



profitable growth despite challenges

Merck FY 2022 results

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March 2, 2023

MERCK

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Agenda

01 Executive summary

02 Strategic review

03 Financial overview

04 ESG update

05 Outlook & Guidance

01

EXECUTIVE SUMMARY

Highlights 2022:



Operations

Life Science:

- +8% org. sales growth despite COVID-19 decline, driven by mid-teens core¹ growth with Process Solutions as key driver
- Largest growth contribution to Group (org. +€737 m)
- Growth in all business units and geographies

Healthcare:

- +6% org. sales growth contributing +€391 m to Group
- Recent launches key growth driver, Bavencio[®] +58% org., Mavenclad[®] up +17% org.
- CM&E and Fertility each deliver +4% org. sales growth each

Electronics:

- +4% org. sales growth contributing +€134 m to Group despite challenging macro environment
- Semi Solutions growing +15% org., significantly above market and mid-term guidance



Financials

FY organic sales: growth of +6.4%

FY organic EBITDA pre: growth of +6.1%

Guidance delivered:

Net sales: €22.23 bn

EBITDA pre: €6.85 bn

EPS pre: €10.05

Net financial debt to EBITDA pre:

1.2 on Dec. 31, 2022

Guidance delivered

2022 guidance

2022 results

net sales

€22.00 – 22.90 bn

€22.23 bn



EBITDA pre

€6.80 – 7.20 bn

€6.85 bn



EPS pre

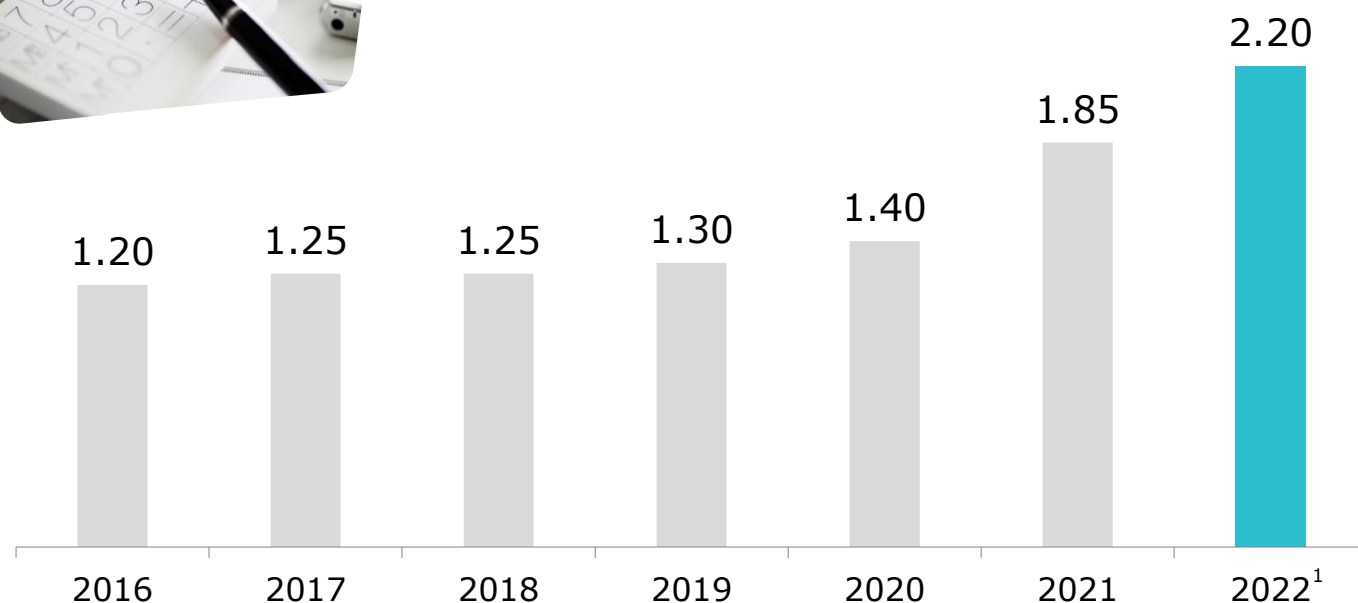
€9.90 – 10.70

€10.05



Company performance drives solid growth in dividend

Dividend¹ development 2016 - 2022



2022 dividend

- Dividend of €2.20 (+19% YoY) per share proposed¹ for 2022
- Payout ratio of 21.9% of EPS pre in 2022; aiming for 20% to 25%
- Dividend yield² of 1.2%

¹Final decision is subject to Annual General Meeting approval

²Calculated using 2022 year-end share price of €180.90 per share.

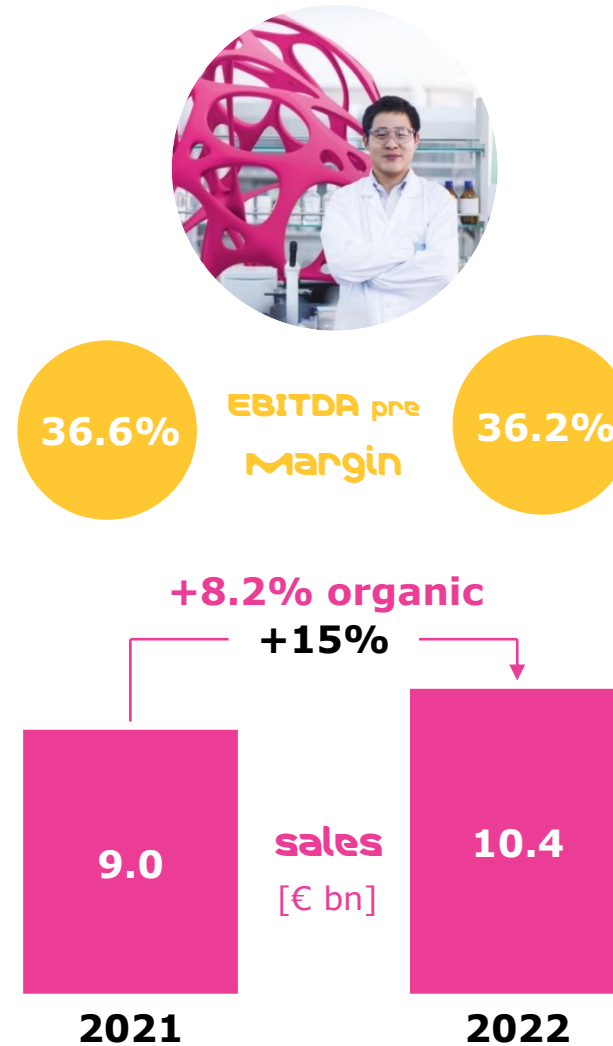
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strategic Review

Life Science: Sales crossing €10 bn mark with +8% org. growth driven by buoyant core business (+14% org.) against significant COVID-19 decline

Business performance

- Growth across all business units fueled by Process Solutions (+11% org.), further supported by Science & Lab Solutions (+6% org.) and Life Science Services (+6% org.)
- Excellent core business performance (+14% org.) with all business units contributing and Process Solutions as key driver (+23% org.)
- COVID-19 business with total sales of ~€800 m, declining as anticipated
- EBITDA pre margin slightly down due to FX
- Org. EBITDA pre growth (+10%) exceeding sales growth amid inflation resilience and operating leverage



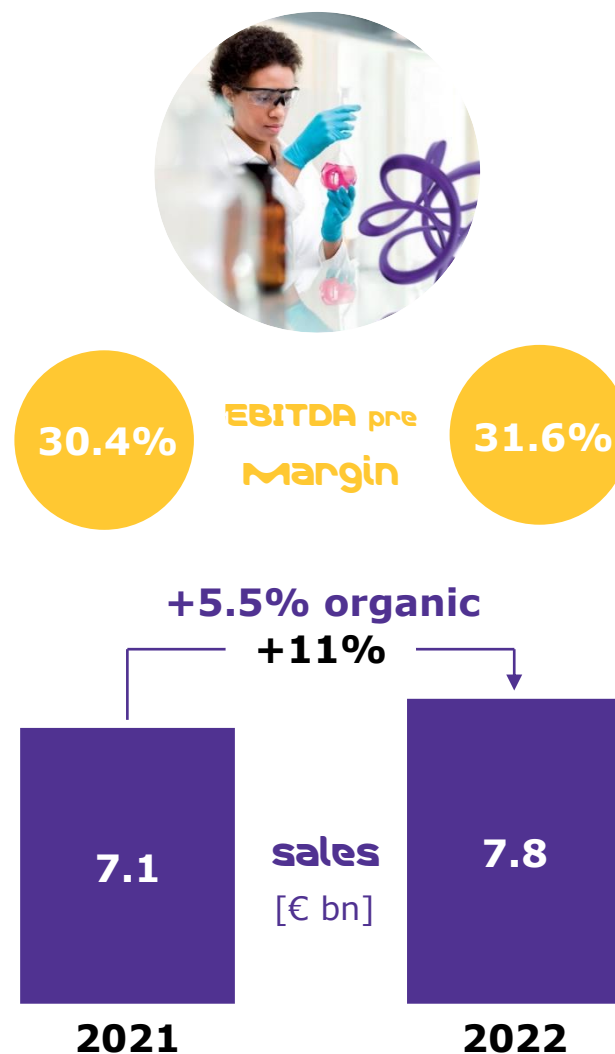
Sector focus

- **Capturing key growth trends as leading diversified life science player**
 - Expanding capacity and regional network across up-and downstream bioprocessing
 - Building integrated focused multimodality CTDMO¹ with technology leadership
 - Leveraging e-commerce presence across diverse, attractive customer segments in labs
- **New operating model enabling stronger focus on services and customers**
 - Process Solutions with clear product focus on biopharmaceutical manufacturing
 - Life Science Services with integrated service offering across multiple modalities
 - Science & Lab Solutions with broad portfolio for research and testing consumables

Healthcare: Recent launches drive +6% org. growth, in line with mid-term guidance

Business performance

- Oncology growth of +17% org. fueled by continued Bavencio® ramp-up; Erbitux® reaches blockbuster status
- N&I stable; Mavenclad® growing +17% org., balancing continued Rebif® decline
- CM&E and Fertility growth at +4% org. despite China lock-downs
- Recent launches and stringent cost management drive +3% org. EBITDA pre growth despite lower income from portfolio measures and inflationary pressures



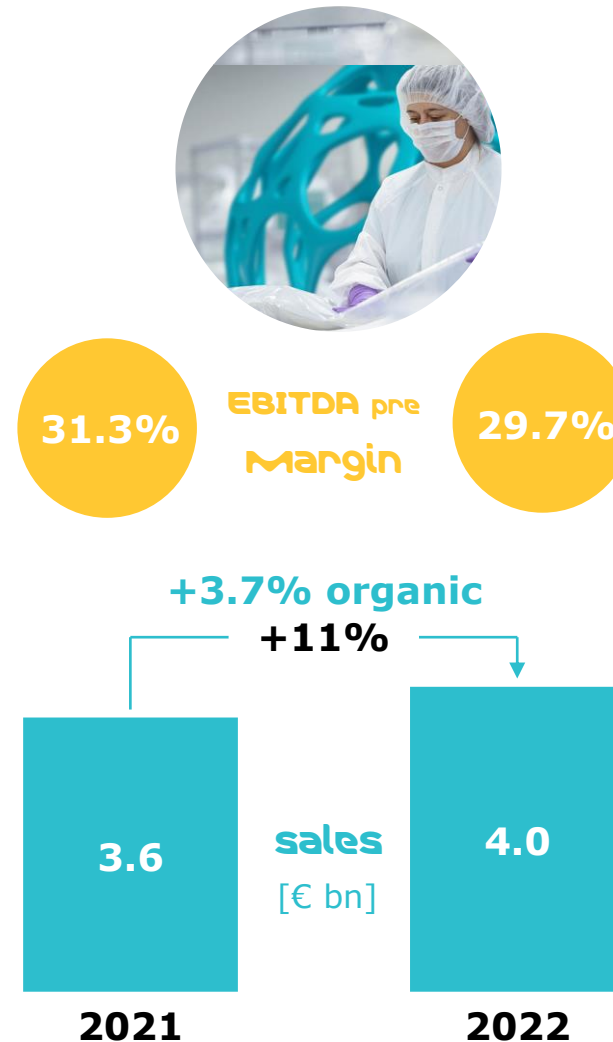
Sector focus

- **Pipeline supporting focused leadership**
 - Evobrutinib and xevinapant Phase III assets remain on track for first-in-class and best-in-class opportunities
 - Replenished early pipeline with DDR and ADC assets supporting Oncology strategy of focusing on tumor DNA
 - Diversifying within N&I with enpatoran in SLE/CLE and lupus
- **Recent Launches**
 - Further growth of Bavencio® by expanding in mUC 1L; Mavenclad® expected to remain most prescribed oral HE drug in dynamic market segment in the U.S. and EU-4
- **Established Portfolio**
 - Resilient CM&E business across diversified geographies, leadership in Fertility and well positioned for growth in China

Electronics: Unchanged long-term market growth expectations and focus on capacity increases in Semiconductor Solutions and supply chain efficiency

Business performance

- Semiconductor Solutions growth accelerating to +15% org., above market and mid-term guidance, with continuous support from DS&S
- Mid-teens Semiconductor Materials growth backed by all businesses
- Display Solutions with double-digit decline driven by lower customer utilization; keeping market share majority
- Surface Solutions growing +3% org., driven by Coatings and Cosmetics end markets
- Margin softer amid inflationary pressures, supported by FX



Sector focus

- **Challenging short-term industry outlook**
 - Inflationary pressures on raw materials & logistics costs, supply disruptions and slowing semi market challenge the sector
 - Electronics able to partially mitigate by improving supply chain efficiency and implementing stringent cost management
- **Continued long-term growth expectations**
 - Current industry consensus assumes a recovery in H2 2023; long-term market outlook remains highly attractive
 - Electronics focusing on bringing additional capacity on stream in Semi to support expected above-market growth

03

Financial Overview

FY 2022: Overview

Key figures

[€m]	FY 2021	FY 2022	Δ
Net sales	19,687	22,232	12.9%
EBITDA pre	6,103	6,849	12.2%
Margin (in % of net sales)	31.0%	30.8%	-0.2pp
EPS pre	8.72	10.05	15.3%
Operating cash flow	4,616	4,259	-7.7%

[€m]	Dec. 31, 2021	Dec. 31, 2022	Δ
Net financial debt	-8,753	-8,328	-4.9%
Working capital	4,207	5,237	24.5%
Employees	60,335	64,233	6.5%

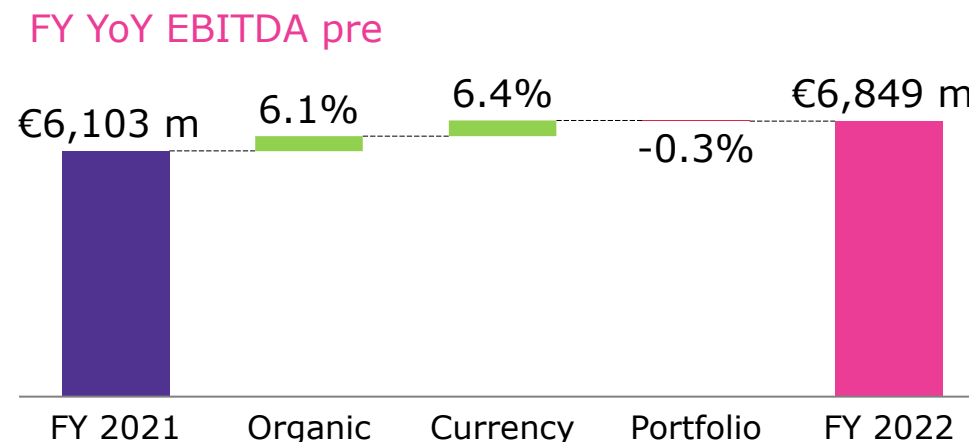
Comments

- Sales up +13%, driven by solid organic performance and significant FX boost
- Life Science fuels organic EBITDA pre growth, boosted by FX
- EPS pre growth mainly driven by EBITDA pre contribution and better financial result
- Operating cash flow decline despite higher EBITDA pre largely due to working capital
- Working capital driven by receivables from business development and inventories from inflationary effects & higher stock levels
- Headcount mainly driven by Life Science

