strong performance in a turbulent year

Merck KGaA, Darmstadt, Germany FY 2020 results

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Agenda

Executive summary

O2 Strategic review

5 Financial overview

ESG update



Outlook & Guidance



Executive Summary

Highlights 2020





Healthcare: Mavenclad[®] 71% org. growth; Bavencio[®] 57% org. growth post Q3 U.S. launch in UC 1L; Fertility back to growth in Q4 post COVID-19 hit in Q2

Life Science: record 12% org. growth, fueled by 22% org. growth in Process Solutions amid COVID-19, Research (+5% FY; +16% in Q4) and Applied Solutions (+3% FY; +10% in Q4) at elevated year-end levels post COVID-19 dip in Q2

Electronics¹: Semi above strong market (+14% org.); even stronger finish of +20% in Q4 marking first quarter of post-trough Electronics growth (+8% org.); Display and Surface decline slowing further to -5% and -3% in Q4 FY organic sales: growth of +6.0%

FY organic EBITDA pre: growing +16.8% (+8.4% org. excluding release of Biogen provision)

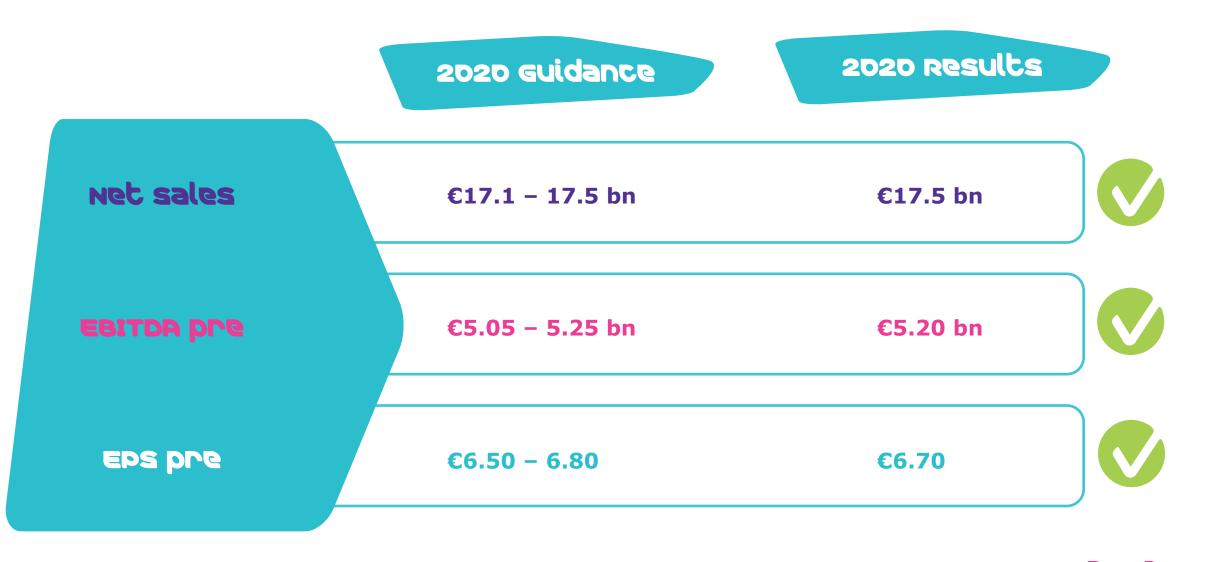
Guidance delivered:

Net sales: 17.5 bn EBITDA pre: 5.2 bn (incl. Biogen €365 m) EPS pre: €6.70 (incl. Biogen €0.63)

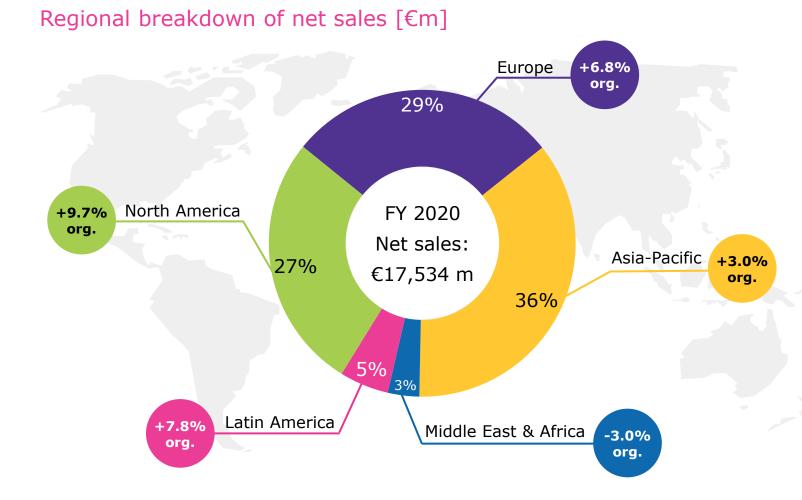
Net financial debt to EBITDA pre further down to 2.1 on December 31,2020 – continued focus on deleveraging

¹Previously: Performance Materials

Guidance delivered



All major regions growing amid persisting pandemic impacts



Regional organic development

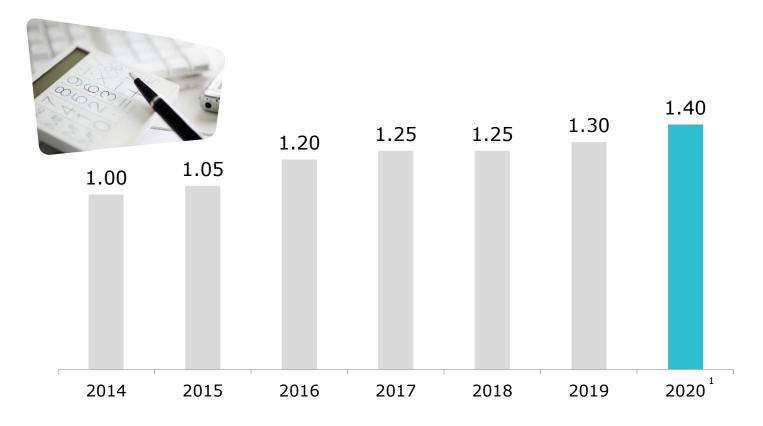
- APAC: Double-digit growth in Life Science and Semiconductor Solutions overcompensates declines in Display Solutions, Fertility & Surface Solutions
- Europe: Growth in Process Solutions and Mavenclad[®] ramp-up more than offsets negative effects of COVID-19 on Fertility and Surface Solutions
- North America: Strong Healthcare driven by Mavenclad[®] ramp-up; double-digit growth in Life Science
- Strong General Medicine performance driving growth in LATAM; General Medicine not fully mitigating negative COVID-19 impact in ME&A



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Sustainable dividend growth

Dividend¹ development 2014 -2020



2020 dividend

- Dividend of €1.40 (+8% YoY) per share proposed¹ for 2020
- Payout ratio of 23.1% of EPS pre² in 2020; aiming for 20-25% of EPS pre
- Dividend yield³ of 1.0%

¹Final decision is subject to Annual General Meeting approval

²Excluding Biogen provision release, including the provision release the ratio is 20.9%

³Calculated with 2020 year-end share price of \in 140.35 per share.



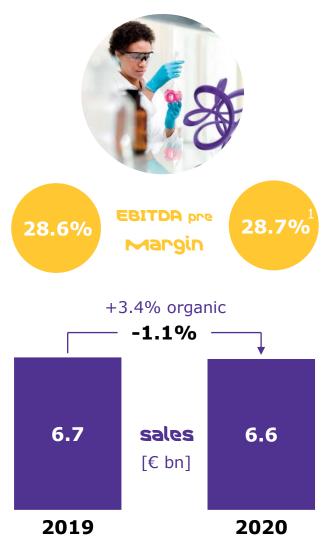
strategic Review



Healthcare: Delivering on both pipeline and base business commitments

Business performance

- Solid organic sales growth of 3.4% despite significant COVID-19 impact on Fertility and launch ramp-ups
- Swift Mavenclad[®] recovery from COVID-19 drives 71% organic growth FY and 7% overall Neurology & Immunology growth
- Base business remains about stable in 2020 as General Medicine growth overcompensates heavy COVID-19 impact on Fertility
- Sales growth, stringent cost management and COVID-19 cost-saving tailwinds drive 8% org. EBITDA pre growth (excl. provision release of €365 m)



Sector highlights

- Highly resilient base business
 - Fertility: Well-managed return to prepandemic levels as of Q3 2020
 - Rebif[®]: Temporary benefit from fewer switches amid pandemic
 - General Medicine: Growth despite first China VBP impact on Glucophage[®] and Concor[®]

On track for ~€2 bn pipeline sales by 2022

- Mavenclad[®]: Renewed global momentum and market share growth
- Bavencio[®]: U.S. launch in 1L UC in June driving acceleration of sales growth²
- Tepmetko[®]: First-in-class approval in Japan³
- Significant growth potential beyond 2022
 - Bintrafusp alfa: Several non-correlated studies across various tumor types ongoing
 - Evobrutinib: Phase III RMS studies on track
 - DDR: Leading portfolio with 3 DDR mechanisms enabling broad optionality

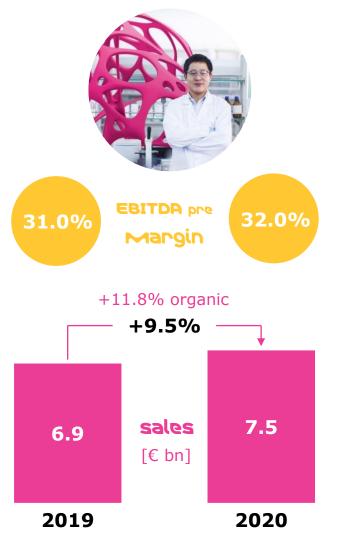
¹Excluding €365 m Biogen Provision Release, the reported margin is 34.1%; ² followed by approval by the European Commission on January 25, 2021, and Japan on February 24, 2021; ³ followed by US FDA approval on February 3, 2021; Acronyms: DDR = DNA Damage Response, UC = Urothelial Cancer, RMS = Relapsing Multiple Sclerosis



