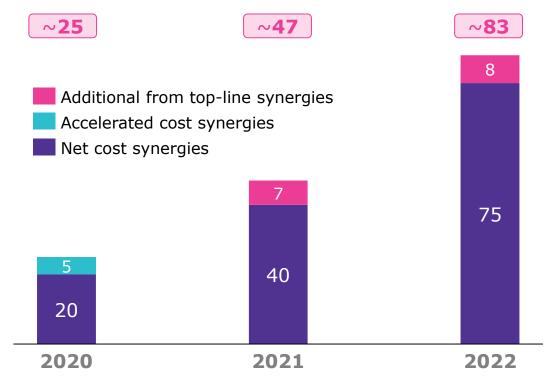
Customer Segments: P Pharma and Biotech I Industrial and Testing A Academia D Diagnostics

¹ Based on H1 2020, CAGR is organic mid-term ambition; ² growth rates are organic CAGRs; ³ indicative only; ⁴ mAbs = monoclonal antibodies; ⁵ Source: company estimate based on industry forecasts; ⁶ Source: EvaluatePharma; ⁷ Source: statista; ⁸ CRO = Contract Research Organization

Performance Materials

Synergy upgrade driven by fast 2020 execution and top-line synergies

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





Synergy upgrade of ~10% confirms strong integration capabilities

Sources of synergies

Cost synergy update (for 2020)

- **Faster** synergy implementation in all areas
- 2020 expected total cost synergies of ~€25 M
- Integration costs of €125 M remain unchanged

Top-line synergies (from 2021)

- cross-selling of broader portfolio (e.g. Versum legacy opportunities due to Merck KGaA, Darmstadt, Germany, specialty account relations)
- New product introduction (e.g. integrated solutions between Planarization and Thin Films)
- overarching initiatives (e.g. enhanced customer access, technology synergies across business sectors of Merck KGaA, Darmstadt, Germany)



Performance Materials

Margin: ~30% EBITDA pre

Refocus on electronics materials drives mid-term guidance upgrade

Previous guidance¹ **Guidance update**² (post Versum & COVID-19) **Updated growth rates Semiconductor Semiconductor Solutions: Solutions** 24% Mid to high single-digit growth Mid to high single-digit arowth 56% **Display Solutions:** 57% Low single-digit decline **Display Solutions** Low single-digit decline 33% **Surface Solutions:** 19% **Surface Solutions** Low single-digit growth 11% Low single-digit growth Sales: 2 to 3% CAGR Sales: 3 to 4% CAGR

Underlying assumptions

- 4 to 6% market growth³
- 200 to 300bps* above-market growth from share gains & better portfolio
 - *incl. 100 to 150bps additional growth from integration top-line synergies
- 3 to 4% growth of total LCD m² area⁴, while price pressure continues²
- 18 to 22% growth of total OLED m² area⁴ with slight to moderate market share gains
- Light vehicle production and relevant cosmetics end markets returning to growth in 2021 and reaching 2019 levels by 2022 and beyond⁵

Subject to development of market assumptions above

Margin: ~30% EBITDA pre



¹ Previous guidance given in 2018, percentages show sales split for Q3 2019 (first guarter where sales were disclosed by business unit), growth guidance given as organic CAGR 2019 to 2022; 2 Sales split based on H1 2020, growth guidance given as organic mid-term CAGR; ³ Source: Jan 2020 IC Insights 2018-2024 CAGR for wafer starts in million units; ⁴ Source: Omdia Display Market Outlook, Q1 2020; ⁵ Sources: LMC Automotive Light Vehicles Forecast, Aug 2020 & Euromonitor BPC (Beauty & Personal Care) Aug 2020



Focus on organic growth and deleveraging to 2022

Proven swift deleveraging

after major acquisitions



- Deleverage to <2x net debt/EBITDA pre in 2022
- M&A on hold until 2022; only smaller deals to be realized if budget available
- New mid-term capex ceiling of ~€1.3 bn reflects increased focus on organic investment and Versum consolidation
- Dividend policy mirrors
 sustainable earnings trend

Net debt / EBITDA pre track record & outlook





Regular portfolio review remains key to success

strong track record

- Acquisitions and divestments are part of Group's history
- Licensing and partnerships remain on our agenda
- All prior transactions earned their cost of capital



pefining portfolio guard rails

- Three strong pillars with no business marginalized
- Leading market position in attractive markets
- Focus on innovation and sustainability through science and technology



clear financial M&A criteria

- Supporting profitable growth strategy
- IRR > WACC
- EPS pre accretive
- Maintain investment grade rating