FY 2022: +13% growth led by Life Science and supported by significant FX tailwinds across all sectors

FY YoY Net Sales	Organic	Currency	Portfolio	Total
Life Science	8.2%	6.4%	0.8%	15.4%
Healthcare	5.5%	5.1%	0.0%	10.6%
Electronics	3.7%	7.6%	0.0%	11.3%
Group	6.4%	6.1%	0.4%	12.9%

- Life Science: +8% organic growth mainly driven by Process Solutions (+11% org.), further supported by Science & Lab Solutions (+6% org.) and Life Science Services (+6% org.)
- Healthcare: recent launches up +33% org. fueled by Bavencio® mUC 1L ramp-up and Mavenclad® uptake, driving +6% org. growth in the sector
- Electronics: double-digit growth of Semiconductor Solutions (+15% org.) more than offsetting Display decline (-20% org.), driving +4% org. growth overall



- EBITDA pre up +6% org., roughly in line with sales despite inflationary pressures
- Life Science and Healthcare driving organic EBITDA pre growth
- Positive FX effects across various currencies with largest positive impact from USD & CNY

FY 2022: Reported figures

Reported results

[€m]	FY 2021	FY 2022	Δ
EBIT	4,179	4,474	7.1%
Financial result	-255	-187	-26.7%
Profit before tax	3,924	4,287	9.3%
Income tax	-859	-948	10.4%
<i>Effective tax rate (%)</i>	21.9%	22.1%	0.2pp
Net income	3,055	3,326	8.9%
EPS (€)	7.03	7.65	8.8%

Comments

- Life Science main organic driver of +7% EBIT growth, further supported by favorable FX effects amid inflationary pressures
- Improved financial result reflecting continuous deleveraging (e.g. buy-back of hybrid bond)
- Effective tax rate at the lower end of guidance range
- Net income and EPS reflect EBIT growth and improved financial result
- EPS grows significantly below EPS pre due to impairments and restructuring expenses

Life Science Q4: Strong performance of core business (+11% org.) continues to deliver growth

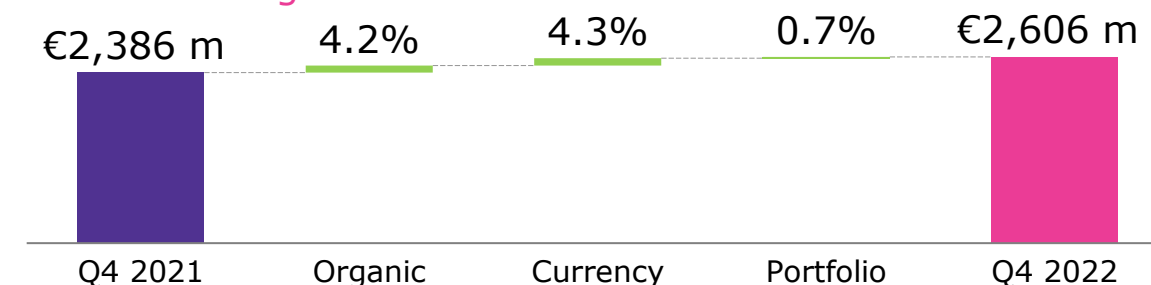
Life Science P&L

[€m]	IFRS		Pre	
	Q4 2021	Q4 2022	Q4 2021	Q4 2022
Net sales	2,386	2,606	2,386	2,606
M&S*	-584	-605	-582	-605
Admin	-85	-93	-89	-98
R&D	-101	-107	-99	-107
EBIT	628	600	643	629
EBITDA	837	845	-	-
EBITDA pre	840	850	840	850
(in % of net sales)	35.2%	32.6%	35.2%	32.6%

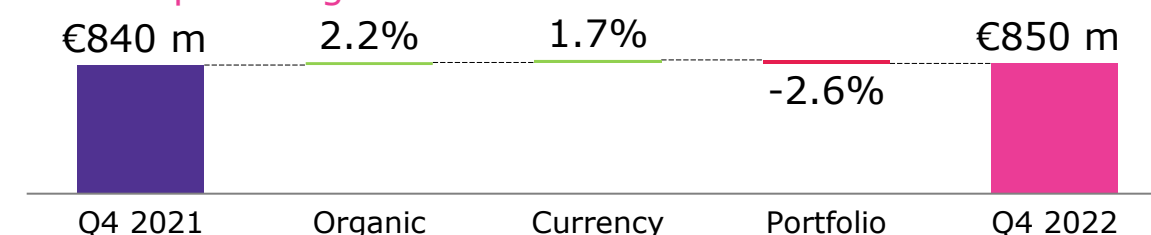
Comments

- Process Solutions: +10% org. growth, driven by strong core business (+24% org.); COVID-19 business declining as anticipated
- Science & Lab Solutions: growing +4% org. across majority of portfolio, supported by positive pricing
- Life Science Services: -16% org. decline amid tough comps, COVID headwinds and near-term volatility in CDMO

Net sales bridge



EBITDA pre bridge



- M&S down as a % of sales from 24% to 23% as logistics costs stabilize
- Higher R&D in absolute terms with continued investments in high growth & emerging segments, e.g. novel modalities
- EBITDA pre growing 2% org., behind topline driven by mix, investments and non-recurring effects incl. inventory adjustments; margin additionally affected by FX and portfolio

Healthcare Q4: Bavencio ramp-up, complemented by strong Fertility and CM&E, drive +6% organic growth

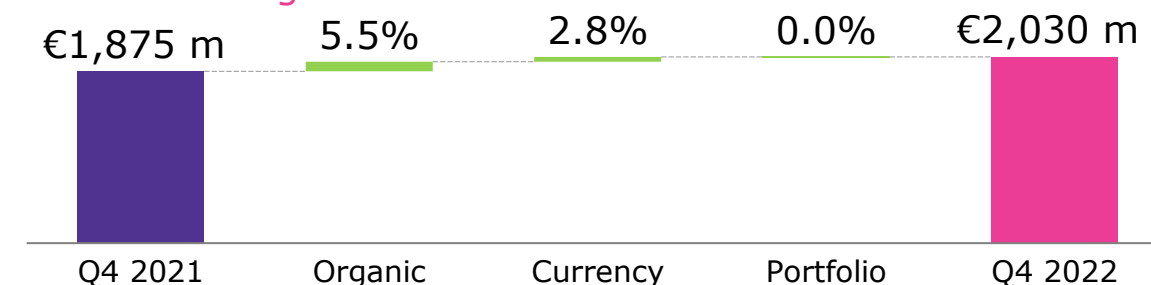
Healthcare P&L

[€m]	IFRS		Pre	
	Q4 2021	Q4 2022	Q4 2021	Q4 2022
Net sales	1,875	2,030	1,875	2,030
M&S*	-452	-439	-453	-429
Admin	-84	-77	-79	-69
R&D	-395	-465	-392	-421
EBIT	424	396	407	551
EBITDA	518	574	-	-
EBITDA pre	498	633	498	633
(in % of net sales)	26.6%	31.2%	26.6%	31.2%

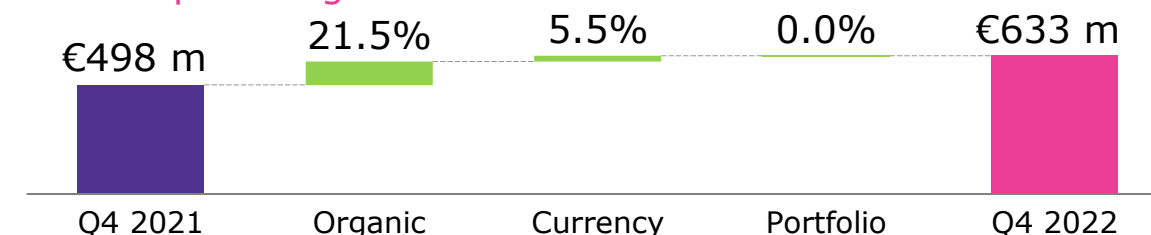
Comments

- Oncology up +11% org., driven by continued strong Bavencio® ramp-up (+39% org.) across regions. Erbitux about stable amid tougher comps (LY Eli Lilly supply agreement impact of +€10 m)
- Mavenclad® continued to grow +10% org., mostly offsetting Rebif® decline of -15% org.
- CM&E portfolio up +6% org., growing in all major products; Fertility rebounding to +11% org., supported by competitor stock-outs
- M&S declining as a % of sales and in absolute terms due to stringent cost control and lower DTC¹ spend while focusing on growth drivers
- R&D stable as a % of sales, in line with low twenties guidance; slight increase in absolute terms driven by new study initiations
- EBITDA pre growth (+21% org.) driven by sales momentum, prior year production yield fluctuations, income from BD deals and M&S cost focus

Net sales bridge



EBITDA pre bridge

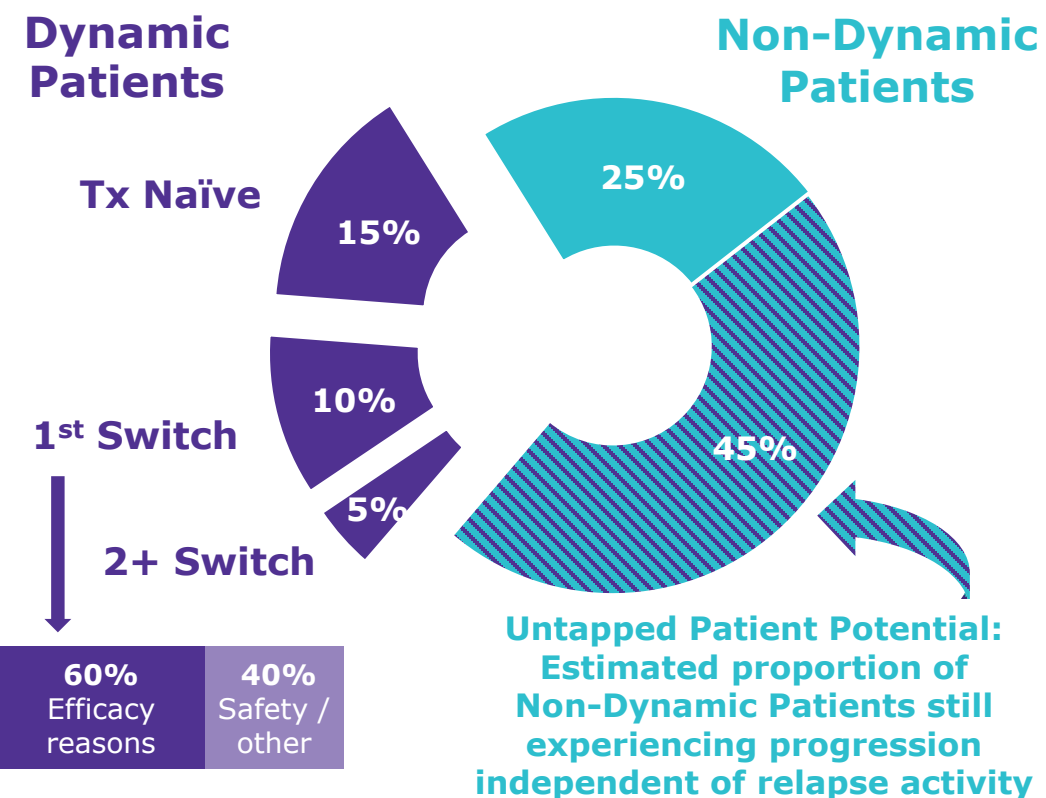


Healthcare: Evobrutinib could be the first to address significant unmet needs in RMS by tackling multiple drivers of disability progression

Evobrutinib could address Significant Unmet Needs in RMS

- **Majority of RMS patients continue to accumulate disability** independent of relapse activity due to inflammation within the CNS that **current treatments do not fully address**
- **Optimal patient benefit is achieved** by addressing both peripheral & inflammation within the CNS at the **earliest stages of the disease**
- **Merck developed Evobrutinib, a non-B cell depleting BTKi, for optimal efficacy and safety** via the largest Ph2 dose-finding study of any BTKi investigated in RMS
- **Aspire for Evobrutinib to be a market leader** due to high efficacy, addressing both relapses and drivers of PIRA, and a well-characterized safety profile

Treated RMS Patients (US RMS; 235k Treated Pts)*

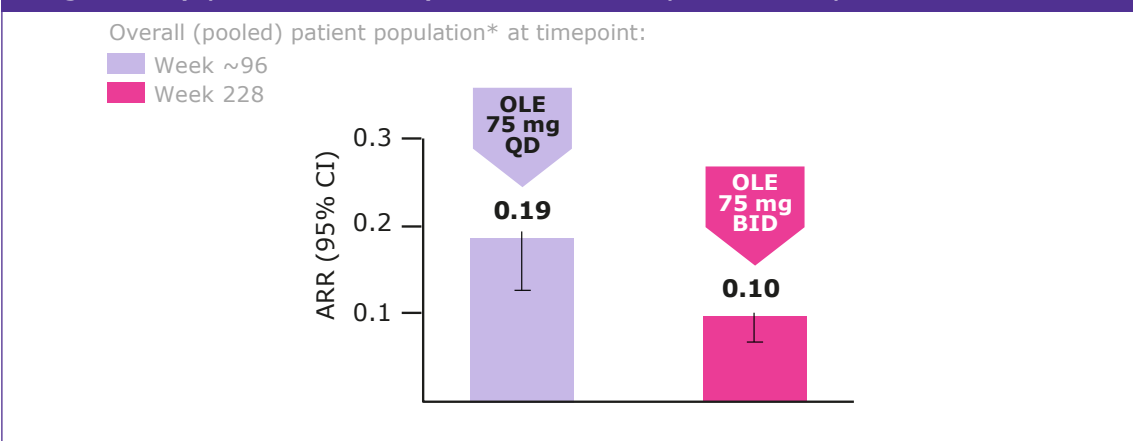


Acronyms: RMS: Relapsing-remitting MS | PIRA: Progression Independent of Relapse Activity

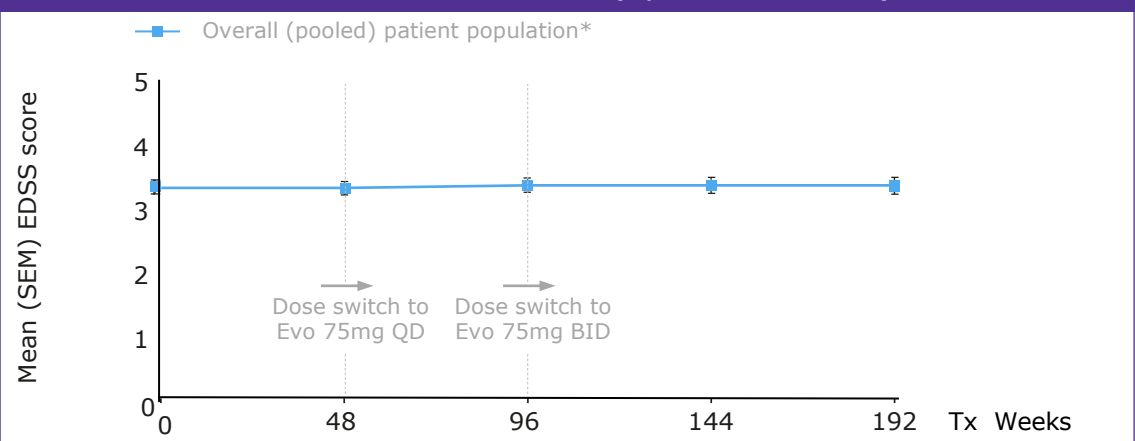
*Chart based on estimated RMS patient populations in the US sourced from IQVIA & IPSOS; Non-dynamic patient estimate informed by: 1. Lublin F et al. BRAIN 2022;145:3147-3161 2. Portaccio E et al. Brain 2022;00:1-10; 3. Bayas A et al. Mult Scler Relat Disord 2022;68:104166, 4. Ipsos US MS Monitor Report, Q2 2022, N = 111 physicians, 826 RMS patient records