Life Science: Leveraging strong position to support global efforts against COVID-19 on top of underlying growth

Business performance

- Unprecedented level of growth driven by global effort to battle COVID-19 pandemic
- Very strong growth trajectory, albeit more volatile and differentiated across customer and product segments
- Acceleration of capacity expansions in response to COVID-19 demand surge
- Continued strong organic growth, with Process Solutions up 22%, Research Solutions up 5% and Applied up 3%
- Robust growth in core business despite lockdowns, plus significant COVID-19 related business (mainly in Process)
- EBITDA pre growth and exceptional margin expansion reflect favorable mix & leverage



Sector highlights

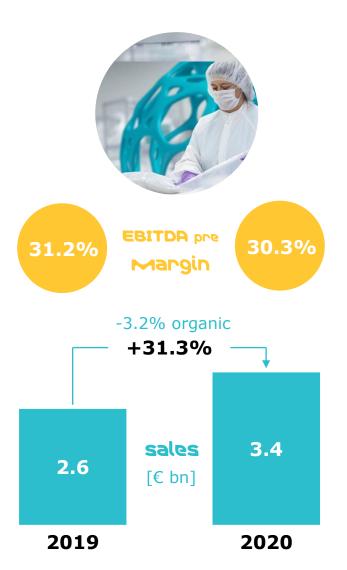
- Successful increase in capacity utilization with flexible shift models to address surging demand
- Major ongoing capacity expansion projects¹
 - €140 m in Darmstadt, new membrane production plant for aseptic filters
 - €100 m in Carlsbad, more than doubling current viral & gene therapy capacity
 - €59 m in Madison, among largest single-digitng containment HPAPI² and ADC³ production
 - €40 m in Danvers and Jaffrey, ~700 additional single-use & filtration production staff
- Significant innovations/launches
 - Bio4C[™] ProcessPad & Orchestrator, VirusExpress[™], Blazar[™], LANEXO[™], BrightLab[™], M Lab[™] Shanghai



Electronics: Enabling the future in a data-driven world

Business performance

- Semiconductor Solutions now accounts for nearly 60% of sector net sales and continues to outperform a particularly strong market
- Successful integration of Versum despite pandemic challenge, leading to significant further synergy increase and acceleration
- Display Solutions down 12% driven by COVID-19 impact & high H1 Liquid Crystals comps; stabilization visible in Q4 (-5% org.)
- Confirmed commitment to remain around 30% EBITDA pre margin, despite pandemic impact on Display and Surface Solutions



Sector highlights

- One of most relevant portfolios in industry
 - Over 100 PORs¹ won in Semi Materials in 2020 across all material categories
- **Driving innovation** to the next level
 - ~€25 m investment in next-gen Semi Materials center in Korea & €20 m OLED production expansion in Korea and China
 - Successful Big Data & machine learning projects with key customers
- Continuous focus on customer centricity
 - Over 15 supplier awards from semi industry leaders in 2020, some 5th consecutive time
 - Supplier awards from several leading OLED customers in 2020



Financial



FY 2020: Overview

Key figures	Key	figures
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Key figures				(Excl. Biogen prov	ision release)	
[€m]	FY 2019	FY 2020	Δ	FY 2020	Δ	I
Net sales	16,152	17,534	8.6%			
EBITDA pre	4,385	5,201	18.6%	4,836	10.3%	
Margin (in % of net sale	es) 27.1%	29.7%	2.5pp	27.6%	0.4 pp	I
EPS pre	5.56	6.70	20.5%	6.07	9.2%	
Operating cash flow	2,856	3,477	21.7%			I
[€m] Dec.	31, 2019	Dec. 31, 2020	Δ			I
Net financial debt	-12,363	-10,758	-13.0%			
Working capital	3,944	3,938	-0.2%			
Employees	57,071	58,127	1.9%			

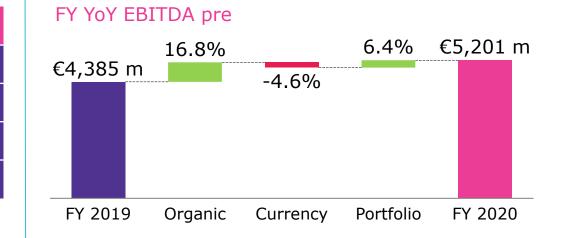
- Sales up 9%, driven by accelerating double-digit growth in Life Science, Versum portfolio & Healthcare pipeline
- Strong Life Science performance fuels underlying margin expansion excluding Biogen provision release
- Operating cash flow up 21.7%, supporting further net debt reduction
- EPS pre at € 6.70 (growing 9% excl. Biogen provision release)
- Working capital at prior year's level
- Headcount increase far below sales growth and largely in emerging markets



6% organic growth in 2020 driven by unprecedented Life Science growth, swift recovery from COVID-19 in Healthcare and strong Semi performance

FY YoY Net Sales	Organic	Currency	Portfolio	Total
Healthcare	3.4%	-3.6%	-0.9%	-1.1%
Life Science	11.8%	-2.3%	0.0%	9.5%
Electronics	-3.2%	-0.9%	35.4%	31.3%
Group	6.0%	-2.6%	5.3%	8.6%

- Mavenclad[®] ramp-up and Bavencio[®] U.S. launch in UC 1L drive 3% organic growth in Healthcare, while base business remains approximately stable despite pandemic Q2 impact on Fertility
- Life Science record 12% organic growth as Process Solutions up 22%; Research and Applied delivering 5% and 3%, supported by particularly strong Q4
- Electronics declining 3%, with turnaround materializing in Q4 (+8% org.); Semi up 14% (+20% in Q4) Display & Surface declining, but stabilizing at lower rates of decline in Q4



- Organic EBITDA pre growth significantly faster than sales (8.4% excl. Biogen provision release)
- Margin expansion driven by strong Life Science performance & cost management across all sectors
- Margin accretive Versum visibly contributing to EBITDA pre growth (Q1-Q3 portfolio; Q4 organic)
- Increasing FX headwinds result in FY drag of 4.6%, mainly from USD, BRL and ARS



FY 2020: Reported figures

Reported results

				(Excl. Biogen provis	sion release)
[€m]	FY 2019	FY 2020	Δ	FY 2020	Δ
EBIT	2,120	2,985	40.8%	2,620	23.6%
Financial result	-385	-354	-7.9%		
Profit before tax	1,735	2,630	51.6%	2,265	30.5%
Income tax	-440	-637	44.8%	-545	24.0%
Effective tax rate (%) 25.3%	24.2%	-1.1pp		
Net income	1,320	1,987	50.5%	1,713	29.8%
EPS (€)	3.04	4.57	50.3%	3.94	29.6%

Comments

(Evel Biogon provision release)

- Top line-driven EBIT increase supported by Versum portfolio effect
- Financial result mainly driven by deleveraging
- Effective tax rate within guidance range of ~24-26%
- Net income and EPS reflect EBIT growth & better financial result, further elevated by provision release

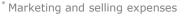


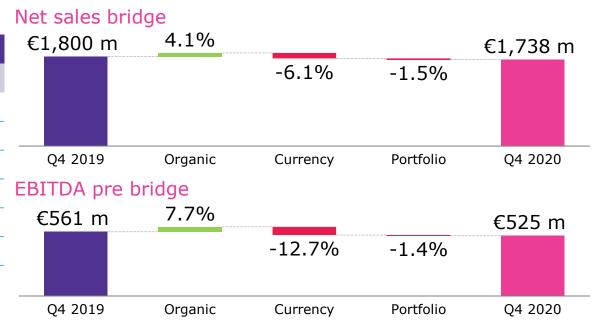
Q4 Healthcare: 4% organic growth driven by Mavenclad[®] and Bavencio[®] while base business about stable following Fertility recovery

[€m]	IFRS		Pr	е
	Q4 2019	Q4 2020	Q4 2019	Q4 2020
Net sales	1,800	1,738	1,800	1,738
M&S [*]	-595	-449	-595	-414
Admin	-90	-84	-81	-80
R&D	-462	-479	-461	-454
EBIT	351	305	372	397
EBITDA	541	433	-	-
EBITDA pre	561	525	561	525
(in % of net Sales)	31.2%	30.2%	31.2%	30.2%

Healthcare P&L

- Mavenclad[®] growing 48% organically, further expanding shares in still suppressed dynamic market; Rebif[®] declining 12% in Q4, better than the underlying trajectory
- Oncology up 20%, Bavencio[®] +90% post U.S. launch in UC 1L; Erbitux[®] at +13% supported by temporary supply agreement with Eli Lilly for U.S.
- Fertility returns to growth (+1%) against strong Q4 2019; regional picture remains mixed with Europe and ME&A still impacted and declining





- General Medicine¹ growing 3% despite China VBP impact
- Strong cost savings in M&S further supported by reduced face-toface activities and lower amortization of intangibles
- Significant savings in R&D coming from continued prioritization; all projects on track despite COVID-19
- EBITDA pre and margin burdened by FX effect of -13%

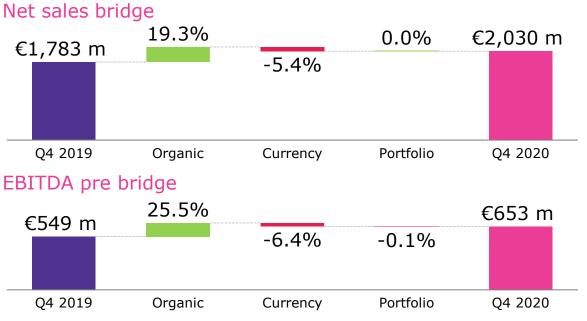


Q4 Life Science: up 19% with unprecedented growth in Process Solutions further boosted by acceleration in Research and Applied