- Current set-up is strong and organic investment opportunities are attractive
 - Expect to regain financial flexibility by 2022 to pursue external growth opportunities
- Targeted and more regular bolt-on approach more likely than large transformative deals





Key earnings drivers to remember for 2021



EBITDA pre - supporting factors

- Increasing Mavenclad[®] & Bavencio[®] contribution
- Ongoing strength in Life Science with above-market organic sales growth
- Continued strong outlook in Semiconductor Solutions with above-market organic sales growth
- High level of cost consciousness (e.g. M&S and R&D in Healthcare to further decrease as % of sales)
- Potential milestone payments (e.g. Bavencio[®])



EBITDA pre - reducing factors

- · Glucophage impacted by VBP in China
- Continued decline of liquid crystals and Rebif[®]



Discipline and prioritization will be key ingredients to deliver



Clear set of priorities for the next two years



- Strong cash flow used to drive down gearing to
 <2x net debt/EBITDA pre in 2022
- Acquisitions on hold until 2022 except smaller deals
- Dividend policy reflects sustainable earnings trend



- Cost discipline continues in all business sectors
- Versum synergies realization a top priority
- Further efficiency gains from ongoing improvement and harmonization of processes and systems



- Significant organic growth potential in all business sectors
- Growth investments based on sound business cases
- Regular portfolio reviews continue with regular bolt-ons more likely than large deals after 2021 given strong set-up





Belén Garijo (Deputy Group CEO and CEO Healthcare) Chris Ross (Interim Sector Head of Life Science) Kai Beckmann (CEO Performance Materials)

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Healthcare

On track to becoming a global specialty innovator

Business today

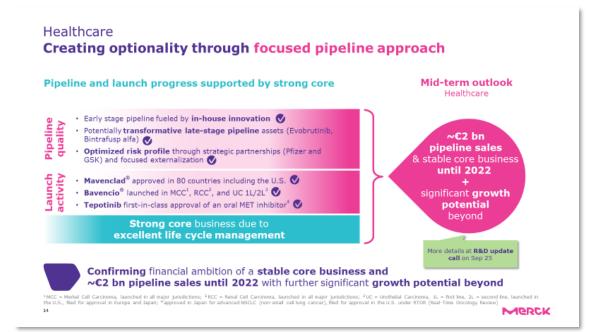
- H1 2020: Growing organically, resilient
 Oncology and General Medicine portfolio, visibly
 strong June signals COVID-19 recovery
- Bavencio®: Transformative UC1L data presented at ASCO; strong U.S. launch with positive early feedback, EMA & JP filings accepted
- Mavenclad®: Visible ramp-up recovery post pandemic starting in June (Rx volumes & share)
- Tepotinib: First-in-class approval in Japan,
 U.S. filing accepted (priority review, under RTOR)
- Potentially transformative pipeline:
 Bintrafusp alfa, Evobrutinib, DDR¹ portfolio



Inflection point achieved: reaping the benefits of pipeline investments

...and tomorrow







Further build & deliver on innovator strategy to drive sustainable success



Life Science

Diversified industry leader poised for continued profitable growth

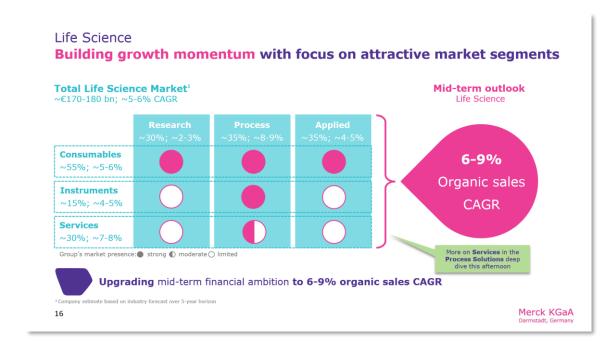
Business today

- H1 2020: mid-teens organic growth of Process Solutions partly off-set by COVID-19 related slow-down in Research and Applied
- Growth of >40% in Process Solutions order book indicates upside from COVID-19
- Strong fundamentals in all businesses
- Continued focus on innovation sustains and augments differentiated products and services
- Tailored customer interface and strong capabilities (eCommerce, supply chain, quality, regulatory) as key success factors