Healthcare: Largest and longest Phase II dataset supports dual efficacy in RMS for Evobrutinib

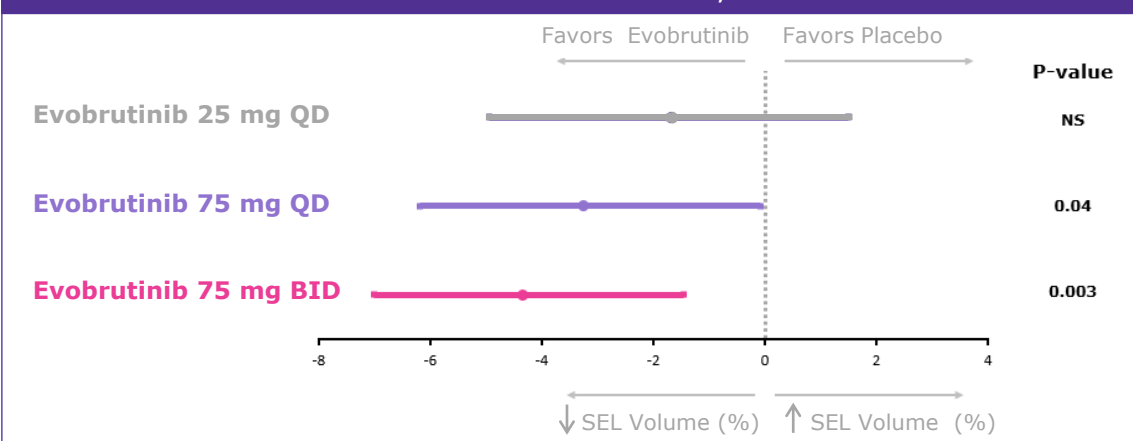
Long-term (up to Week 228) Control of Relapses in Ballpark of anti CD20's¹



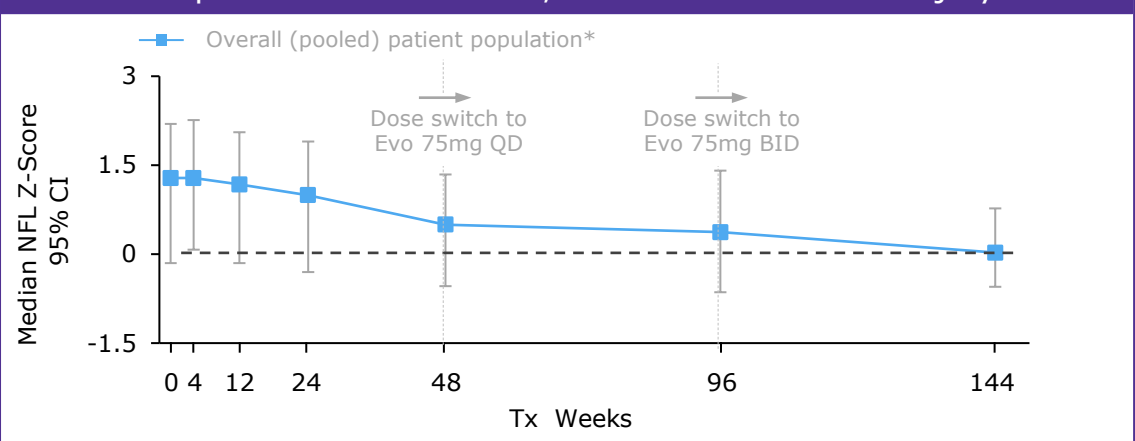
Stable EDSS over Time (up to Week 192)²



First to Show Reductions in SEL Volume, a Marker for PIRA³



Complete Reduction of sNFL, a Marker for Neuronal Injury⁴



Acronyms: ARR: Annualized relapse rate | BID: twice daily dosing | DBP: Double blinded period | EDSS: Expanded disability status scale | QD: once daily dosing | NFL: Neurofilament light polypeptide | OLE: Open label extension | SEL: Slowly Expanding Lesions | PIRA: Progression Independent of Relapse Activity | sNFL: Serum neurofilament light chain

*Five treatment arms during DBP (placebo with switch to Evobrutinib 25mg QD after 24 weeks; Evobrutinib 25mg QD; Evobrutinib 75mg QD; Evobrutinib 75mg QID; Dimethyl fumarate 240mg BID) of 48 weeks with subsequent switch of all patients to Evobrutinib 75mg QD (for a duration of 48.9 weeks) and another switch at week ~96 to Evobrutinib 75mg QID until final readout. DBP treatment arms were pooled for overall population depicted.

1&2. Xavier Montalban et al. ACTRIMS 2023 (Left graph: ARR: DBP and OLE (W0-228) OLE cut-off date: January 28, 2022 | Right graph: Mean EDSS score: DBP and OLE (W0-192) OLE cut-off date: January 28, 2022; 3. Arnold DL et al ECTRIMS 2021 [115]. 3. Arnold DL et al. AAN 2022 [S.14.009] 4. Kuhle J et al. ACTRIMS 2023



Electronics Q4: Strong Semi performance drives sector growth; Display weighs on margins

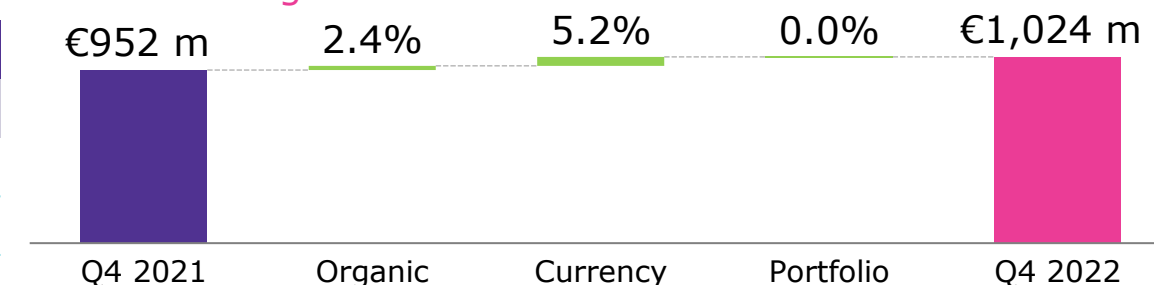
Electronics P&L

[€m]	IFRS		Pre	
	Q4 2021	Q4 2022	Q4 2021	Q4 2022
Net sales	952	1,024	952	1,024
M&S*	-154	-171	-152	-170
Admin	-35	-34	-33	-29
R&D	-72	-82	-72	-81
EBIT	140	135	166	170
EBITDA	282	283	-	-
EBITDA pre	300	308	300	308
(in % of net sales)	31.5%	30.1%	31.5%	30.1%

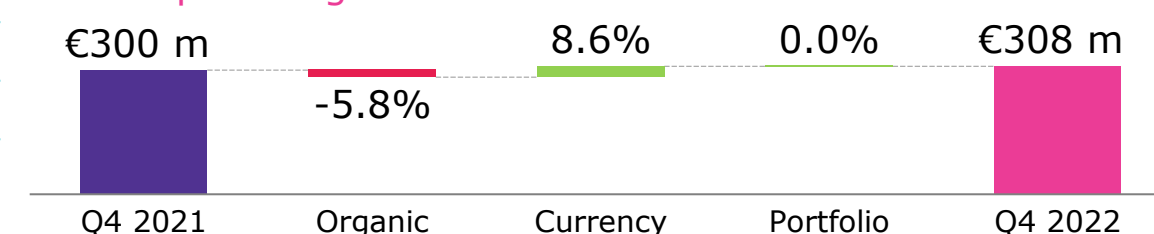
Comments

- Semiconductor Solutions: +12% org. fueled by double-digit growth in Materials and DS&S; further growth in DS&S also expected in 2023
- Display Solutions: down -21% org., driven by Liquid Crystals decline, amplified by lower customer capacity utilization following abatement of pandemic tailwind
- Surface Solutions: +6% org. growth driven by strong Coatings and Cosmetics business, more than offsetting somewhat softer industrials

Net sales bridge

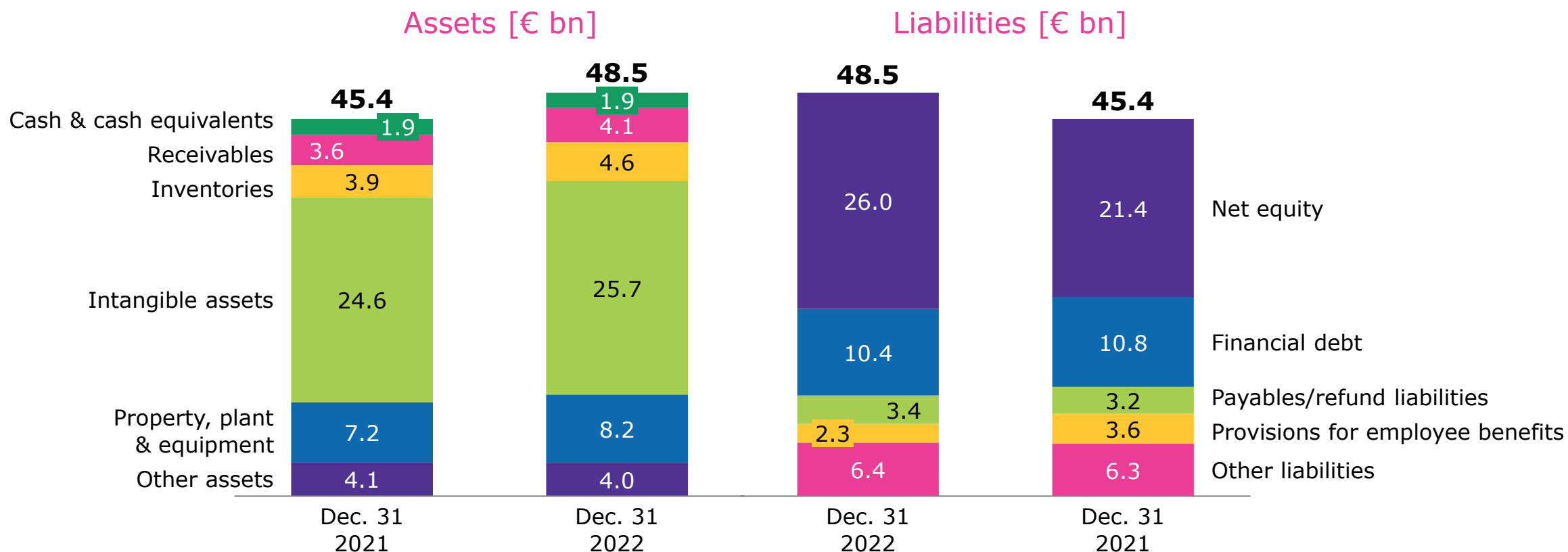


EBITDA pre bridge



- M&S slightly up as a % of sales, entirely due to higher logistics cost
- R&D increase in line with sales growth, driven by continuous investments with focus on future growth of Semi Materials, elevated by FX
- EBITDA pre declining organically primarily due to inflationary pressures and reduced contribution from Display Solutions, while Semi margins remain intact; further support from FX

Balance sheet

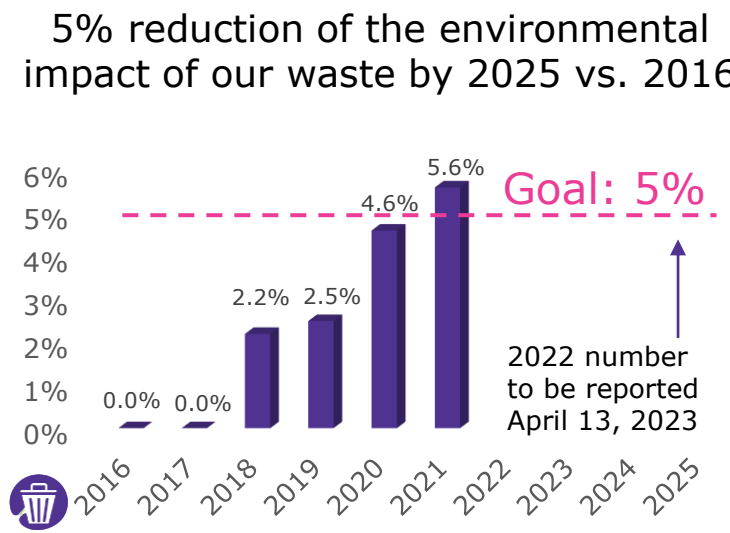
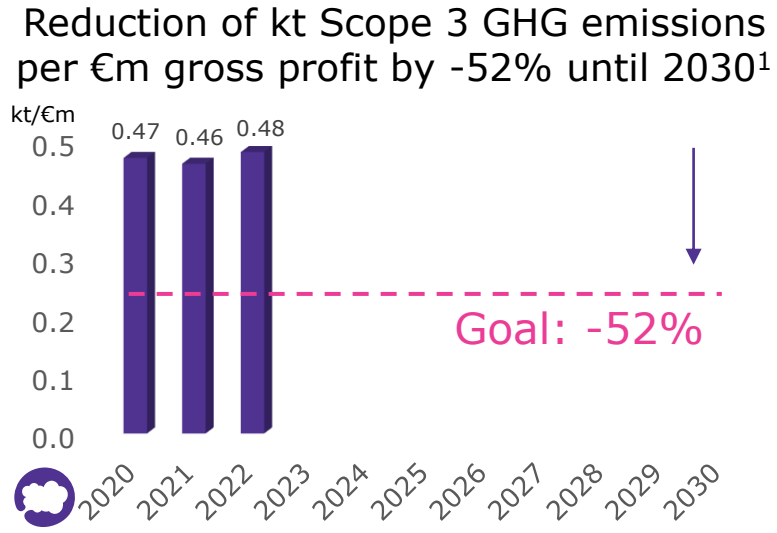
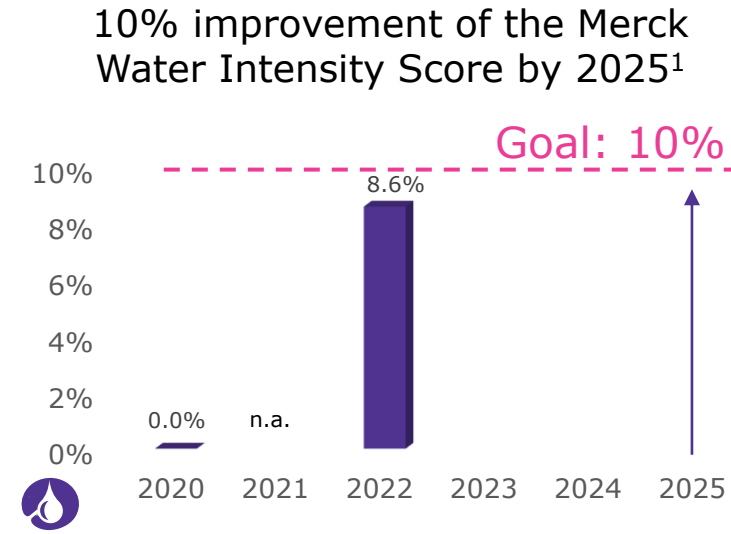
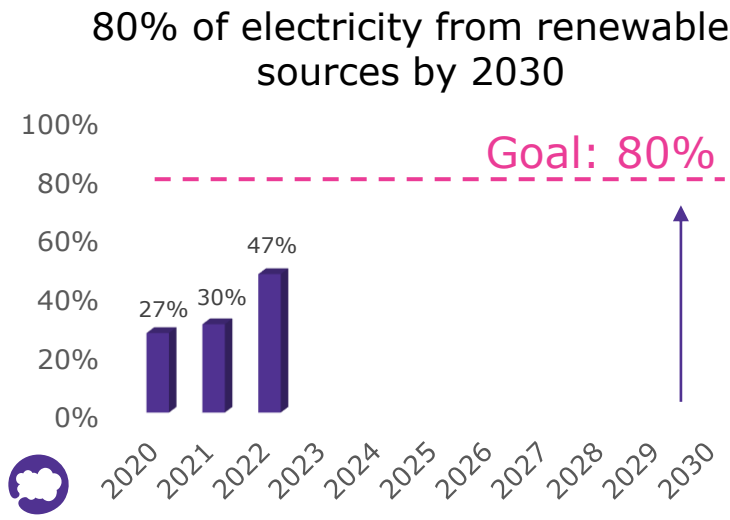
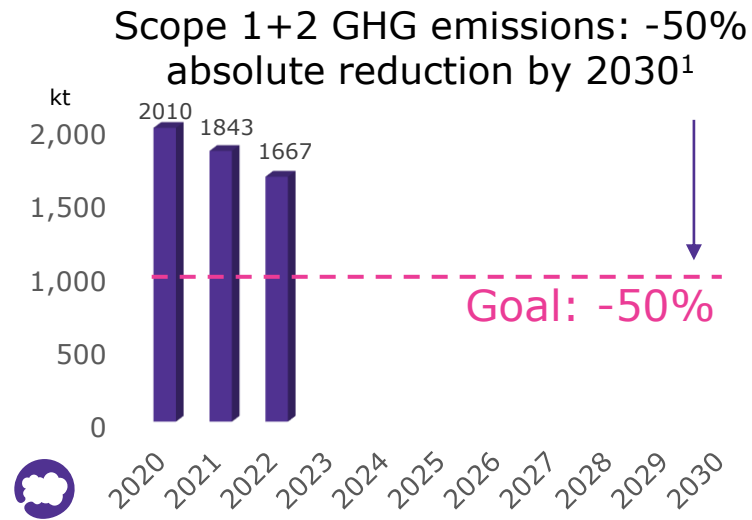