[€m]	IFRS		Pr	е
	Q4 2019	Q4 2020	Q4 2019	Q4 2020
Net sales	1,783	2,030	1,783	2,030
M&S [*]	-490	-531	-490	-529
Admin	-102	-76	-80	-73
R&D	-78	-87	-78	-86
EBIT	329	451	344	457
EBITDA	534	650	-	-
EBITDA pre	549	653	549	653
(in % of net Sales)	30.8%	32.2%	30.8%	32.2%

Life Science P&L

- 27% growth in Process Solutions driven by downstream and single use, strong underlying demand further elevated by fight against COVID-19
- Research Solutions accelerating to 16% organic growth, driven by COVID-19 diagnostics and year-end recovery
- Applied Solutions accelerating to 10% growth across the full portfolio driven by additional COVID-19 demand and year-end recovery



- Declining M&S in % sales, despite higher logistics cost due to pandemic
- Flat R&D in % of sales with continued focused investments in strategic projects in high growth & emerging segments
- Business performance, operational leverage and favorable mix drive strong EBITDA pre and margin expansion

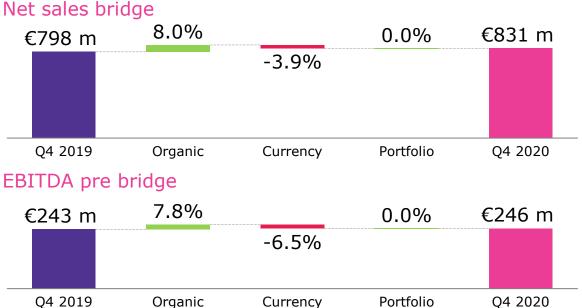


Q4 Electronics: Organic growth in Semi overcompensates COVID-19 impact, underlying Display decline and FX headwinds

	—				
[€m]	IF	IFRS		е	
	Q4 2019	Q4 2020	Q4 2019	Q4 2020	
Net sales	798	831	798	831	_
M&S [*]	-136	-136	-136	-132	
Admin	-39	-41	-38	-34	
R&D	-73	-68	-69	-66	EB
EBIT	14	79	107	108	:
EBITDA	149	228	-	-	
EBITDA pre	243	246	243	246	
(in % of net Sales)	30.5%	29.6%	30.5%	29.6%	

Electronics P&L

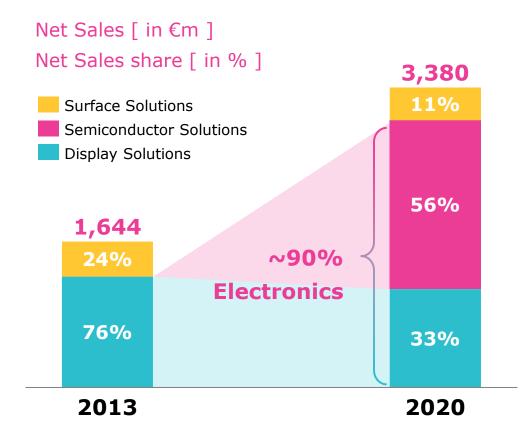
- Semiconductor Solutions: 20% organic growth, now fully including Versum; strong underlying demand further supported by DS&S phasing
- Display Solutions: decline further tapering down to -5% with Liquid Crystals closer to the underlying trajectory
- Surface Solutions: stabilizing further at -3% with COVID-19 impact easing but still weighing on cosmetics end markets



- Year-end inventory management post COVID-19 impact on Display and Surface drives lower gross margin from underabsorption of fixed costs
- M&S, Admin and R&D all down amid growing sales, continuing to reflect diligent underlying cost management as part of Bright Future
- Increase in EBITDA pre driven by sales growth and stringent cost management while EBITDA pre margin burdened by FX headwinds



Electronics: Successful transformation into a business supplying a broad base of leading electronic players



Best-in-class portfolio of capabilities

- Transformed from focused investments and acquisitions
- Now close to 90% of business in electronics with diversified portfolio
- A leading materials, services & equipment provider to semi industry
- Innovation & market leader in LC and a leading materials supplier in OLED
- Transformation proofpoint: return to growth (+8% org. in Q4) post 6 quarters of decline



Innovation in electronics industry is driven at the atomic level enabling smaller, faster & more energy efficient solutions

Continued and growing materials importance in electronics industry

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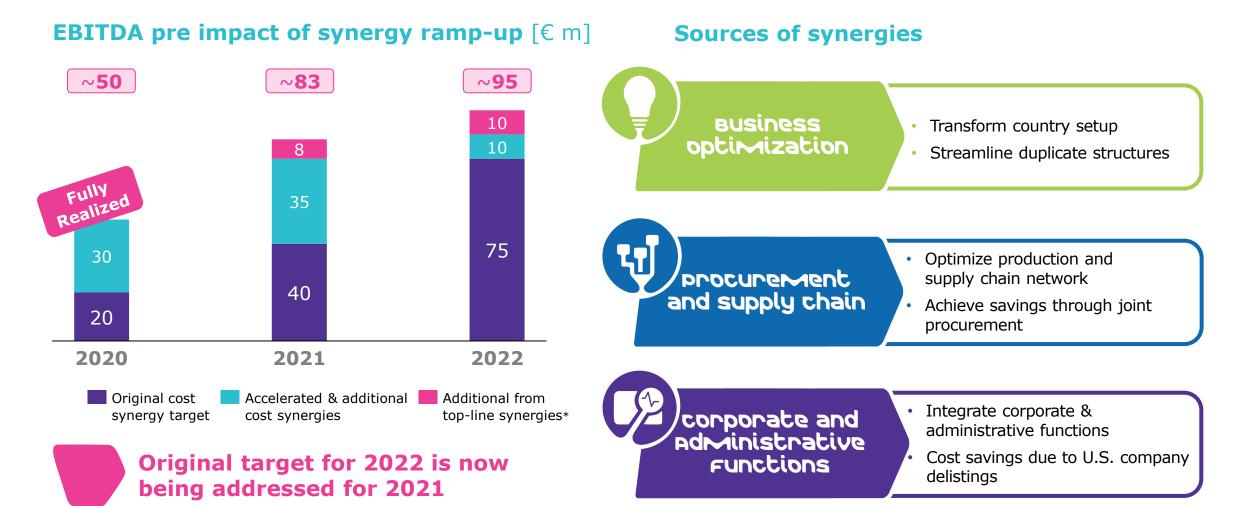
Proven, deep expertise warrants strong outlook

- Technology trends merely reinforced by workfrom-home & learn-from-home
- Upgraded Electronics mid-term guidance to 3-4% CAGR at September Capital Markets Day
- Upgraded Versum synergy targets twice in 2020 & again today
- Even stronger outlook for 2021 reflected in today's guidance

Electronics

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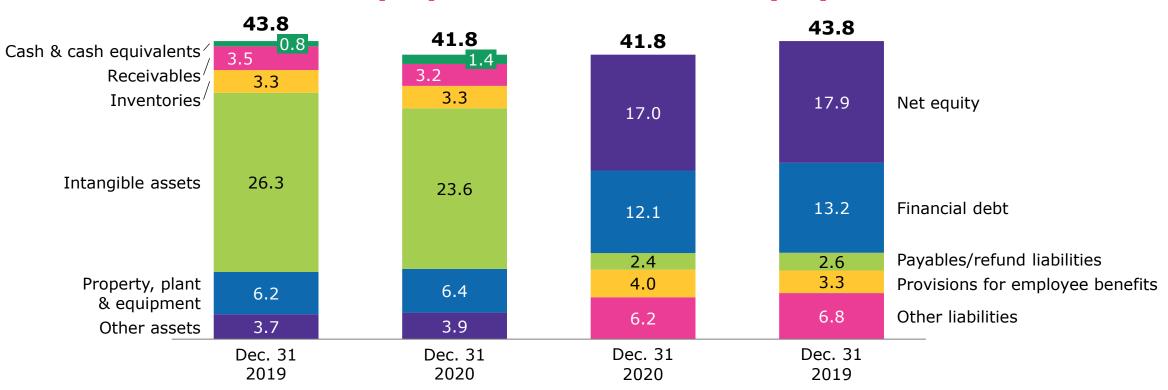
Successful integration drives substantial synergy upgrade and acceleration



^{*}Top-line synergies from cross-selling, new products introductions and overarching initiatives



Balance sheet



Assets [€bn]

Liabilities [€bn]

- Significant decline in intangible assets, primarily driven by FX
- Higher cash level in order to secure liquidity in the face of the COVID-19 pandemic and related uncertainties, driven by strong operating cashflow
- Stable equity ratio of 41%
- Strong operating cash flow in 2020 drives financial debt reduction of more than €1 bn



Q4 operating cash flow nearly doubling from a depressed Q4 2019 level

Q4 2020 – cash flow statement

[€m]	Q4 2019	Q4 2020	Δ
Profit after tax	321	440	119
D&A	552	496	-57
Changes in provisions	19	185	166
Changes in other assets/liabilities	-405	-48	357
Other operating activities	42	-60	-101
Changes in working capital	161	275	114
Operating cash flow	690	1.288	598
Investing cash flow	-4.744	-98	4.646
thereof Capex on PPE	-221	-609	-388
Financing cash flow	-273	-1.381	-1.108

Cash flow drivers

- Lower D&A largely driven by reduced amortization of intangibles (Rebif[®])
- Changes in provisions reflect Healthcare restructuring accruals & LTIP* effects
- Q4 19 other assets & liabilities elevated by cash neutral tax receivables
- Working Capital contribution mainly driven by lower trade receivables across all sectors
- Q4 2019 elevated investing cash flow reflects Versum acquisition while Q4 2020 is reduced due to reversal of Q3 temporary investment of excess cash
- Financing cash flow reflects strong deleveraging in reduced bank loans and commercial papers



outlook & guidance

Underlying COVID-19 assumptions for 2021 guidance

Group

- Increasing penetration of vaccination across large populations in all major regions as of summer
- Global gradual easing of lockdowns; virus mutations not to significantly invalidate vaccination efforts
- Overall improvement in the course of 2021; however, higher degree of forecast uncertainty