Diversified industry leader with superior growth and margins

...and tomorrow





Investments in attractive areas supporting further outperformance



Performance Materials

Well set to expand position as a leading electronic materials player

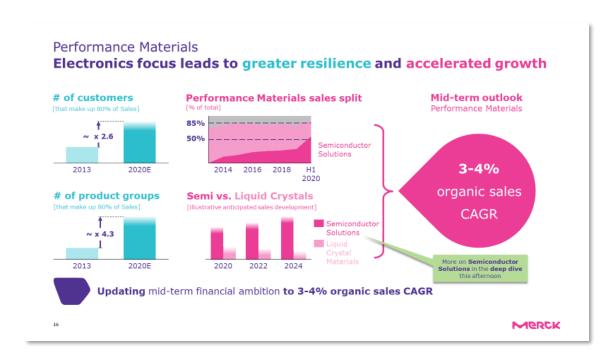
Business today

- H1 2020: double-digit organic growth of Semiconductor Solutions softens COVID-19 impact on Display and Surface Solutions
- New combined Semiconductor Solutions business with one of the most comprehensive offerings in entire industry
- Significantly broader products & services range and customer base than ever before



Mid-term the portfolio will consist of **10 ~equally sized businesses**, >60% serving chip makers

...and tomorrow





Successful transformation into an industry-leading electronics player



Strong & resilient new portfolio leads to upgraded mid-term guidance

¹⁾ Deposition/Spin-On Dielectrics; 2) Patterning/Cleans; 3) Specialty Gases; 4) Planarization; Packaging; 5) Delivery Systems and Services 6) Liquid Crystals; 7) OLED Materials; 8) Display Adjacent 10) Surface Solutions





Q&A

We are looking forward to your questions

Stefan OschmannGroup CEO



Marcus Kuhnert Group CFO

Belén GarijoDeputy Group CEO
CEO Healthcare



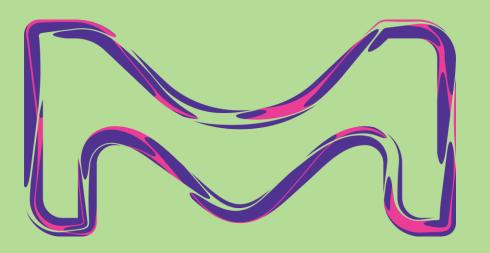


Chris RossInterim Sector Head of Life Science











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All three business sectors delivering on their strategic priorities

Healthcare

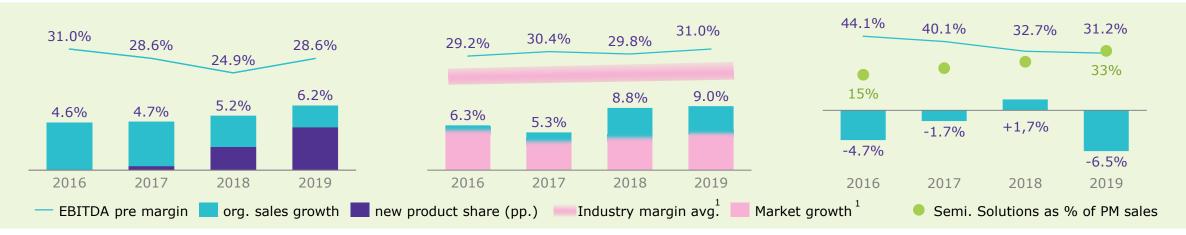
- **Faster growth** from launches
- Margin trough behind

Life Science

- Above-market growth and margin
- Significant growth investments

Performance Materials

- Portfolio shift to high-growth business
- Margin stabilizing at ~30%



- From investment to earnings phase
- Core business at least stable
- Successful Bavenico[®] and Mavenclad[®] ramp-up
- Stringent pipeline execution
- ~€2 bn pipeline sales ambition

- Maintain above-market growth 2 trajectory and superior profitability
- Strengthen position as differentiated player in a highly attractive market
- Implement dynamic strategy for future profitable growth

- Deliver on ambition of 2-3% CAGR
- Efficient resource allocation to reach financial ambition of 30% margin
- Implement 5-year transformation 2

Strategic priorities presented at **previous CMDs & PM Strategy Update Call:**





 $^{^{\}mbox{\tiny 1}}$ Company estimate based on industry data and reporting by peers

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