- Receivables & inventories driven by strong sales, inflationary effects, higher stock levels, and FX
- Higher intangible assets driven by FX effects and Exelead acquisition
- Cash levels stable year-on-year
- Reduction in provisions for employee benefits driven by actuarial gains from higher interest rates
- Equity ratio further up to 54% (vs 47% in 2021), driven by retained earnings, actuarial gains and translational FX effects

04

ESG
update

Environmental targets on track, mitigating growth-related impact

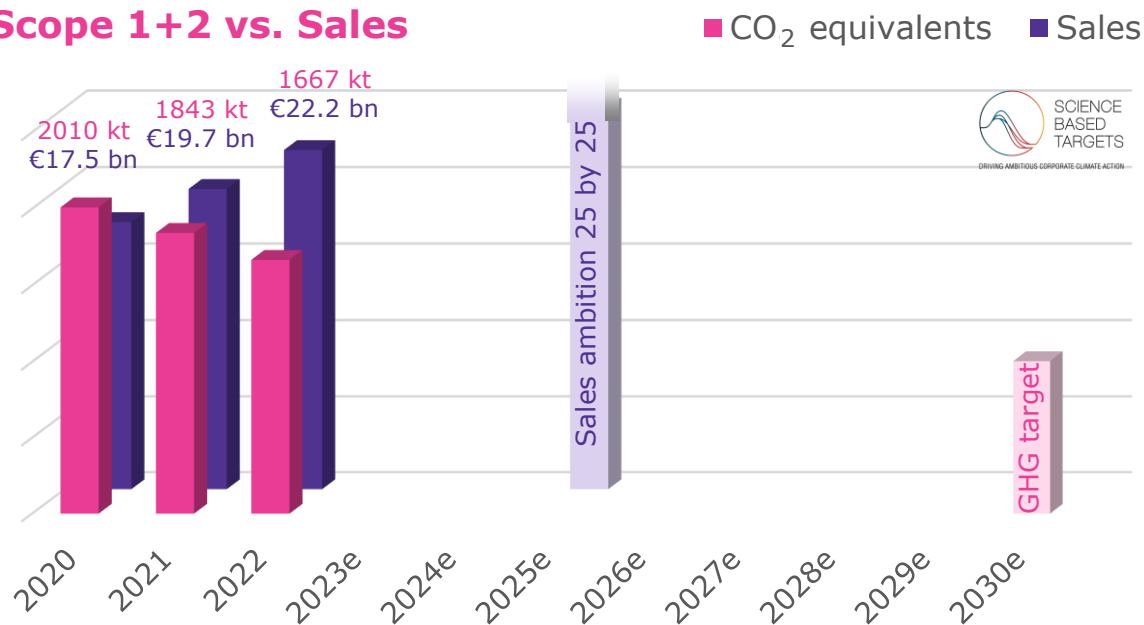


Environmental targets on track

- Targeted investments and initiatives show positive results
- Mitigation from growth-related impact challenging for Scope 3
- Water quality 2030 initiatives progressing: Step 1 “Identification of relevant sites” completed

Reduction of GHG emissions on track; technology roll-out ahead for NF₃ reduction

Scope 1+2 vs. Sales



- Lower **Scope 1+2** GHG¹ emissions by **-50%²** by 2030
- Cover **80% of our purchased electricity** with renewables by 2030
- Intensity **reduction of Scope 3** per € gross profit by **-52% by 2030²**
- **Climate neutrality by 2040**

Scope 1 reduction (-6.4% to 1,425 kt in 2022):

- Business growth more than offset by improved production processes
- NF₃ reduction technology roll-out ahead, pilots successful

Scope 2 reduction (-24.6% to 242 kt in 2022):

- Energy efficiency program developing well
- 47% of purchased electricity covered by renewables (30% in 2021), VPPA³ and photovoltaics producing renewable energy

Scope 3 intensity: Slight increase to 0.48 (kt CO₂ equivalents per €m gross profit) in 2022 using a spend-based approach (0.46 in 2021)

- Supplier decarbonization program
- Development of product carbon footprint methodology underway



05

outlook & Guidance

Full-year 2023 guidance

Net sales:

Slight to solid organic growth
(ex-COVID: solid to strong organic growth)
Adverse FX of -1% to -4% YoY

EBITDA pre:

Organically from moderate decline to about stable
Adverse FX of -1% to -4% YoY

2023 business sector guidance¹

Life Science

Net sales

- Slight to moderate organic growth
- Solid to strong organic growth in core business (ex-COVID)
- Process Solutions as main contributor to core growth
- Total COVID-19 sales of ~€250 m (vs. ~€800 m in 2022)
- Slight to moderate adverse FX

EBITDA pre

- Organic moderate decline up to about stable
- Slight adverse FX

Healthcare

Net sales

- Moderate to solid organic growth
- Driven by recent launches
- Complemented by CME & Fertility
- Slight to moderate adverse FX

EBITDA pre

- Slight to moderate organic growth
- High single digit to low teens adverse FX

Electronics

Net sales

- Slight to solid organic growth
- Based on industry consensus of a Semi market recovery in H2 2023
- Semi expected to continuously outperform MSI
- Low utilization at Display customers into H1
- Slight to moderate adverse FX

EBITDA pre

- Slight to strong organic decline
- Significant adverse FX

Appendix

Additional financial guidance 2023

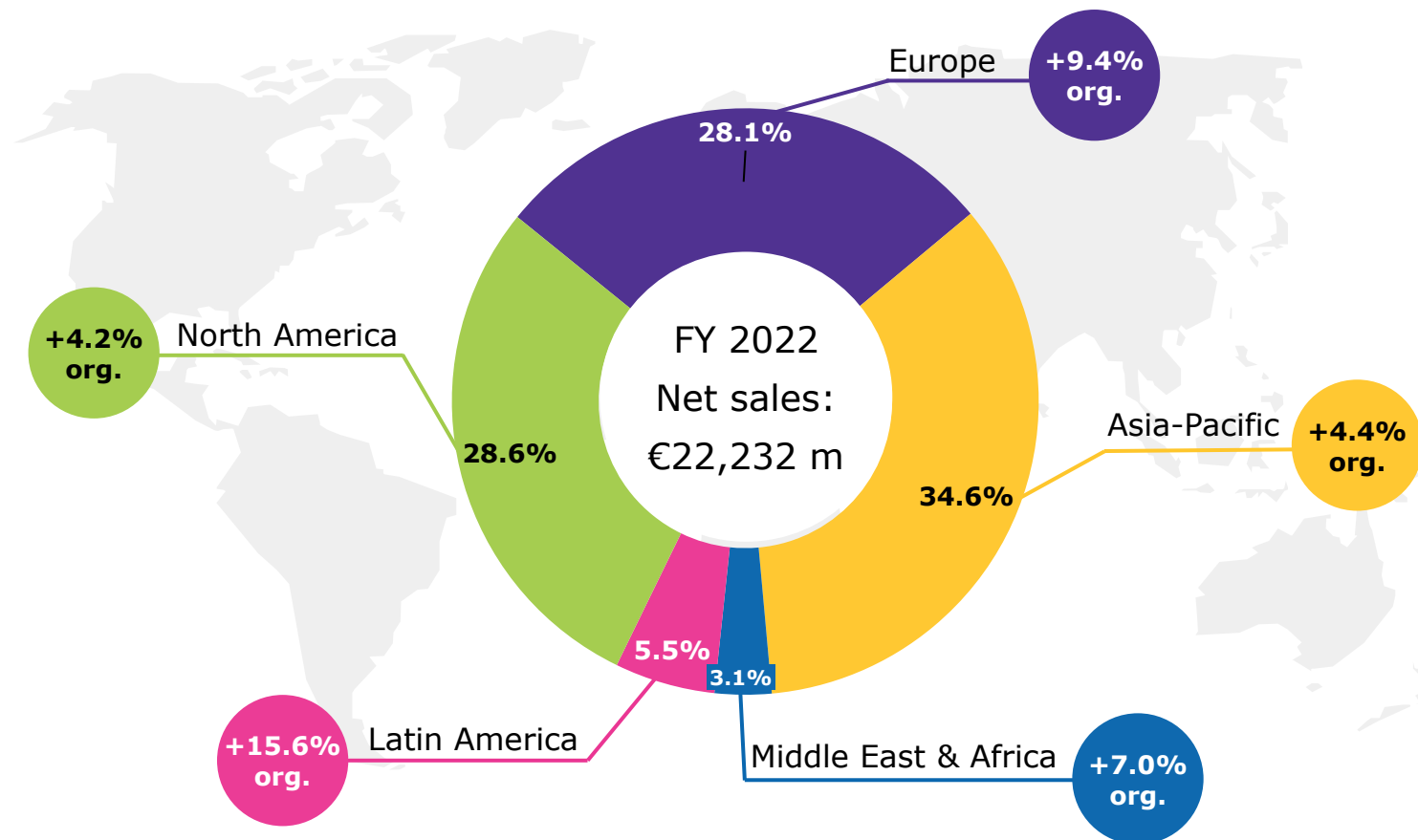
Further financial details

Corporate & Other EBITDA pre	Lower costs driven by hedging
Interest result	~ €-90 m to -130 m
Effective tax rate	~ 21% to 23%
Capex on PPE ¹	~ €1.8 to 2.0 bn
Hedging	FY 2022 overall hedge ratio ~50% EUR/USD hedging @ ~1.07
2023 Ø EUR/USD assumption	~ 1.07 to 1.11

¹Based on gross additions to PPE on balance sheet (excl. leasing) in fiscal year to reflect planned Capex expansion more accurately

Europe fastest growing major region; Life Science primary growth driver in all major regions

Regional breakdown of net sales

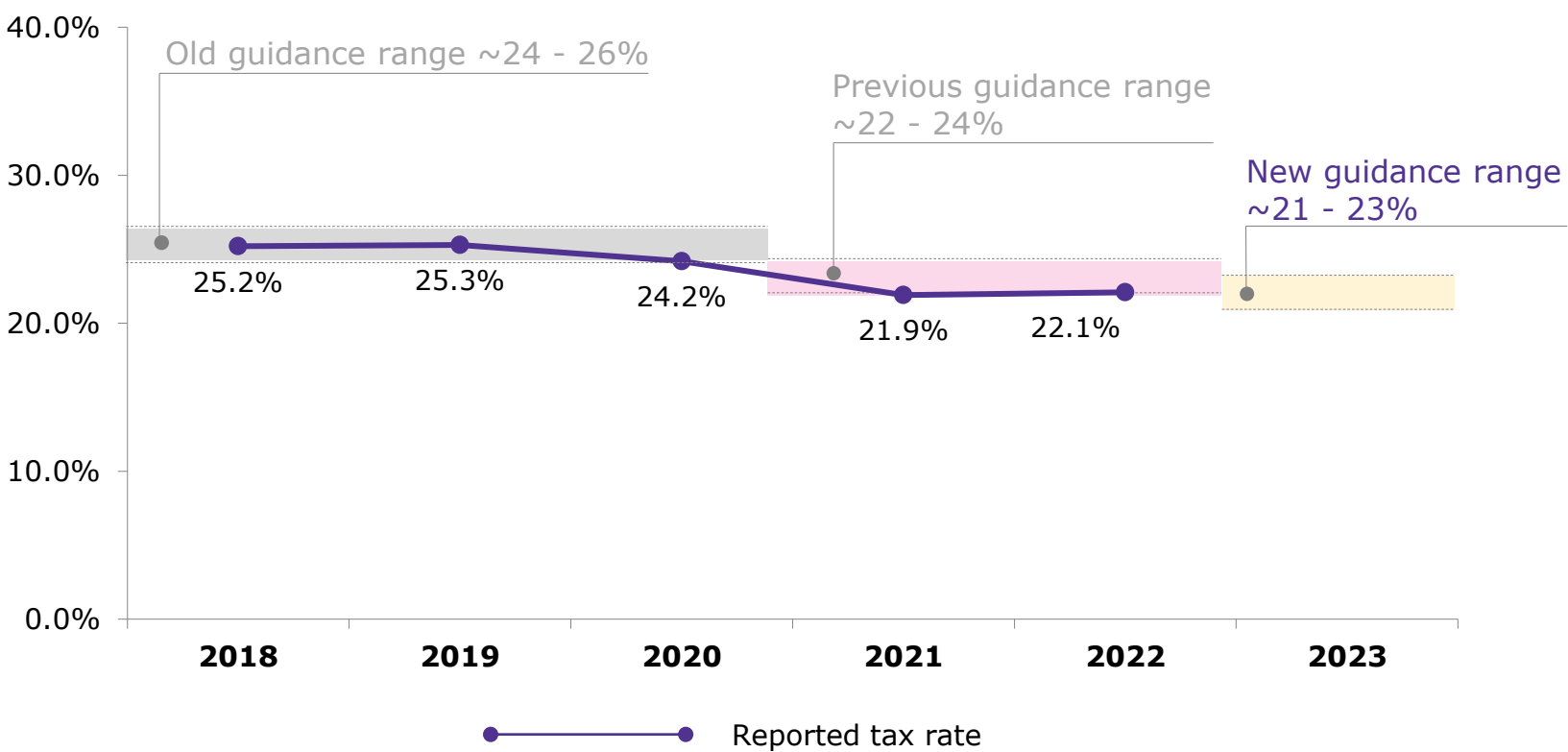


Regional organic development

- APAC: Double-digit growth in Semi and strong Healthcare and SLS performance more than offset Display decline
- North America: Life Science main growth driver, backed by all business units
- Europe: Process Solutions and recent Healthcare launches major growth drivers
- LATAM: Strong Healthcare driven by CM&E, further supported by Life Science
- ME&A: Growth driven by all sectors