Healthcare assumptions

- Confirm ~ stable (org.) base business and pipeline sales target, despite higher uncertainty
- Pandemic impact on ramp-ups (particularly in suppressed MS high efficacy market) expected to ease significantly, but remains a watch out
- Fertility expected to continue recovery

Life Science assumptions

- Continued additional demand in Process Solutions
- Research and Applied Solutions more volatile and differentiated across customer and product segments, but overall neutral to positive

Electronics assumptions

- Neutral to positive impact on Semiconductor Solutions end markets
- Display and Surface Solutions to return to underlying trajectories



Group Qualitative full-year 2021 guidance

Net sales:

Strong organic growth Adverse FX of -2% to -5% YoY

EBITDA pre:

Organic: high single-digit to low teens growth (excl. Biogen¹) Adverse FX of -2% to -5% YoY

 1 Q3 20 Reversal of the provisions for the patent dispute proceedings for Rebif in the amount of ~€365m; Guidance incl. Biogen: slight to moderate organic growth

Group

Key earnings drivers to remember for 2021

EBITDA pre - supporting factors

- Increasing Mavenclad[®] & Bavencio[®] contribution
- Ongoing strength in Life Science with robust base business and additional COVID-19 demand
- Continued strong outlook in Semiconductor Solutions with above-market organic sales growth
- High level of cost consciousness across all sectors
- Milestone payments (e.g. Bavencio[®])

EBITDA pre - reducing factors

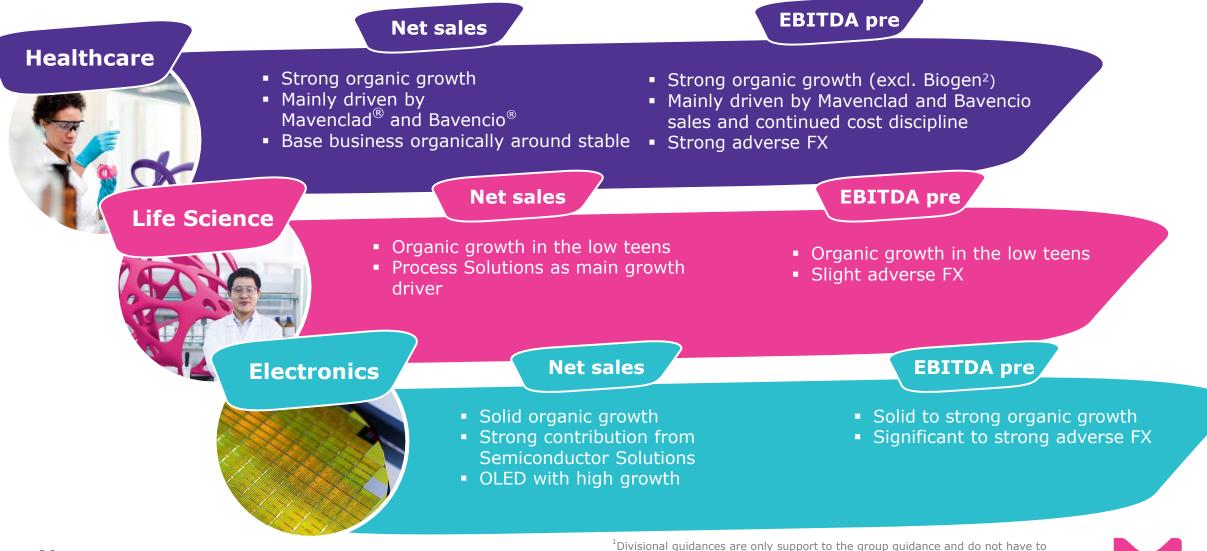
- Glucophage[®] impacted by VBP in China
- Continued decline of liquid crystals and Rebif[®]



Discipline and prioritization will be key

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Group 2021 business sector guidance¹



Divisional guidances are only support to the group guidance and do not have to add up; 2 Q3 20 reversal of the provisions for the patent dispute proceedings for Rebif in the amount of ~€365m; Guidance incl. Biogen: strong organic decline

ESG update



Sustainability strategy enhanced, leveraging strengths with clear commitment to new targets

who we are	Targets	> Integration
 Innovation Power We are a leading science and technology company with curious minds dedicated to human progress Long track-record in offering innovative products in attractive markets and serving important megatrends 	 Goal #1: Dedicated to human progress In 2030, we will advance human progress for more than 1 bn people through sustainable science & technology. Sustainable innovations - Impact of our technologies and technology for our customers - Impact of our technologies and products on health and well-being 	 Integrated Part of the overall strategy Linked to steering and operations Currently built into part of Executive Board compensation system
 Pioneering Products Well-equipped for developing new product classes: Portfolio of life-improving products in all businesses Enabling customers incl. scientists and developers to design next-gen products 	 Goal #2: Creating sustainable value chains By 2030, we will integrate sustainability into all our value chains. Sustainability Sustainable Sustainable Securing our social and transparent supply chain 	Steered & ReviewedExecutive BoardSupervisory BoardCorporate Sustainability Committee
 Responsible Governance Resilient operations; sustainable leadership and risk-mitigation approach Responsibility is in our DNA: reflected by legal form, corporate governance and long history of more than 350 years 	 Goal #3: Reducing our ecological footprint By 2040, we will achieve climate neutrality and reduce our resource consumption. Climate change & • Water & resource intensity 	 Communicated Development and reporting of meaningful KPIs Annual Report, Sustainability Report Investor events



Reduce our environmental footprint: Environmental targets 2020 have been achieved, new targets set

Achievements 2020

Reduce scope 1+2 emissions



Emissions target 2020 achieved!

25% overall reduction for Scope 1 and 2 emissions in 2020 relative to 2006 (planned: 20%)

Reduce water in stressed areas



Water target 2020 achieved!

- Water use in stressed areas reduced by 27% in 2020 vs. 2014 (planned: 10%)
- By 2020, all production sites⁴ successfully implemented sustainable water management system

Reduce Group Waste Score



Waste target ongoing & on track!

Based on Group Waste Score, reduced environmental impact by 4.6% vs. 2016 (planned: 5% by 2025)

¹versus 2006 baseline, excluding Versum Materials ²versus 2014 baseline ³versus 2016 baseline ⁴Sites > 70.000 m³/a

New targets from 2021

- Aiming for climate neutrality (scope 1 to 3 emissions) by 2040
- Lower scope 1 and 2 GHG⁵ emissions by 50% and to source 80% of purchased electricity from renewable sources until 2030 vs. 2020 baseline
- Absolute reduction of 1,500 kt⁶ scope 3 CO₂ equivalents by 2030
- Enhancing water efficiency and improve the new Group water intensity score by 10% by 2025 vs. 2019 baseline
- Minimize negative environmental impacts, harmful emission residues should be lowered below a scientifically defined threshold by 2030



Next steps towards achieving ESG targets

AGENDA 2020-2022

Analysis of requirements: Strategy, business, regulation, stakeholders

Develop SBV tool² to measure product sustainability value

Link ESG¹ to board compensation

Build effective data platform for internal steering

Develop ESG KPIs for reporting

Further incorporate ESG in R&D, controlling, M&A and supply chain

Decide on dedicated investments and initiatives to achieve targets





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¹ESG: Environmental, Social, Governance

²Sustainable Business Value: Dive in deeper and read the research article on the SBV method

Appendix

Additional financial guidance 2021

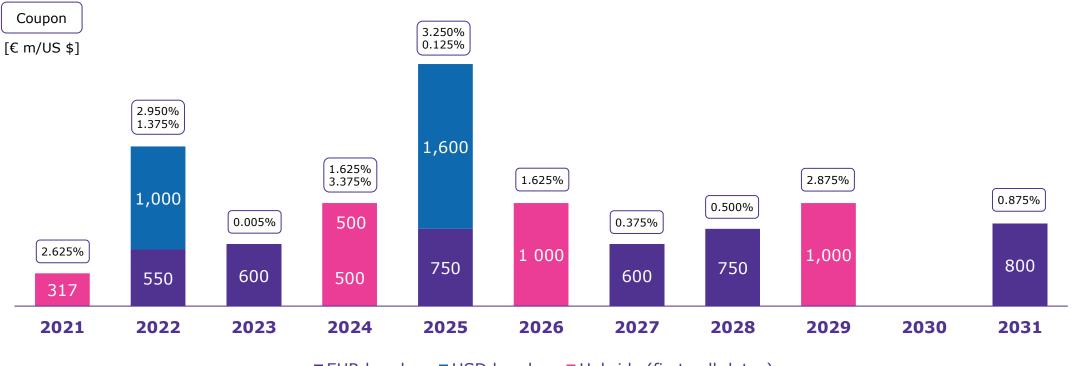
Further financial details

Corporate & Other EBITDA pre	~ -400 to -470 €m
Interest result	~ -220 to -245 €m
Effective tax rate	~24% to 26%
Capex on PPE	~1.4 to 1.5 €bn
Hedging/USD assumption	FY 2021 hedge ratio ~70% at EUR/USD ~1.17
2021 Ø EUR/USD assumption	~1.17 to 1.22



Financial Update Balanced maturity profile: Lower refinancing risks & higher flexibility

Maturity profile as of December 31, 2020



EUR bonds USD bonds Hybrids (first call dates)

M

Q4: 11% organic sales growth driven by "BIG 3" (HC pipeline, Process & Semi Solutions) including strong turnaround in Electronics

Q4 YoY Net Sales	Organic	Currency	Portfolio	Total
Healthcare	4.1%	-6.1%	-1.5%	-3.5%
Life Science	19.3%	-5.4%	0.0%	13.9%
Electronics	8.0%	-3.9%	0.0%	4.1%
Group	11.0%	-5.4%	-0.6%	5.0%