Underlying tax rate guidance lowered further to new range of 21% to 23%

Tax rate development 2018-2022; guidance for 2023

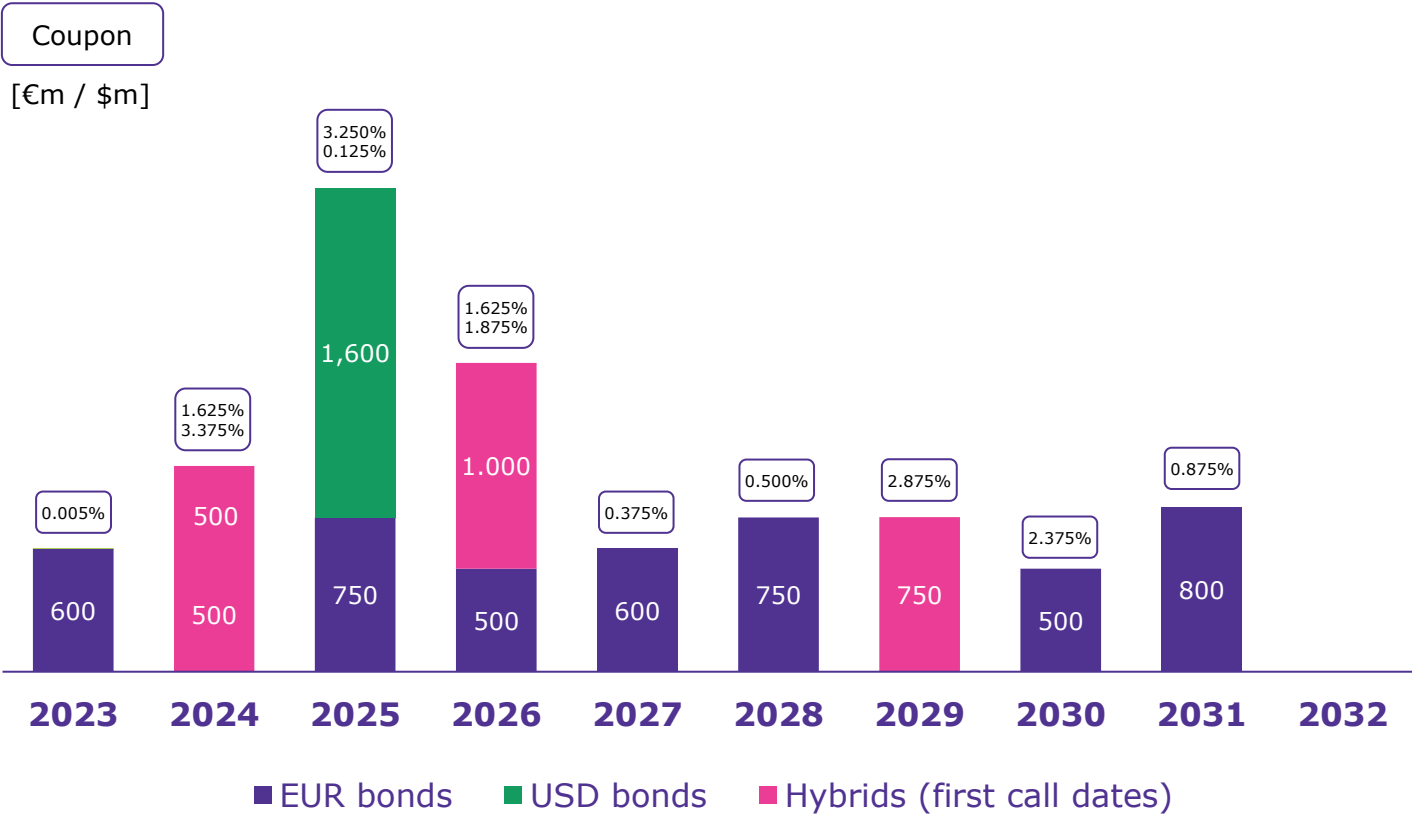


Rationale for update

Change in country mix, in particular a higher profit share in the U.S., leading to a lower overall tax rate

Credit details

Maturity profile as of December 31, 2022



Credit rating information

	LT Rating	Last LT Rating Change	Outlook	ST Rating
Moody's	A3	21.10.21	Stable	P-2
S&P Global	A	29.05.13	Stable	A-1
SCOPE	A	17.10.22	Stable	S-1

Clear metrics to drive execution and progress towards 2030 ambition

				Sustainability Report to be published April 13, 2023
Goal	Metric	2022 (2021)	Target	
1	Percentage of newly published patent families with positive sustainability impact	27%	n.a.	
	People treated with our Healthcare products*	April 13 (165 mio)	1 bn people ambition ¹ : HC	
2	Percentage of women in leadership positions	38% (36%)	Gender parity by 2030 ²	
	Percentage of employees trained on sustainability	83%	n.a.	
	Percentage of relevant suppliers covered by valid sustainability assessment*	46%/82% (33/74) ³	visible increase by 2024	
	Environment, Health and Safety (EHS) Incident Rate	2.8 (3.9) ⁴	As low as possible	
	Violations of Global Social and Labor Standards Policy	68 (41) ⁵	n.a.	
	Lost Time Injury Rate (LTIR)	1.2 (1.2) ⁶	<1.0 by 2025	
3	Greenhouse gas emissions Scope 1+2*	1,667 kt (1,843 kt)	-50% by 2030 ⁷	
	Scope 3 intensity: kg Greenhouse gas emissions per € gross profit	0.48 (0.46)	-52% intensity by 2030 ⁸	
	Percentage purchased electricity covered by renewable resources	47% (30%)	80% by 2030	
	Merck Waste Score (WS)	April 13 (-5.6)	-5% by 2025 ⁹	
	Merck Water Intensity Score (WIS)	-8.6%	-10% by 2025 ¹⁰	
	Wastewater quality: no harmful emission residues	April 13	100% completion by 2030 ¹¹	

*LTIP relevant

¹incl. HC portfolio +praziquantel don.
²considers room for non-binary people
³by a)number, b)supplier spent, restated 2021 new risk assessment
⁴incidents + severity vs. man-hours, restated 2021 using broader base

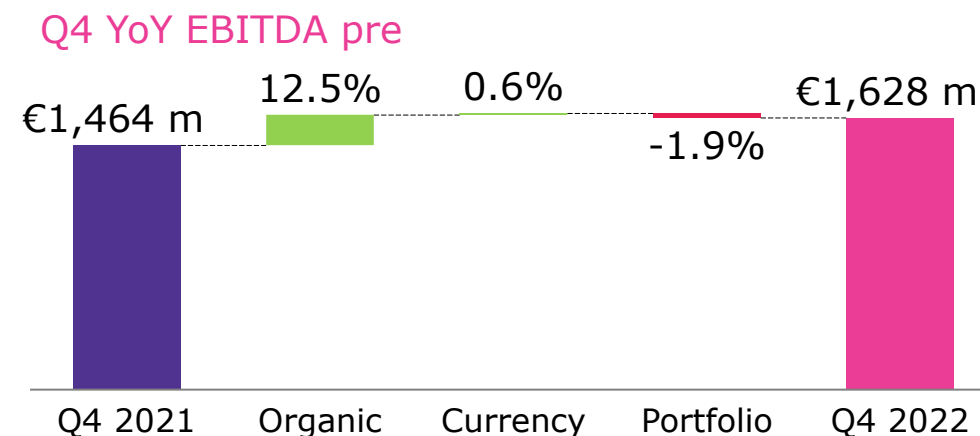
⁵confirmed violations
⁶accidents with min. 1 day of missed work per 1 mio. man-hours
⁷vs. 2020 2,028 kt CO₂e
⁸vs. 2020 0.48 intensity ratio (kg scope 3 emissions per € gross profit)

⁹vs. 2016 WS 443
¹⁰vs. 2020 WIS considering local availability of water and no. of man-hours, w/o Gernsheim (regulatory obligations)
¹¹below scientifically defined threshold

Q4 2022: Sales growth of 9% driven by growth across all sectors; organic performance further supported by FX

Q4 YoY Net Sales	Organic	Currency	Portfolio	Total
Life Science	4.2%	4.3%	0.7%	9.2%
Healthcare	5.5%	2.8%	0.0%	8.3%
Electronics	2.4%	5.2%	0.0%	7.5%
Group	4.3%	3.9%	0.3%	8.6%

- Life Science: +4% organic sales growth, mainly driven by strong performance in Process Solutions (+10% org.), further supported by SLS (+4% org.)
- Healthcare: sales up +5% organically, driven by Oncology (+11% org.) and complemented by solid growth both in CM&E and Fertility
- Electronics: +2% organic sales growth led by Semiconductor Solutions (+12% org.), partially offset by decline in considerably smaller Display Solutions business (-21% org.)



- EBITDA pre growing +12% org. despite increasing input costs for raw materials, energy and logistics
- Healthcare main driver of organic EBITDA pre growth in Q4 due to soft comps
- Negative portfolio effect due to Exelead acquisition

Q4 2022: Overview

Key figures

[€m]	Q4 2021	Q4 2022	Δ
Net sales	5,213	5,660	8.6%
EBITDA pre	1,464	1,628	11.2%
Margin (in % of net sales)	28.1%	28.8%	0.7pp
EPS pre	2.06	2.32	12.6%
Operating cash flow	1,045	1,015	-2.8%

[€m]	Q4 2021	Q4 2022	Δ
Net financial debt	-8,753	-8,328	-4.9%
Working capital	4,207	5,237	24.5%
Employees	60,335	64,233	6.5%

Comments

- Net sales up +9%, driven by solid org. performance in Healthcare and Life Science and positive FX tailwinds
- EBITDA pre up +11%, driven by margin development in Healthcare
- EBITDA pre contribution main driver for EPS pre improvement
- Working capital driven by receivables from business development and inventories from inflationary effects & higher stock levels
- Headcount mainly driven by Life Science

Q4 2022: Reported figures

Reported results

[€m]	Q4 2021	Q4 2022	Δ
EBIT	1,039	890	-14.4%
Financial result	-47	-50	7.8%
Profit before tax	992	839	-15.4%
Income tax	-185	-180	-3.0%
<i>Effective tax rate (%)</i>	18.7%	21.4%	2.7pp
Net income	802	655	-18.3%
EPS (€)	1.84	1.51	-17.9%

Comments

- EBIT decline despite higher gross profit due to higher R&D spending and impairments
- Lower profit before tax reflects lower EBIT
- Tax rate temporarily below guidance corridor as FY closes above the lower end
- Lower net income and EPS reflect lower EBIT and higher tax rate

Q4 2022: Cash flow statement

Cash flow statement

[€m]	Q4 2021	Q4 2022	Δ
Profit after tax	807	659	-147
D&A	474	599	125
Changes in provisions	-50	154	204
Changes in other assets/liabilities	-192	-313	-121
Other operating activities	17	5	-12
Changes in working capital	-11	-89	-78
Operating cash flow	1,045	1,015	-30
Investing cash flow	-352	-246	106
thereof Capex on PPE	-199	-459	-260
Financing cash flow	-319	-498	-179

Comments

- Decline in profit after tax driven by decreased EBIT and higher tax rate
- Higher D&A mainly driven by impairments in relation to Healthcare R&D, FX and higher PPE investments
- Changes in provisions mainly due to lower LY restructuring provisions
- Delta in other assets & liabilities related to higher LY prepayments received and non-income related tax
- Higher capex on PPE driven by capacity expansion in key portfolios
- Financing cash flow driven by ongoing deleveraging

FY Life Science: Sales crossing €10bn, mainly driven by strong performance of core business (+14% org.) and supported by FX

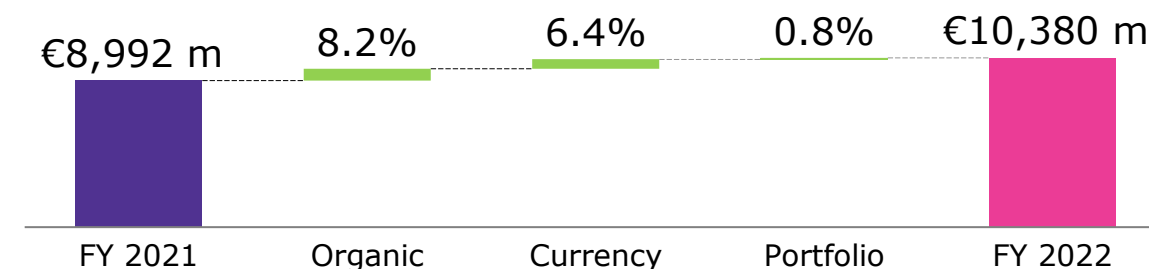
Life Science P&L

[€m]	IFRS		Pre adjustments	
	FY 2021	FY 2022	FY 2021	FY 2022
Net sales	8,992	10,380	8,992	10,380
M&S*	-2,119	-2,400	-2,114	-2,384
Admin	-352	-400	-331	-377
R&D	-351	-399	-349	-399
EBIT	2,480	2,808	2,520	2,914
EBITDA	3,258	3,678	-	-
EBITDA pre	3,287	3,760	3,287	3,760
(in % of net Sales)	36.6%	36.2%	36.6%	36.2%

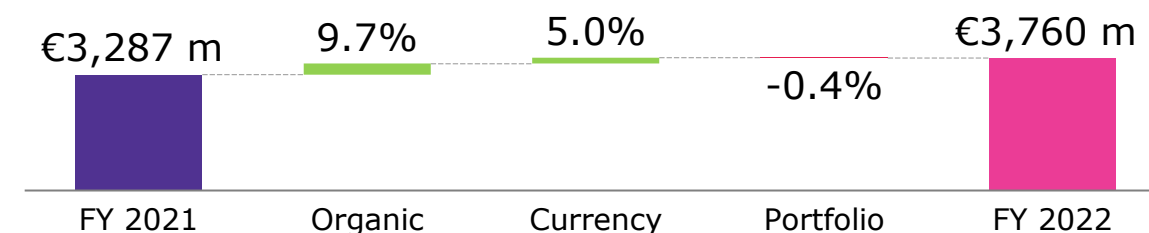
Comments

- Process Solutions: +11% org. growth, reflecting excellent core business performance (+23% org.), especially bioprocessing with lead times improving; COVID-19 business declining as anticipated
- Science & Lab Solutions: growing +6% organically across majority of portfolio, supported by positive pricing and robust demand
- Life Science Services: +6% org. growth led by Contract Testing
- M&S as a % of sales about stable (~23%); logistics costs largest organic driver of absolute increase, further elevated by FX
- R&D about stable as % of sales, reflecting ongoing investments in strategic projects, e.g. intensified and continuous bioprocessing
- EBITDA pre growing +10% org. and above sales; slight margin decline largely due to FX