- Healthcare continuous organic growth with Mavenclad[®] up 48%, Bavencio[®] growing 90% org., General Medicine & Endocrinology slightly positive; Fertility back in organic growth territory
- Process Solutions underlying strength again amplified by COVID-19 business with 27% organic growth; Research elevated to +16%; Applied Solutions growing by exceptionally high 10%
- Semiconductor Solutions growing 20% organically, outperforming strong market (supported by DS&S order patterns); Display (-5%) and Surface Solutions (-3%) decline slowing down further

Q4 YoY EBITDA pre €1,206 m €1,245 m -8.0% -0.9% Q4 2019 Organic Currency Portfolio Q4 2020

- At 12% EBITDA pre growing faster than sales despite lower non-recurring income
- Cost discipline in all sectors further supported by reduced face-to-face activities amid pandemic
- FX burden of -8% across various currencies with largest impact from USD, BRL and ARS; partially mitigated by hedging



Q4 2020: Overview

Key figures

[€m]	Q4 2019	Q4 2020	Δ
Net sales	4,381	4,599	5.0%
EBITDA pre	1,206	1,245	3.3%
Margin (in % of net sales)	27.5%	27.1%	-0.4pp
EPS pre	1.54	1.57	1.9%
Operating cash flow	690	1,288	86.6%
[€m]	Dec. 31, 2019	Dec. 31, 2020	Δ
Net financial debt	-12,363	-10,758	-13.0%
Working capital	3,944	3,938	-0.2%
Employees	57,071	58,127	1.9%

- 11% organic sales growth driven by all three sectors muted by -5% FX headwinds
- EBITDA pre growing 3% despite significant
 FX burden of -8% which is also slightly impacting group margin
- EPS pre growing slower than EBITDA pre driven by less favorable financial result and ~€45 m non-adj. Healthcare impairments
- Operating cash flow nearly doubling driven by other assets & liabilities, changes in provisions and favorable working capital
- Net financial debt significantly reduced in line with deleveraging commitments



Q4 2020: Reported figures

Reported results

[€m]	Q4 2019	Q4 2020	Δ
EBIT	515	611	18.7%
Financial result	-76	-52	-31.6%
Profit before tax	439	559	27.5%
Income tax	-103	-119	15.7%
Effective tax rate	23.4%	21.2%	-2.2pp
Net income	318	436	37.0%
EPS (€)	0.73	1.00	37.0%

- Strong performance across all sectors particularly in Life Science drive 18.7% EBIT growth
- Reduced interest expense drives improved financial result
- Effective tax rate temporarily lower driven by phasing effects
- Robust EBIT and financial result improvement drive higher net income and EPS



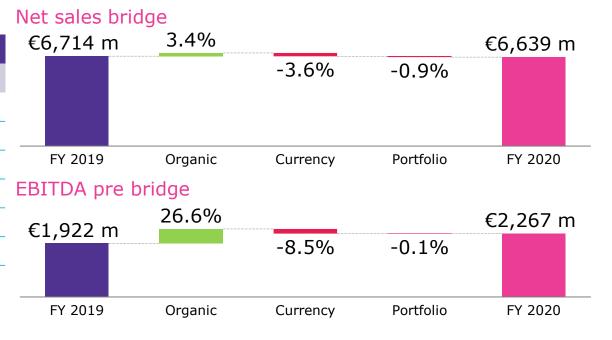
FY Healthcare: Organic growth based on a strong Q1 and a swift recovery post Q2 dip; EBITDA pre further elevated by €365 m provision release

[€m]	IFR	S	Pr	е
	FY 2019	FY 2020	FY 2019	FY 2020
Net sales	6,714	6,639	6,714	6,639
M&S [*]	-2,305	-1,664	-2,303	-1,617
Admin	-344	-320	-329	-313
R&D	-1,666	-1,640	-1,663	-1,616
EBIT	1,149	1,804	1,176	1,889
EBITDA	1,896	2,184	_	_
EBITDA pre	1,922	2,267	1,922	2,267
(in % of net Sales)	28.6%	34.1%	28.6%	34.1%

Healthcare P&L

- Mavenclad[®] swiftly recovered from COVID-19 dip in Q2, back to expanding dynamic shares, however dynamic market remains suppressed; Rebif[®] above underlying trajectory towards year-end
- Fertility back to pre COVID-19 levels as of Q3 and growing again in Q4 but picture remains mixed across regions
- Erbitux[®] showing organic growth despite pandemic; Bavencio[®] ramping up, post U.S. launch in UC 1L and growing 57%



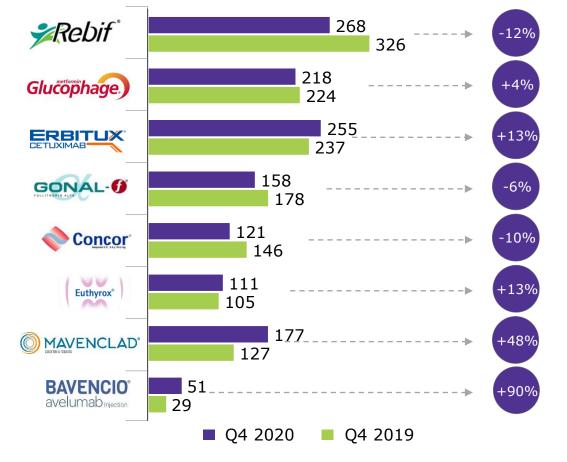


- M&S decrease through rigorous cost management, supported by reduced face-to-face activities amid COVID-19 while expanding digital activities; expired amortization of Rebif[®]
- Lower R&D reflects ongoing stringent cost control while maintaining focus on priority programs
- Underlying EBITDA pre margin of 28.7% further elevated by €365 m Biogen provision release to 34.1%

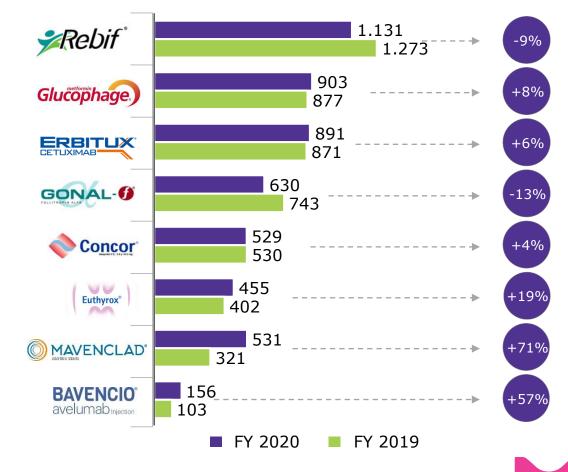


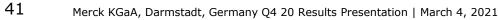
Healthcare organic growth by franchise/product

Q4 2020 organic sales growth [%] by key product [reported €m]



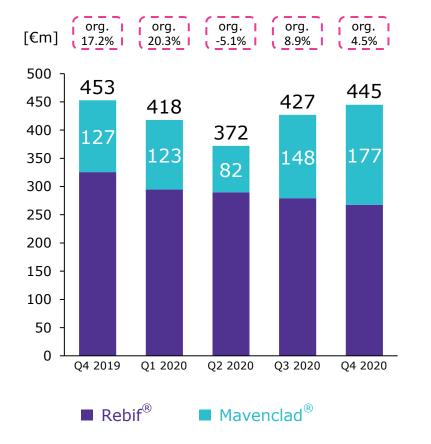
FY 2020 organic sales growth [%] by key product [reported €m]

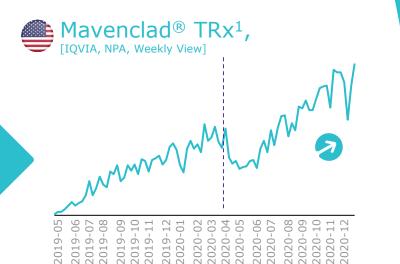




Neurology & Immunology: Organic sales growth of 4.5% in Q4 as Mavenclad[®] recovery continues

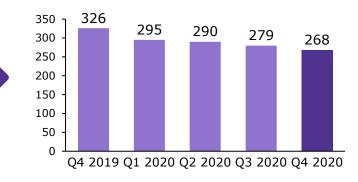
Sales development NDI, [€m]





- Highest quarterly sales
 since launch
- Rx data continues to trend positively with renewed momentum
- Dynamic volumes still suppressed by ongoing COVID-19 impact

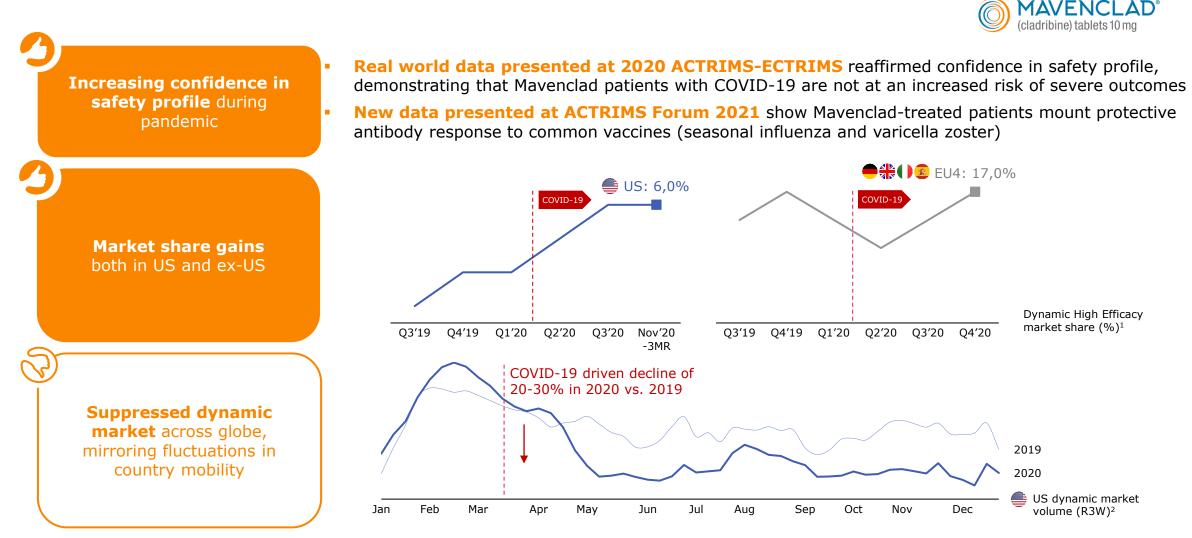




- Rebif[®] €268 m in Q4 returns to underlying trajectory with -12% decline
- FX burden of -5% in Q4