Net sales bridge

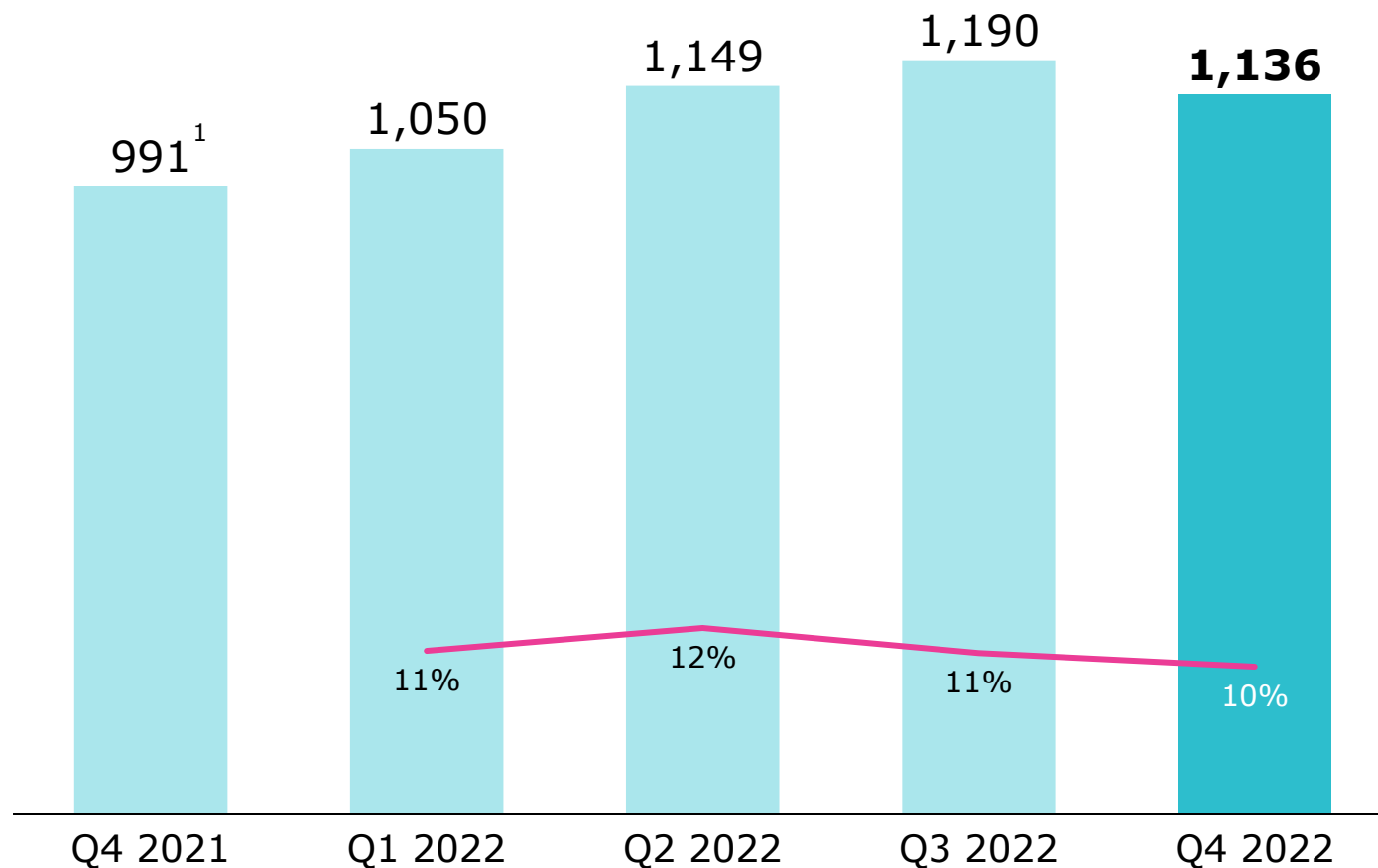


EBITDA pre bridge



Process Solutions: Double-digit growth again despite fading COVID-19 demand

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

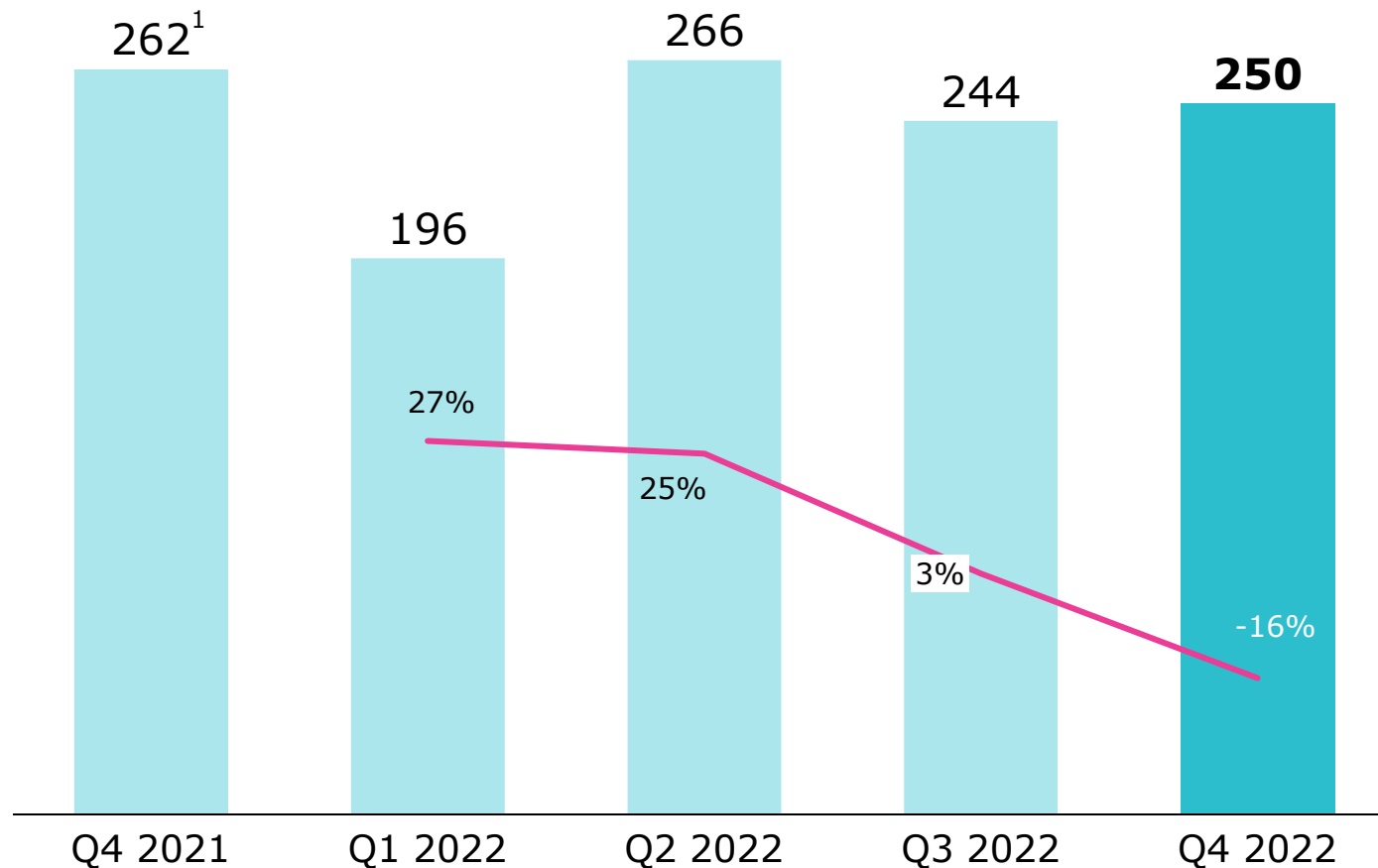


- **Continuously strong core business** (+24%) drives double-digit organic sales growth in Q4
- As expected, **COVID-19 sales significantly down YoY and down QoQ**
- **Core business growth with initial signs of normalization** after peak in Q3
- **Strong demand in Bioprocessing** more than offsetting decline in Process & Formulation Materials (due to COVID-19)
- **All regions growing** with NA as main growth driver, followed by Europe
- **Book-to-bill remains slightly below 1;** however, order intake up sequentially vs Q3 driven by the core

¹2021 figures have been adjusted owing to the reorganization of the LS business sector as well as to product reallocations between the Life Science and Electronics business sectors.

Life Science Services: Near-term volatility but mid-term prospects intact

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

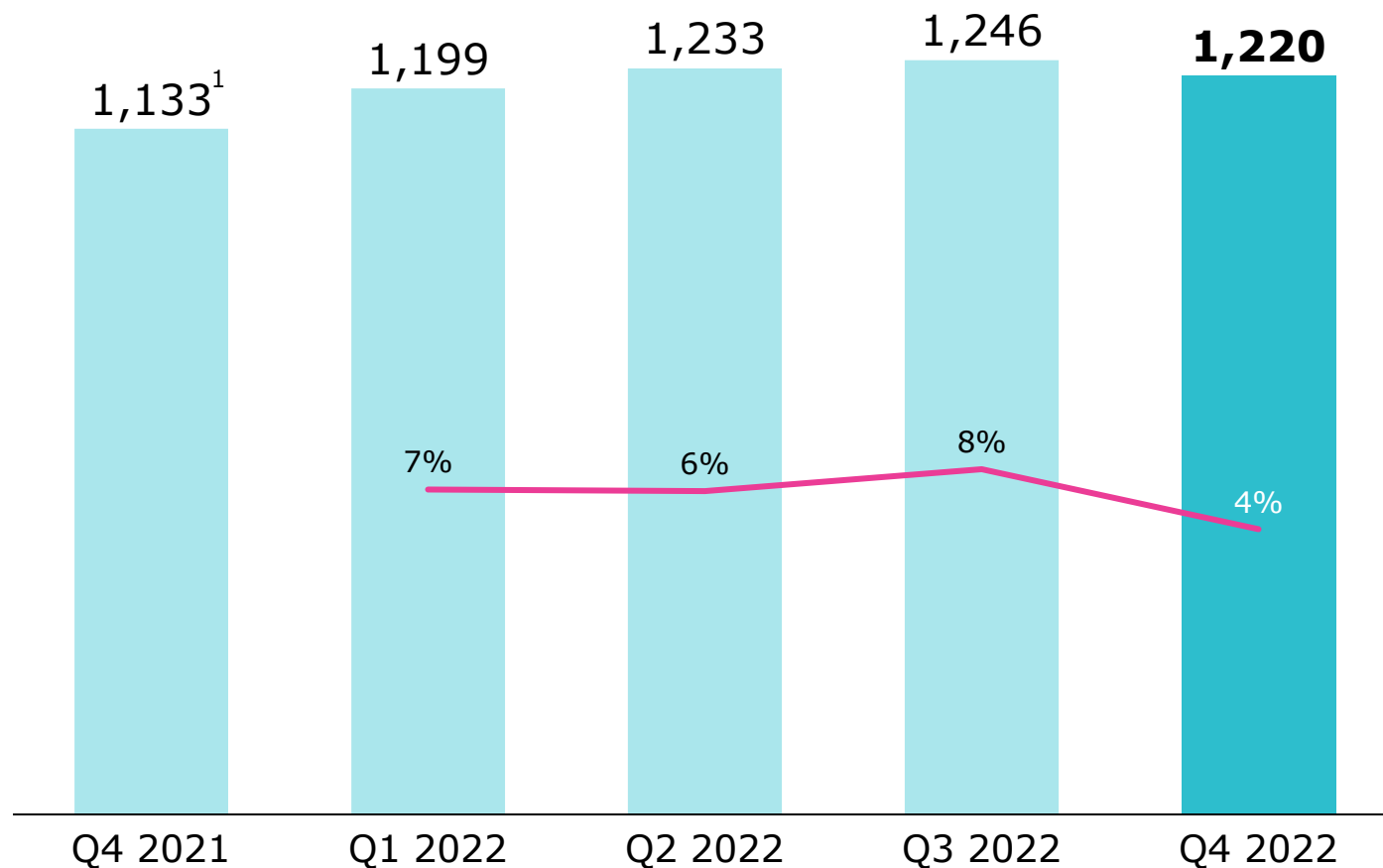


- **Core business down** in Q4 (-9%) amid tough comps and **near-term volatility in CDMO**, esp. unfavorable batch phasing and attrition in clinical pipelines of customers
- **COVID-19 business starting to decline** on lower demand for vaccines, with only minor sales expected in coming quarters
- **Double-digit growth in contract testing** not compensating for temporary CDMO revenue dip
- **CDMO mid-term prospects remain compelling** despite near-term volatility, supported by dynamic early-stage customer wins

¹2021 figures have been adjusted owing to the reorganization of the LS business sector as well as to product reallocations between the Life Science and Electronics business sectors.

Science & Lab Solutions: Solid core business, COVID-19 with modest negative effect

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



- **Solid core business** in Q4 (+5% org.) with robust demand across franchises, regions and customer segments
- **Pull-forward effect in Q3** ahead of pricing round **slightly weighing on Q4 growth**
- **COVID-19 business waning**, down YoY and stable QoQ
- **Positive pricing** and **robust operational performance** across the board
- Most franchises growing; **strongest growth in Lab Water and Chemistry**
- **Growth in all regions** with APAC as key driver; NA and Europe with low single-digit growth

¹2021 figures have been adjusted owing to the reorganization of the LS business sector as well as to product reallocations between the Life Science and Electronics business sectors.

FY Healthcare: recent launches drive organic growth of +6%, building on a solid established portfolio

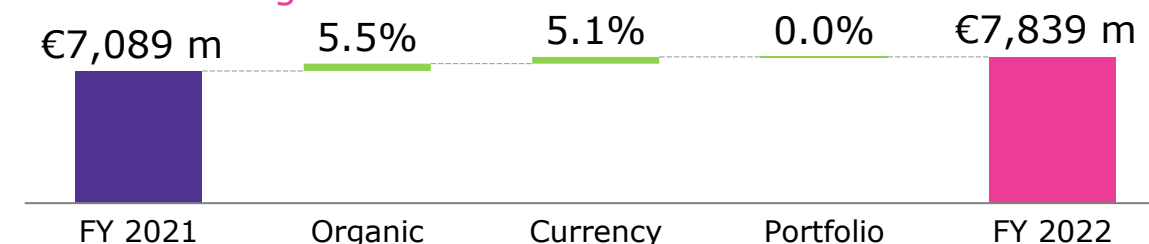
Healthcare P&L

[€m]	IFRS		Pre	
	FY 2021	FY 2022	FY 2021	FY 2022
Net sales	7,089	7,839	7,089	7,839
M&S*	-1,600	-1,644	-1,593	-1,631
Admin	-313	-313	-302	-296
R&D	-1,712	-1,694	-1,707	-1,622
EBIT	1,823	1,895	1,836	2,173
EBITDA	2,146	2,385	-	-
EBITDA pre	2,153	2,477	2,153	2,477
(in % of net sales)	30.4%	31.6%	30.4%	31.6%

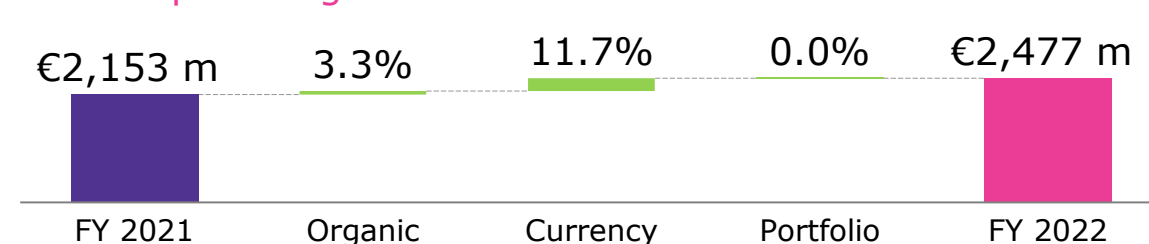
Comments

- Oncology up +17% org., driven by Bavencio® growth of +58% org.; Erbitux® increase of +3% org. against elevated comps due to prior year Eli Lilly supply agreement (+€59 m)
- Mavenclad® growth of +17% org. primarily driven by sales in Europe, balancing Rebif® decline of -13% org.
- Solid CM&E performance of +4% org. in line with mid-term guidance, Fertility growing +4% org. amid headwinds from China lockdowns
- M&S declining as a % of sales; about flat in absolute terms despite increased face-to-face activities
- R&D in low-twenties as a % of sales; lower R&D in absolute terms from winding down bintrafusp studies, partly offset by ramping up evobrutinib and xevinapant activities and new study initiations
- EBITDA pre +3% org. growth amid strong tailwinds from FX

Net sales bridge

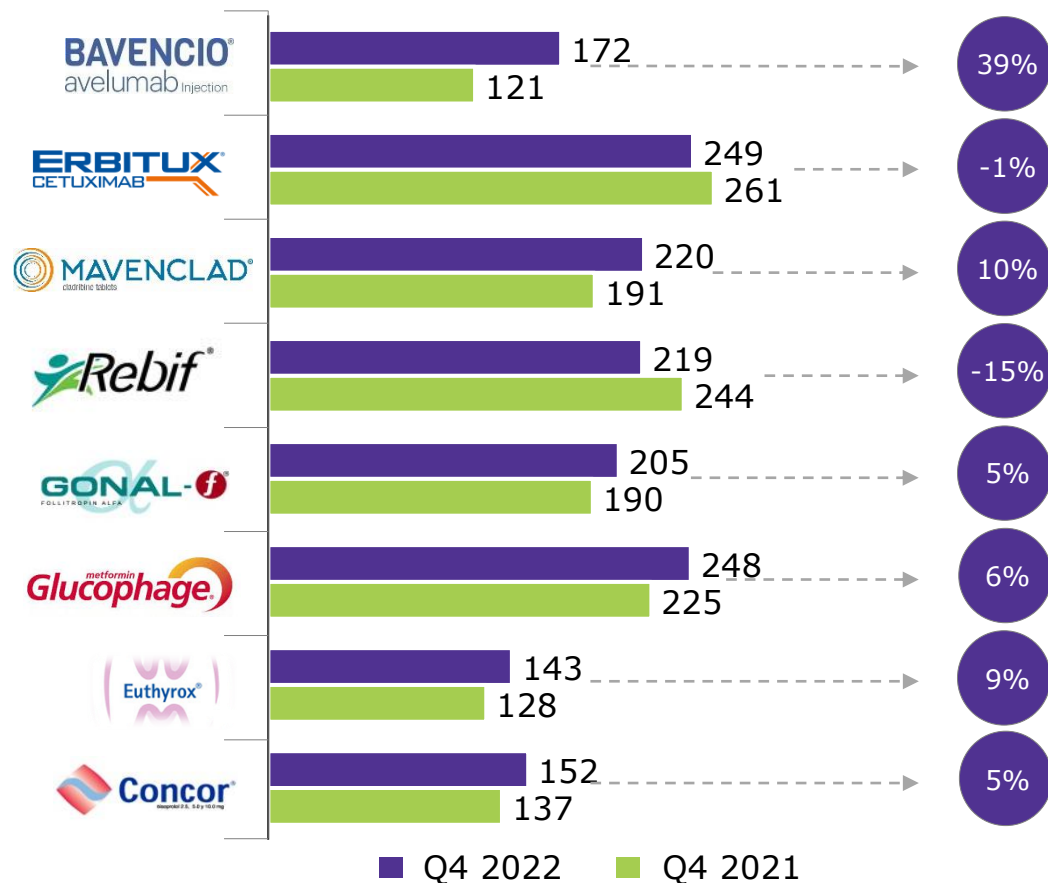


EBITDA pre bridge

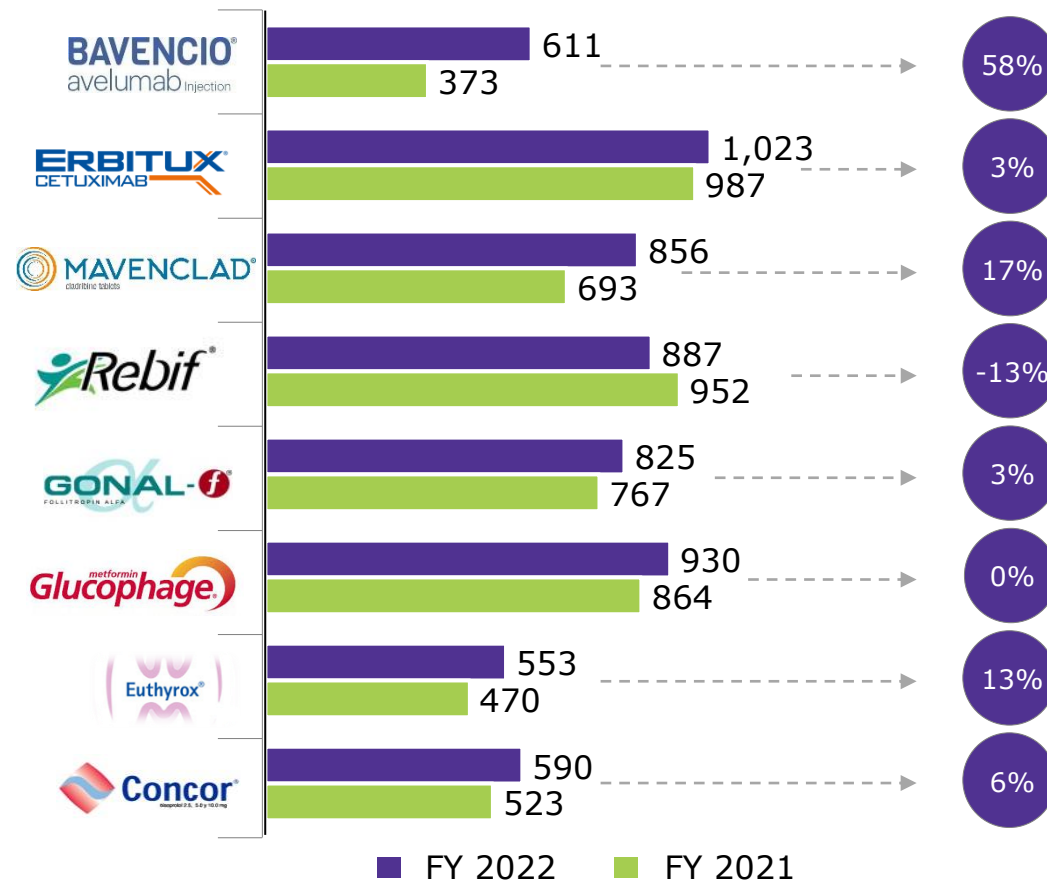


Healthcare organic growth by franchise/product

Q4 2022 organic sales growth [%]
by key product [€m]

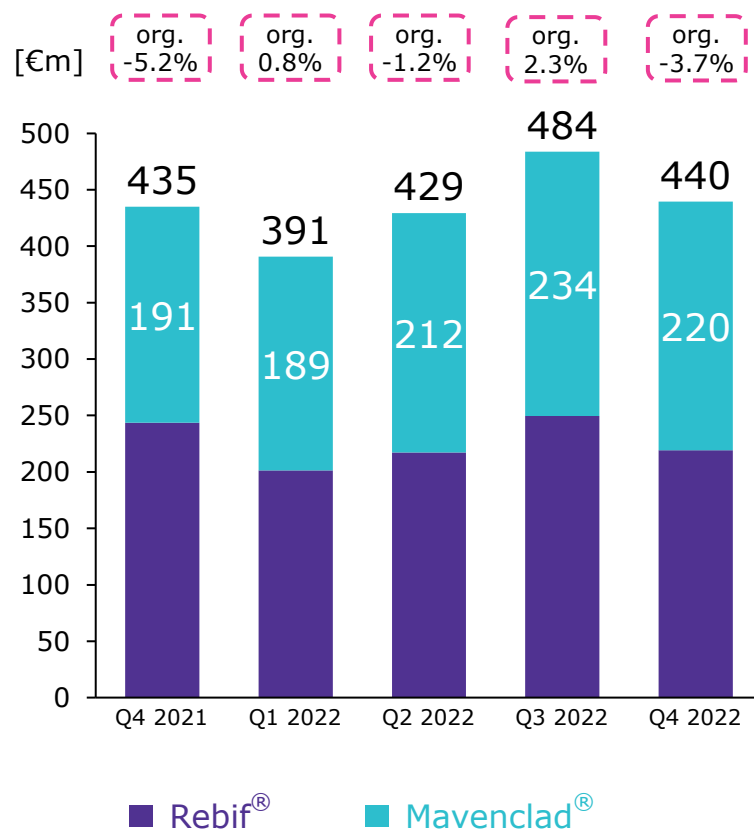


FY 2022 organic sales growth [%]
by key product [€m]

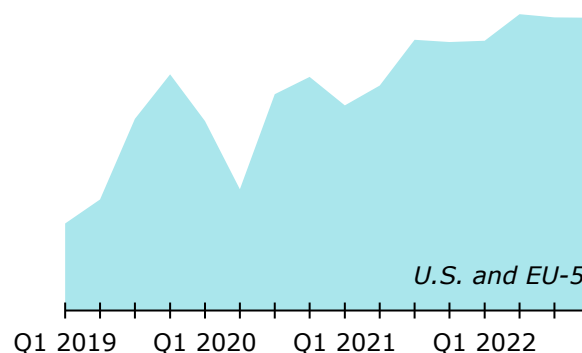


Neurology & Immunology: FY Mavenclad® sales up +17% organically, balancing Rebif® decline of -13%

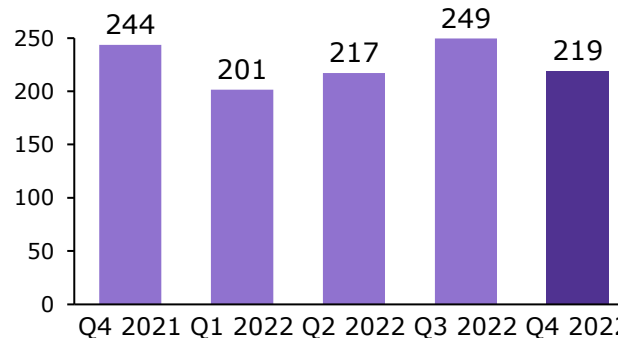
Sales development N&I, [€m]



Mavenclad® Y1+Y2 patients¹



Rebif® net sales, [€m]



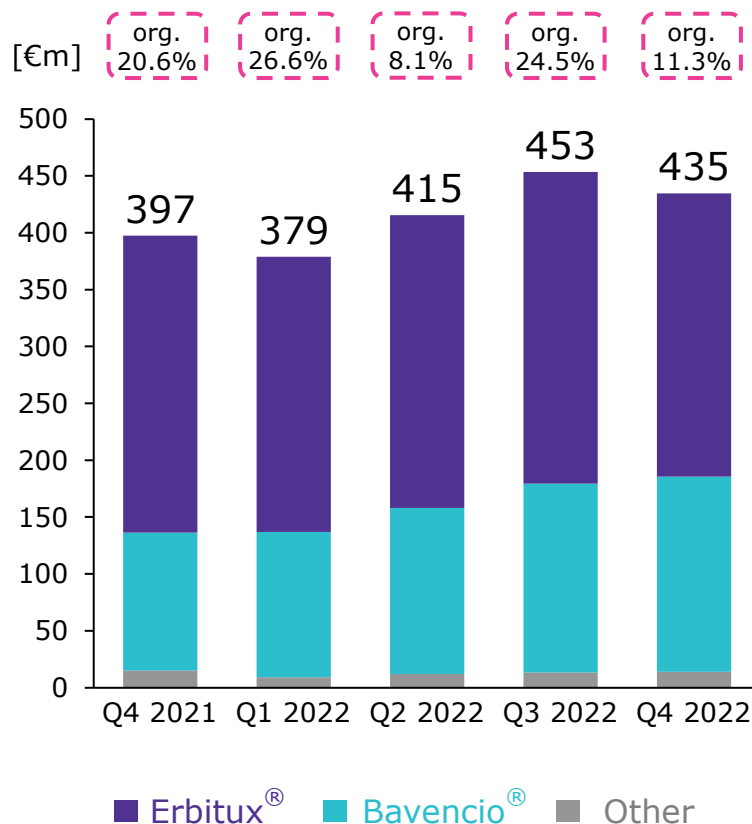
- Mavenclad® most prescribed oral HE drug in the U.S. and EU-4 in dynamic market segment²
- Higher efficacy than other oral MS medicines³

- Continued Rebif® decline in line with interferon market trend, increased shift from platform to HE therapies

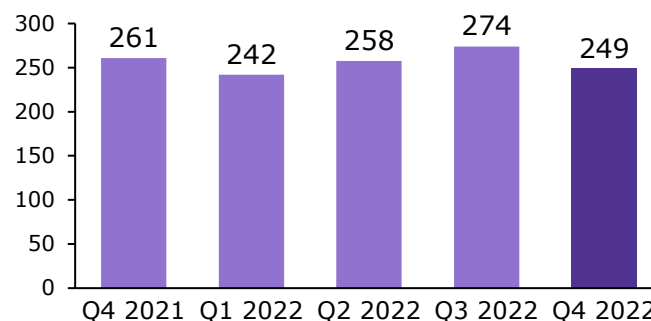
¹Number of Year-1 and Year-2 patients in U.S. and EU-5 per quarter, based on IQVIA and internal validation; ²Based on IQVIA and Stethos dynamic market data; ³Spelman T, et al. Mult Scler J 2022; 1-15; Acronyms: HE = High Efficacy

Oncology: FY sales up +17% org.; Bavencio growing +58% amid continued mUC 1L ramp-up. Erbitux sales first time ever crossing €1 bn mark

Sales development Oncology, [€m]

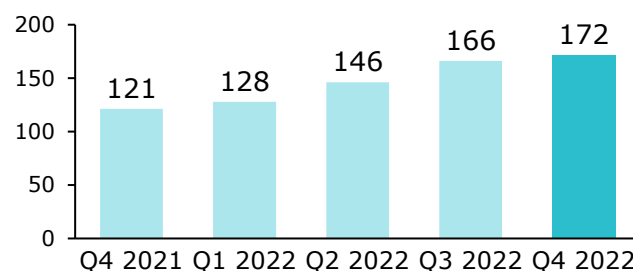


Erbitux® net sales, [€m]



- Erbitux Q2W approved in Japan, major markets to follow in 2023; adding flexibility for future combination therapies
- Prior year includes Eli Lilly supply agreement + €10 m

Bavencio® net sales, [€m]



- Continued strong growth momentum of +39.3% org.
- Establishing new benchmark for treatment outcomes in 1L mUC: Long-term follow-up data show median overall survival of 29.7 months³

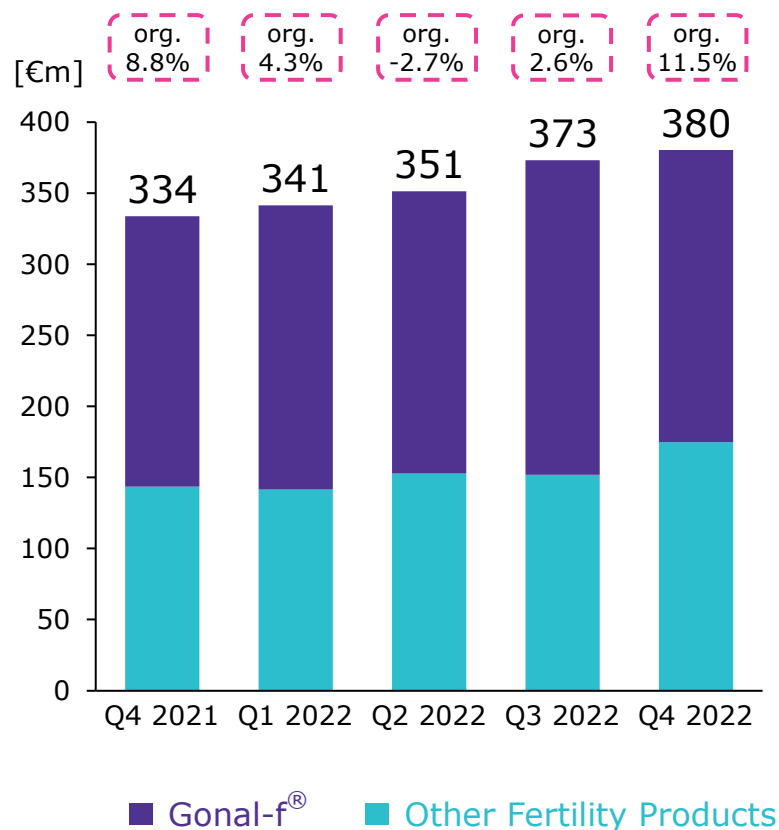
¹SCCHN = Squamous cell carcinoma of the head and neck