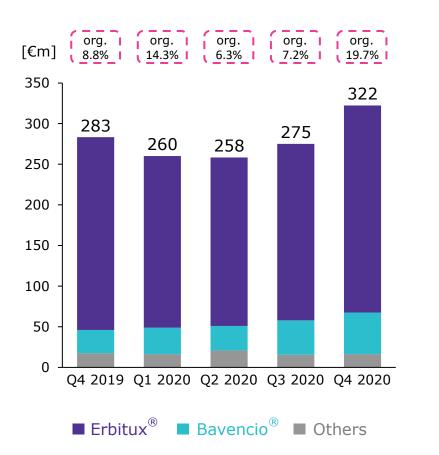


Mavenclad[®] launch update: Showing renewed global share momentum, in a dynamic market that remains suppressed



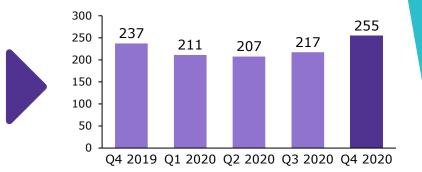
¹ Non-weighted average used for EU4 as dynamic market sizes/volume not available for all markets, German data only available until Oct'20 and included in Q4'20 average; 2: IQVIA Projected Dynamic National Claims weekly data through 12/31/2020; Acronyms: 3MR = 3 Months Rolling, R3W = Rolling 3 Weeks 43

Oncology: Bavencio[®] showing strong YoY and sequential growth post U.S. launch in UC 1L; EU and JP approvals expected to accelerate growth further

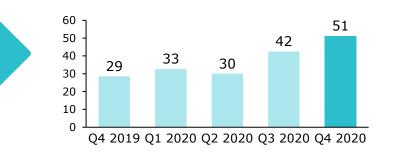


Sales development Oncology, [€m]

Erbitux[®] net sales, [€m]



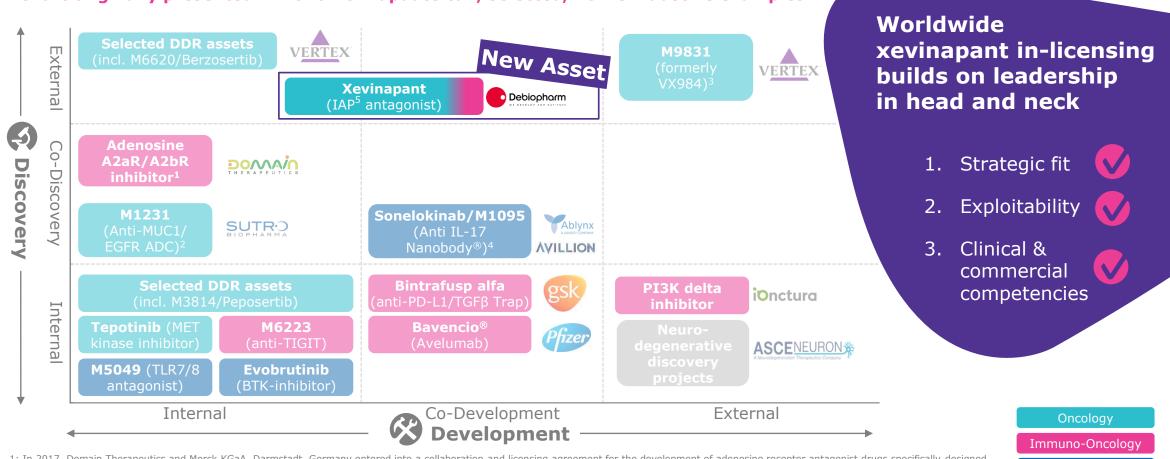
Bavencio[®] net sales, [€m]



- 13% growth in Q4, supported by temporary supply agreement with Eli Lilly for U.S.
- FY growth at 6% driven by solid performance in China and emerging markets
- Overall limited negative impact from COVID-19

- Bavencio[®] >30% QoQ growth for last 2 Quarters driven by 1L UC launch in the U.S.
- Launches in EU/Japan to contribute further

Xevinapant Potential to become standard of care in core area for Group



Immunoloav

Chart originally presented in 2020 R&D update call; selected, non-exhaustive examples

1: In 2017, Domain Therapeutics and Merck KGaA, Darmstadt, Germany entered into a collaboration and licensing agreement for the development of adenosine receptor antagonist drugs specifically designed for oncology and immuno-oncology; 2: In 2014, Sutro and Merck KGaA, Darmstadt, Germany initiated a collaboration to discover and develop ADCs utilizing Sutro's cell-free protein synthesis platform, Xpress CF+^M. Merck KGaA, Darmstadt, Germany is responsible for drug product, clinical development and commercialization of any resulting products; 3: In 2019, an exclusive license was granted to Vertex for the use of M9831 in gene-editing applications; 4: Avillion conducted Ph II of M1095 in Psoriasis, Merck KGaA, Darmstadt, Germany decided to out license sonelokinab to a new partner to initiate Phase III development in 2021 5: Inhibitor of Apoptosis Proteins

Xevinapant

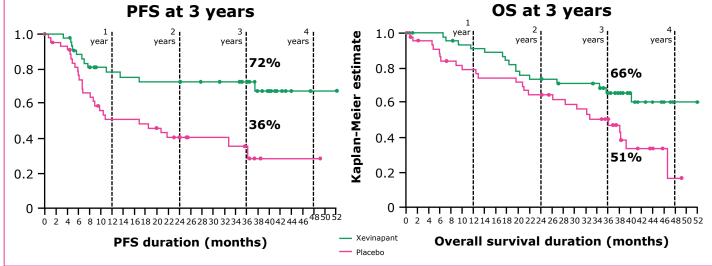
Blockbuster potential & meaningful clinical benefit in curative setting

<image>

- Oral Inhibitor of Apoptosis Proteins (IAP) antagonist: radio- chemo-sensitizer & enhancer of anti-tumor immunity
- IAP antagonists tackling two cancer hallmarks:
 - Enhancing anti-tumor immunity
 - Lowering threshold for tumor cell death

Phase 2 Clinical Study Results²

- Improvement in OS statistically significant and clinically meaningful: HR 0.49 (0.26-0.92); p=0.0261
- mOS not yet reached in xevinapant arm; 5-year extended OS follow-up ongoing
- Clinically compelling PFS improvement: HR 0.34 (0.17–0.68); p=0.0023
- Addition of xevinapant results in good safety profile, not comprising CRT administration



² Source: ESMO 2020 - Late Breaking Abstract 39 - 3-years follow-up of double-blind randomized phase II comparing concurrent high-dose cisplatin chemo-radiation plus xevinapant or placebo in high-risk patients with locally advanced squamous cell carcinoma of the head and neck

¹ Source: Debiopharm



Xevinapant

In-licensing with a total deal-volume of up to ~ €900 m and industry-typical sales royalties

Payment type	Amount (in €)	Accounting treatment ²
Upfront payment	~ €190 m	Largest part to be capitalized as an intangible asset
Approval milestones	Up to ~ €380 m ¹	To be paid and capitalized as an intangible asset upon approval and to be amortized once asset is ready for use
Commercial milestones	Up to ~ €330 m	To be paid and capitalized as an intangible asset, based on sales thresholds and to be amortized over remaining useful life
Sales	n/a	Merck KGaA, Darmstadt, Germany to recognize sales globally
R&D Costs	n/a	 For ongoing TrilynX study Cash view: 50/50 cost sharing P&L view: fully shown in Merck KGaA, Darmstadt, Germany P&L 2nd study for cisplatin-ineligible patients: Merck KGaA, Darmstadt, Germany incurs 100% of cost
Royalties	n/a	Merck KGaA, Darmstadt, Germany to pay industry-typical sales royalty to Debiopharm

¹ thereof up to $\sim \in 300$ m for focus H&N indications

² final accounting treatment is still subject to alignment with auditors

Bavencio[®] UC 1L launch update: Continued inflection in the U.S, recent EU and Japan approvals expected to further accelerate growth



Strong US launch performance:

- Increasing breadth & depth of accounts/ prescriber base
- Leading share of voice amongst all IOs indicated across bladder cancer

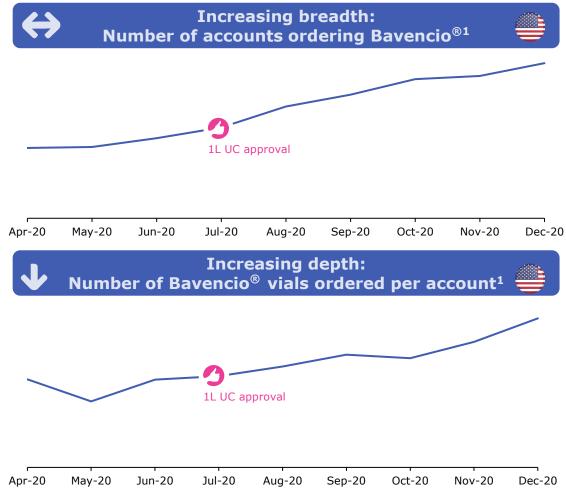


Recent EMA and Japan approvals:

- Received on January 22, 2021 and February 24, 2021 respectively
- Strong base of platinum chemo treatment providing opportunity for Bavencio regimen

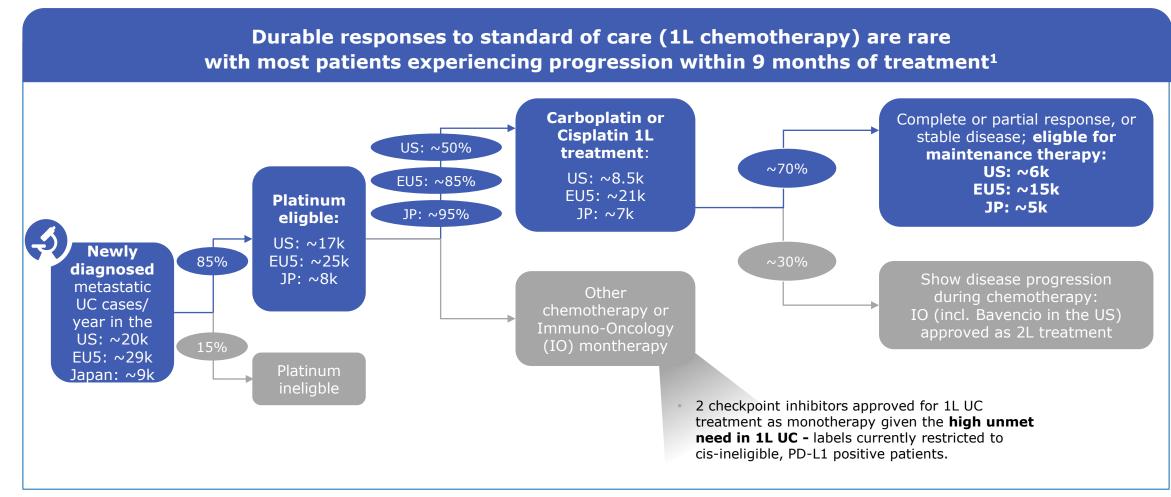
Significance of transformative OS advantage :

- Validated by positive reception in community
- Bavencio[®] on track to change standard of care within the indicated segment





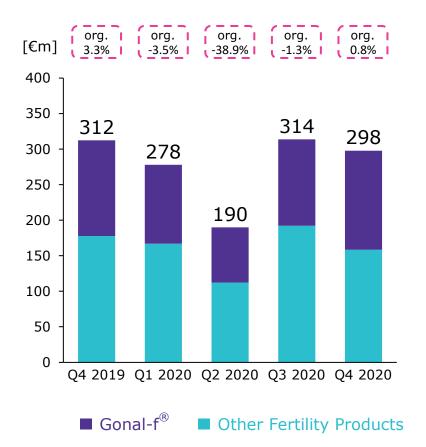
Bavencio®: Holistic UC 1L treatment sustaining disease control; maintenance following induction chemo achieving transformative OS benefit



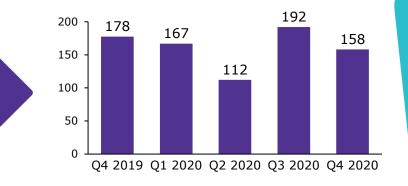
1: Kantar Health Patient Metrics & Kantar Health Treatment Architecture for epidemiological data; IMS Claims, Kantar and IPSOS for triangulation of market shares



Fertility: Return to organic growth post Q2 dip, while picture across geographies remains mixed



Sales development Fertility, [€m]



Gonal-f[®] net sales, [€m]

Other Fertility net sales, [€m]

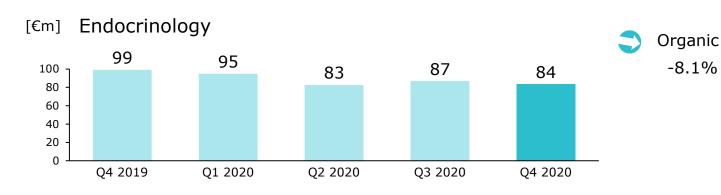


Fertility portfolio growing again organically vs. strong Q4 2019

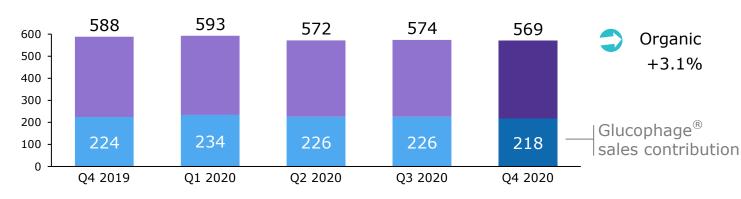
- FX burden of -5% mutes absolute numbers
- FY still 11% below 2019 as lost Q2 sales could not be recovered due to mixed picture across regions
- Americas and APAC growing again in Q4, majority of Europe recovered as well

General Medicine growing despite VBP impact in China; Endocrinology impacted by COVID-19 particularly in U.S.

Sales evolution



[€m] General Medicine*



Q4 2020 organic drivers

- COVID-19 impact in U.S. continues due to decline in HIV patient visits and treatment initiations
- Ex-U.S. growth driven by increasing diagnosis & treatment of growth hormone disorders mainly in emerging markets
- Concor[®] continues to see anticipated impact from VBP¹ in China, declining 10% globally
- Glucophage[®] not fully impacted by VBP wave 3 yet in Q4; impact anticipated from Q1 2021 onwards
- Double-digit growth of Thyroid products, strengthening leadership in this field



Healthcare Pipeline

December 31, 2020

Phase I

berzosertib (M6620) ATR inhibitor

Solid tumors¹

peposertib (M3814) DNA-PK inhibitor Solid tumors²

M1774 ATR inhibitor Solid tumors

M3258 LMP7 inhibitor Multiple myeloma

M4344 ATR inhibitor Solid tumors

M8891 MetAP2 inhibitor Solid tumors

- Oncology
- Immuno-Oncology
- Immunology
- Neurology
- Global Health
- Program under out-licensing agreement

Phase II

peposertib (M3814) DNA-PK inhibitor Rectal cancer

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

tepotinib MET kinase inhibitor Non-small cell lung cancer, EGFR mutant, MET amplified⁴

berzosertib (M6620) ATR inhibitor SCLC

avelumab anti-PD-L1 mAb Solid tumors⁵

avelumab anti-PD-L1 mAb Non-small cell lung cancer⁵

avelumab anti-PD-L1 mAb Urothelial cancer⁵

bintrafusp alfa TGFbeta trap/anti-PD-L1 Non-small cell lung cancer 1L/2L

bintrafusp alfa TGFbeta trap/anti-PD-L1 Locally advanced non-small cell lung cancer bintrafusp alfa TGFbeta trap/anti-PD-L1 Biliary tract cancer 1L

bintrafusp alfa TGFbeta trap/anti-PD-L1 Biliary tract cancer 2L

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

bintrafusp alfa TGFbeta trap/anti-PD-L1 Triple negative breast cancer

M5049 TLR7/8 antagonist Covid-19 pneumonia

sonelokimab (M1095)⁶ anti-IL-17 A/F nanobody Psoriasis

sprifermin fibroblast growth factor 18 Osteoarthritis

atacicept⁷ anti-BlyS/APRIL fusion protein Systemic lupus erythematosus

atacicept⁷ anti-BlyS/APRIL fusion protein IgA nephropathy

Phase III

avelumab anti-PD-L1 mAb Non-small cell lung cancer 1L

bintrafusp alfa TGFbeta trap/anti-PD-L1 Non-small cell lung cancer 1L⁸

evobrutinib BTK inhibitor Multiple sclerosis

Registration

tepotinib MET kinase inhibitor Non-small cell lung cancer, *MET*ex14 skipping^{9,10}

avelumab anti-PD-L1 mAb Urothelial cancer 1L-M¹¹

1L, first-line treatment; 1L-M, first-line maintenance treatment; 2L, second-line treatment;

¹ Includes studies (phase I/II) in collaboration with NCI. ² Includes studies in combination with bit herafusp alfa. ⁴ In combination with bit bit herafusp alfa. ⁴ In combination with NCI. ² Includes studies in combination with bit herafusp alfa. ⁴ In combination with bit herafusp alfa. ⁴ In combination with bit herafusp alfa. ⁴ In combination studies with talazoparib, axitinib, Axitinib

Unless noted otherwise, clinical programs conducted in collaboration with external partners are not shown unless Merck KGaA, Darmstadt, Germany is the sponsor of that respective trial.



bintrafusp alfa

bintrafusp alfa

Cervical cancer 1L

anti-TIGIT mAb

TLR7/8 antagonist

PeEF2 inhibitor

Changes made post-

December 31 cut-off

Solid tumors

M6223

M5049

M5717

Malaria

Solid tumors³

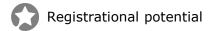
Immunology

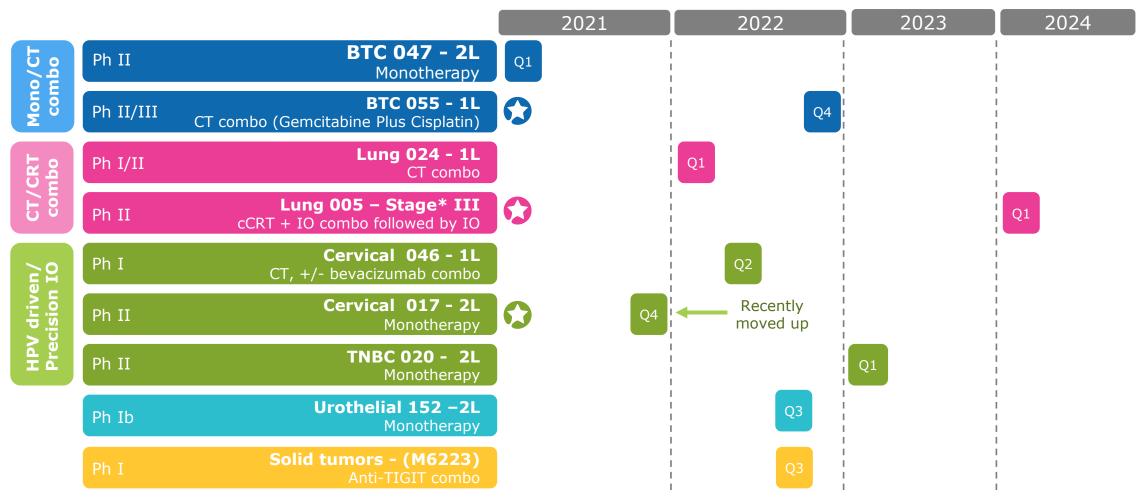
TGFbeta trap/anti-PD-L1

TGFbeta trap/anti-PD-L1

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.

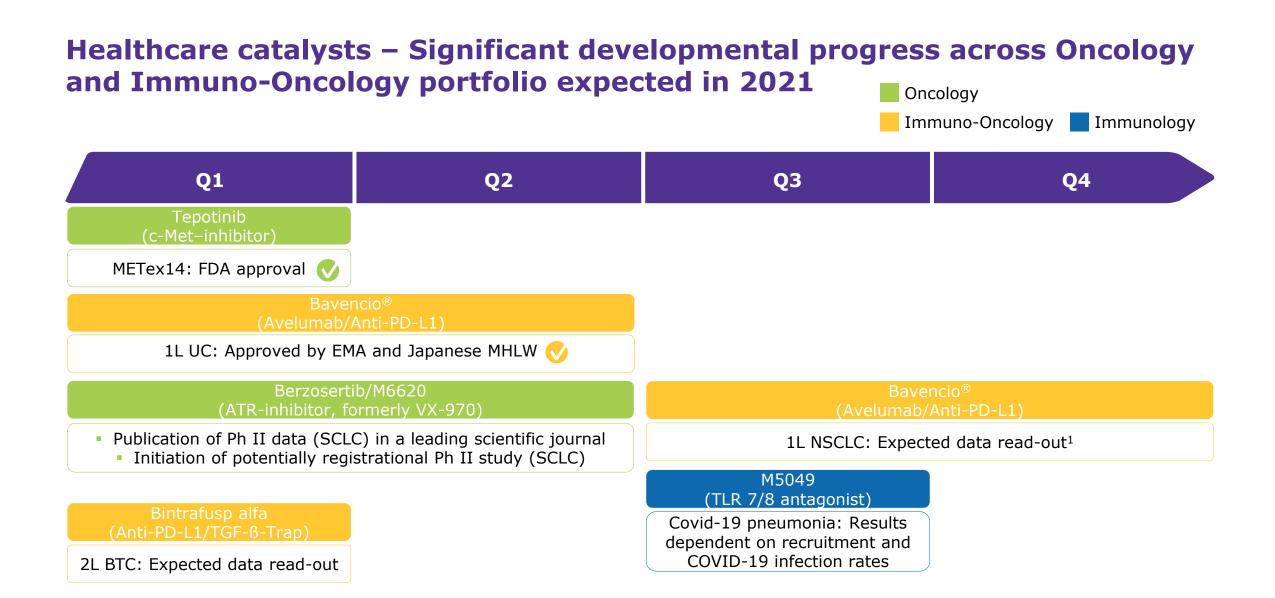
Bintrafusp alfa INTR@PID Program: Upcoming Readouts





Acronyms: BTC = Biliary Tract Cancer; CT = Chemotherapy; EMT = Epithelial-mesenchymal transition; HPV = Human papillomavirus; NSCLC = Non-small Cell Lung Cancer; RT = Radiation therapy; TNBC = Triple-Negative Breast Cancer; * unresectable; **All clinical timelines are event-driven and may be subject to change**





Acronyms: BTC = Biliary Tract Cancer, EMA = European Medicines Agency, FDA = U.S. Food and Drug Administration, MHLW = Ministry of Health, Labour and Welfare, NSCLC = Non-Small Cell Lung Cancer, SCLC = Small Cell Lung Cancer, TLR = Toll-like receptor, UC = Urothelial Cancer; ¹ clinical timelines are event-driven and may be subject to change



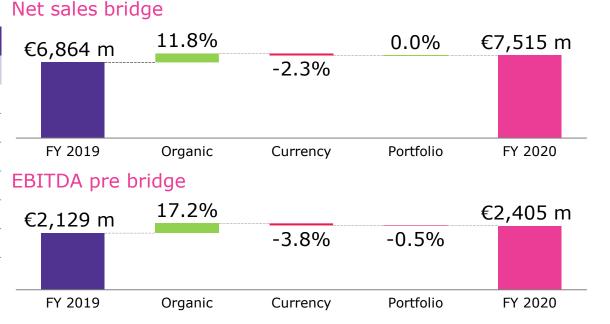
FY Life Science: 12% increase mainly driven by 22% growth in Process Solutions as strong underlying growth is boosted by COVID-19 demand

Life Science P&L

[€m]	IFRS		Pre adju	stments
	FY 2019	FY 2020	FY 2019	FY 2020
Net sales	6,864	7,515	6,864	7,515
M&S [*]	-1,924	-1,995	-1,922	-1,992
Admin	-341	-354	-307	-322
R&D	-276	-313	-276	-312
EBIT	1,280	1,599	1,340	1,619
EBITDA	2,070	2,387	_	-
EBITDA pre	2,129	2,405	2,129	2,405
(in % of net Sales)	31.0%	32.0%	31.0%	32.0%

Comments

- 22% organic growth of Process Solutions mainly driven by downstream and single use, elevated by additional COVID-19 demand
- Research Solutions growing 5% as Q3 recovery is further supported by a Admin increase driven largely by pandemic-related cost for additional particularly strong Q4 (diagnostics exposure & COVID-19 recovery)
- Applied Solutions growing 3% slightly below our mid-term guidance as negatives outweigh positives in the context of COVID-19



- M&S flat in absolute terms as cost-consciousness and lower travel expenses offset increased freight cost in M&S
- safety precautions, however below sales growth
- Investments in strategic projects in R&D
- Outstanding operational leverage and favorable mix from additional COVID-19 demand boost EBITDA pre margin to 32%

* Marketing and selling expenses

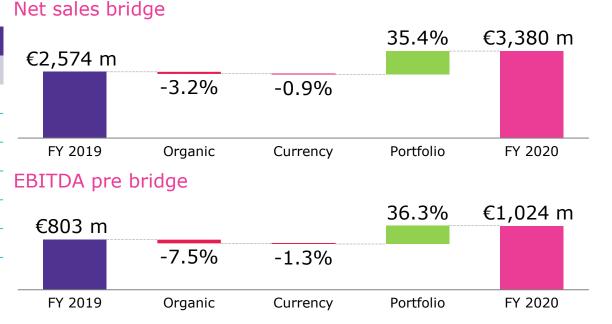


FY Electronics: Versum portfolio effect in Q1-Q3 and continuous organic Semiconductor growth far outweigh declining Display and Surface

Electronics P&L

[€m]	IFRS		Pre adju	stments
	FY 2019	FY 2020	FY 2019	FY 2020
Net sales	2,574	3,380	2,574	3,380
M&S [*]	-329	-539	-323	-530
Admin	-118	-162	-107	-144
R&D	-267	-274	-241	-272
EBIT	307	240	481	463
EBITDA	637	925	_	-
EBITDA pre	803	1,024	803	1,024
(in % of net Sales)	31.2%	30.3%	31.2%	30.3%

- Sales growth of 31% mainly due to portfolio effect from Versum overcompensates organic decline in Display and Surface
- Semiconductor Solutions: Persistent strong organic growth with a particularly strong year-end
- Display Solutions: COVID-19 impact eased further in Q4 but still weighing on LC's negative underlying trajectory particularly against still elevated comps in 2019; OLED also impacted FY



- Surface Solutions: Heavy COVID-19 impact on automotive and cosmetic end markets resulting in business decline, but easing towards Q4
- M&S and Admin reflect consolidation of Versum acquisition and diligent underlying cost management as part of the Bright Future transformation
- R&D 9M 2020 include Versum consolidation and show underlying Bright Future cost management
- EBITDA pre growth driven by additional gross profit from Versum

FY 2020: Cash flow statement

FY 2020 – cash flow statement

[€m]	FY 2019	FY 2020	Δ
Profit after tax	1.324	1.994	670
D&A	1.944	1.938	-6
Changes in provisions	153	-110	-263
Changes in other assets/liabilities	-391	-123	267
Other operating activities	-4	-59	-55
Changes in working capital	-169	-162	7
Operating cash flow	2.856	3.477	621
Investing cash flow	-6.153	-1.340	4.813
thereof Capex on PPE	-782	-1.377	-595
Financing cash flow	1.902	-1.522	-3.424

Cash flow drivers

- Higher profit after tax driven by strong operational performance particularly in Life Science
- Stable D&A as higher depreciation (primarily from Versum) balances lower amortization (Rebif[®])
- Biogen provision release primary driver of delta in changes in provisions
- Stable increase in working capital in line with COVID-19 driven inventory and higher sales-driven receivables
- >20% growth in operating cash flow
- 2019 investing cash flow reflects Versum
- 2019 financing cash flow reflects Versum while 2020 reflects strong deleveraging



Adjustments in Q4 2020

EBIT Adjustments

[€m]	Q4 2	Q4 2019		020
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	21	1	93	0
Life Science	15	0	6	3
Electronics	93	-1	29	11
Corporate & Other	10	0	23	0
Total	139	1	151	14



Adjustments in FY 2020

Adjustments in EBIT

[€m]	FY 2019		FY 20)20
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	26	1	85	2
Life Science	59	0	21	3
Electronics	174	7	223	123
Corporate & Other	68	0	79	0
Total	328	9	407	128





Financial calendar

Date	Event
March 4, 2021	FY 2020 Earnings release
April 23, 2021	Annual General Meeting
May 12, 2021	Q1 2021 Earnings release
August 5, 2021	Q2 2021 Earnings release
November 11, 2021	Q3 2021 Earnings release



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