²NRDL = National Reimbursement Drug List

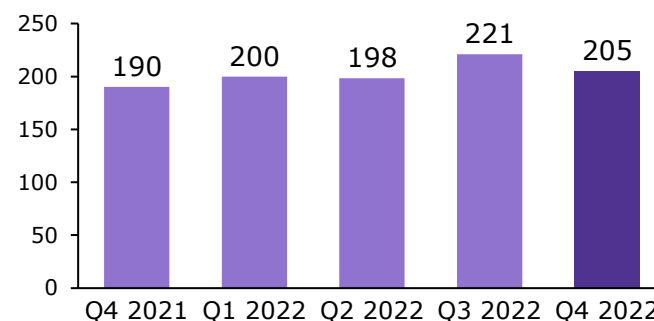
³Phase III JAVELIN Bladder 100 long-term follow-up data showed median overall survival from start of chemotherapy, presented at ASCO GU 2023

Fertility: Growing FY +4% org. amid headwinds from China lockdowns

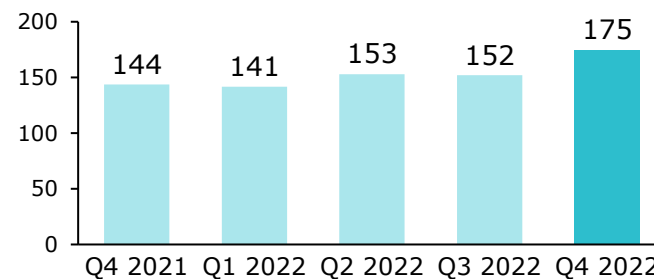
Sales development Fertility, [€m]



Gonal-f® net sales, [€m]



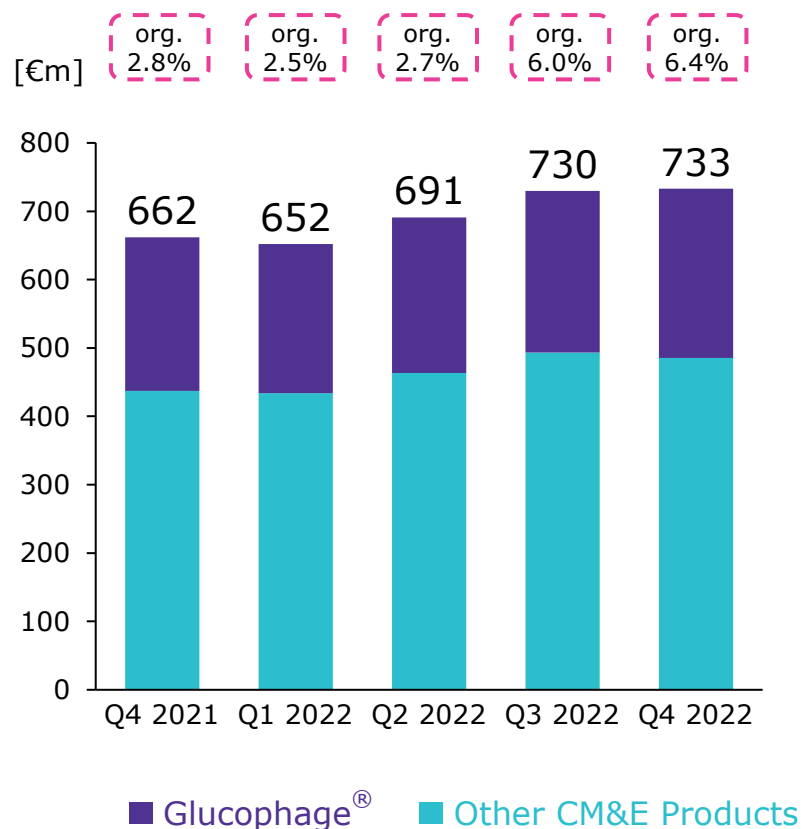
Other Fertility net sales, [€m]



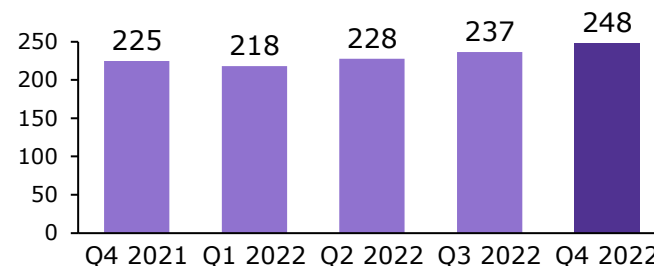
- Q4 +11.5% org. growth supported by competitor stock-outs of urinary based products in selected markets
- Some volatility of sales in China expected for Q1 2023
- Confidence in mid-term mid-single digit CAGR for the Fertility franchise

CM&E: All key products contributing to +4.5% org. growth for full year

Sales development CM&E, [€m]

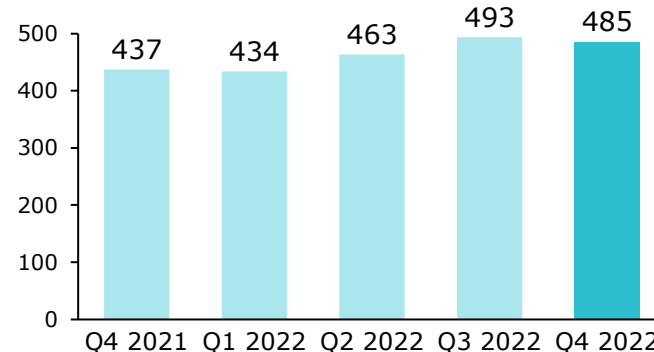


Glucophage® net sales, [€m]

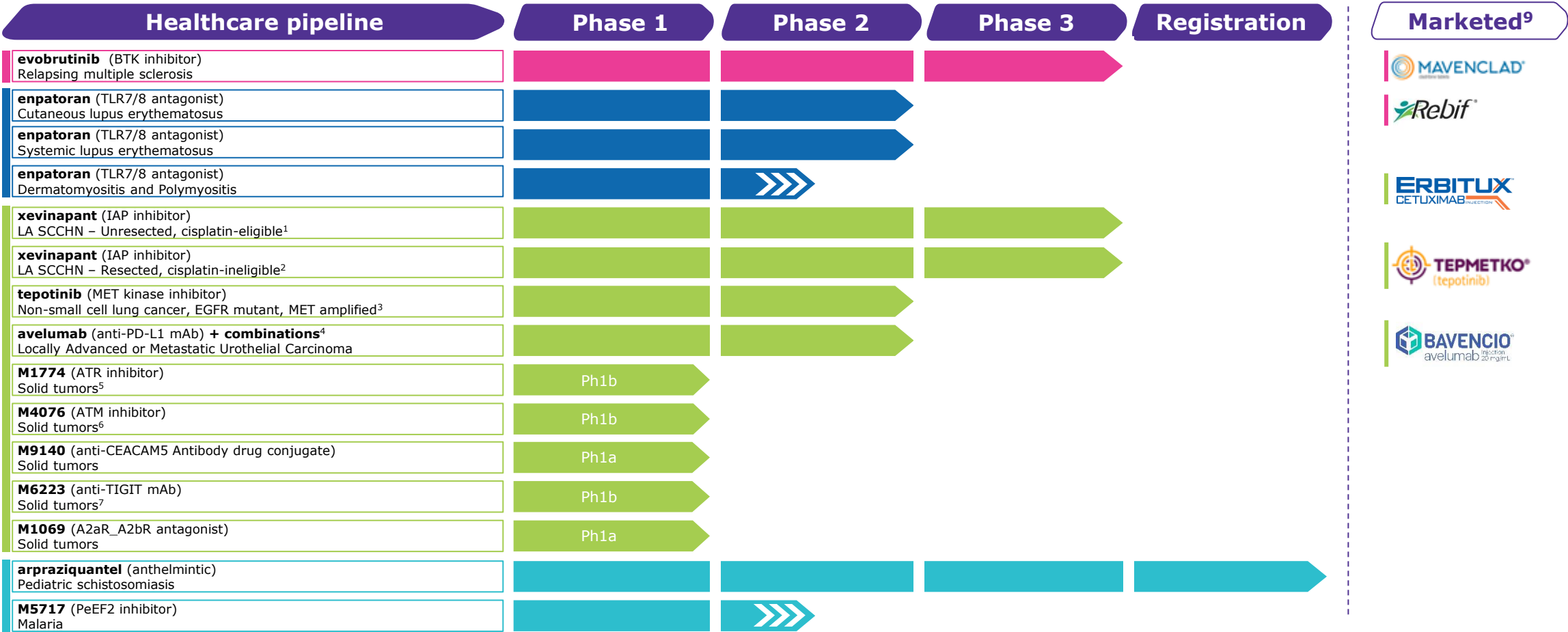


- Glucophage® organic growth of +6% in Q4 across major markets

Other CM&E net sales, [€m]



- Strengthen differentiation of Saizen®; Easypod 3.0 launch in the course of 2023
- Other CM&E portfolio growth in Q4 driven by Euthyrox® +9% on strong demand evolution in developed and mature markets



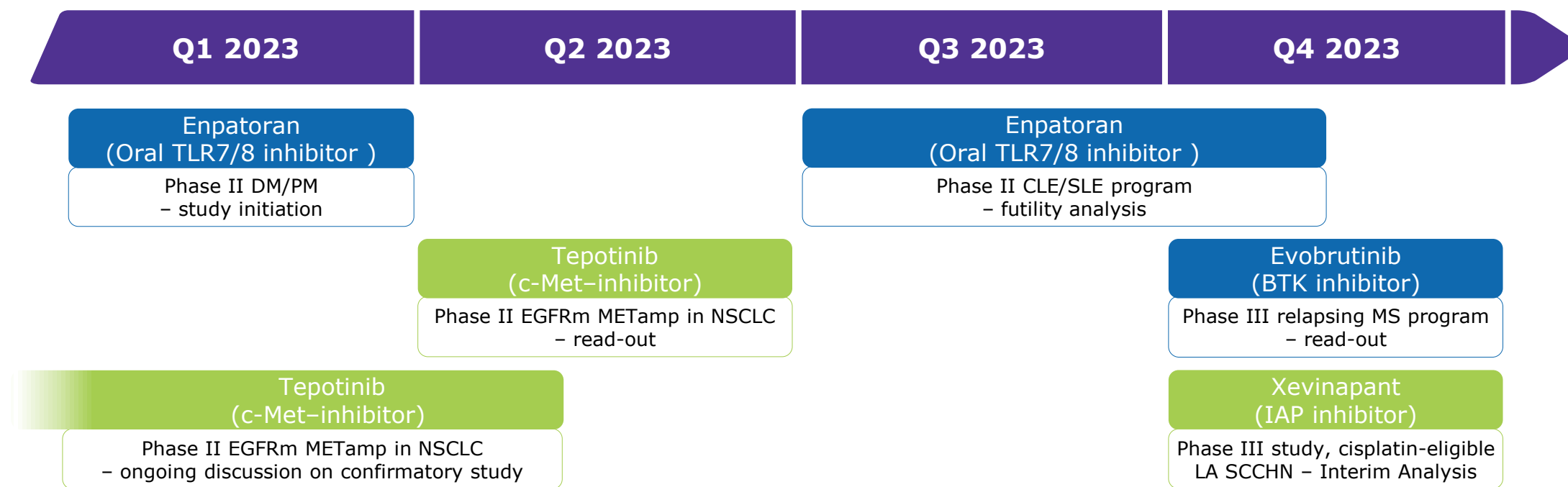
■ Neurology ■ Immunology ■ Oncology ■ Global Health >>> Asset entering new phase⁸ ➡ Current phase ■ Previous phase(s)

Ph1a: phase 1a, dose finding; Ph1b: phase 1b, dose escalation/expansion and signal seeking

¹In combination with cisplatin and radiotherapy in unresected LA SCCHN patients eligible for cisplatin. ²In combination with radiotherapy in resected LA SCCHN patients ineligible for cisplatin. ³In combination with osimertinib. ⁴Combinations include Sacituzumab Govitecan, NKTR-255 and M6223. ⁵Studies as monotherapy and in combination with niraparib, avelumab or M4076 ATMi. ⁶Administered in combination with M1774 ATRi. ⁷Administered in combination, including combinations other than avelumab. ⁸Registered study with open enrollment; subjects may not yet be enrolled. ⁹Marketed products for information only.

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

Healthcare catalysts



■ Oncology
■ Immunology

Acronyms: TLR = toll-like receptor, DM = Dermatomyositis, PM = Polymyositis, SLE = Systemic lupus erythematosus, CLE = Cutaneous lupus erythematosus, BTK = Bruton's tyrosine kinase; MS=Multiple Sclerosis, LA = locally advanced, SCCHN = squamous cell carcinoma of the head and neck, EGFR = Epidermal Growth Factor Receptor, NSCLC = non-small cell lung cancer, IAP = Inhibitor of Apoptosis Proteins

FY Electronics: Strong Semi performance drives sector growth; inflationary challenges and reduced Display contribution weighing on sector margins

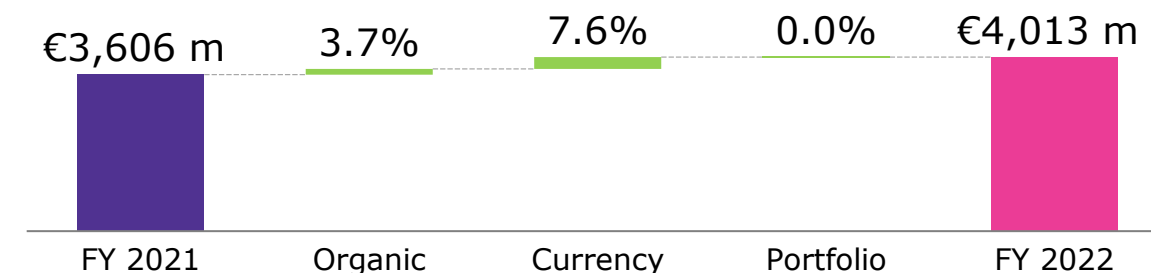
Electronics P&L

[€m]	IFRS		Pre adjustments	
	FY 2021	FY 2022	FY 2021	FY 2022
Net sales	3,606	4,013	3,606	4,013
M&S*	-573	-662	-569	-659
Admin	-138	-128	-122	-120
R&D	-278	-308	-277	-306
EBIT	508	572	599	647
EBITDA	1,070	1,138	-	-
EBITDA pre	1,128	1,192	1,128	1,192
(in % of net Sales)	31.3%	29.7%	31.3%	29.7%

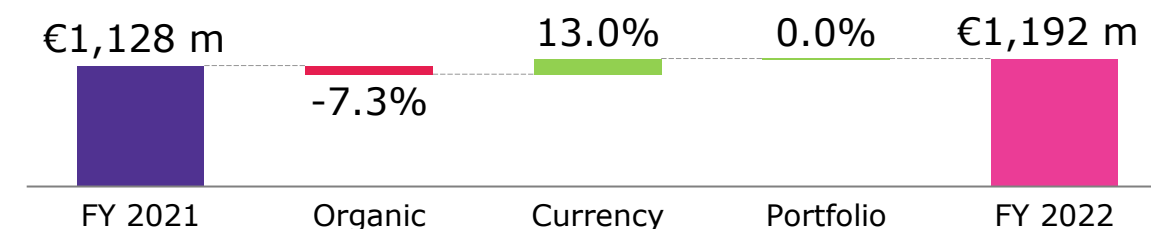
Comments

- Semiconductor Solutions: growing +15% org. driven by strong underlying demand in Semi Materials, with continuous support from DS&S
- Display Solutions: declining -20% org., driven mainly by continued volume declines in LC markets based on low fab utilization
- Surface Solutions: +3% org. growth; higher demand in Cosmetics and Coatings compensating for softer Industrials

Net sales bridge



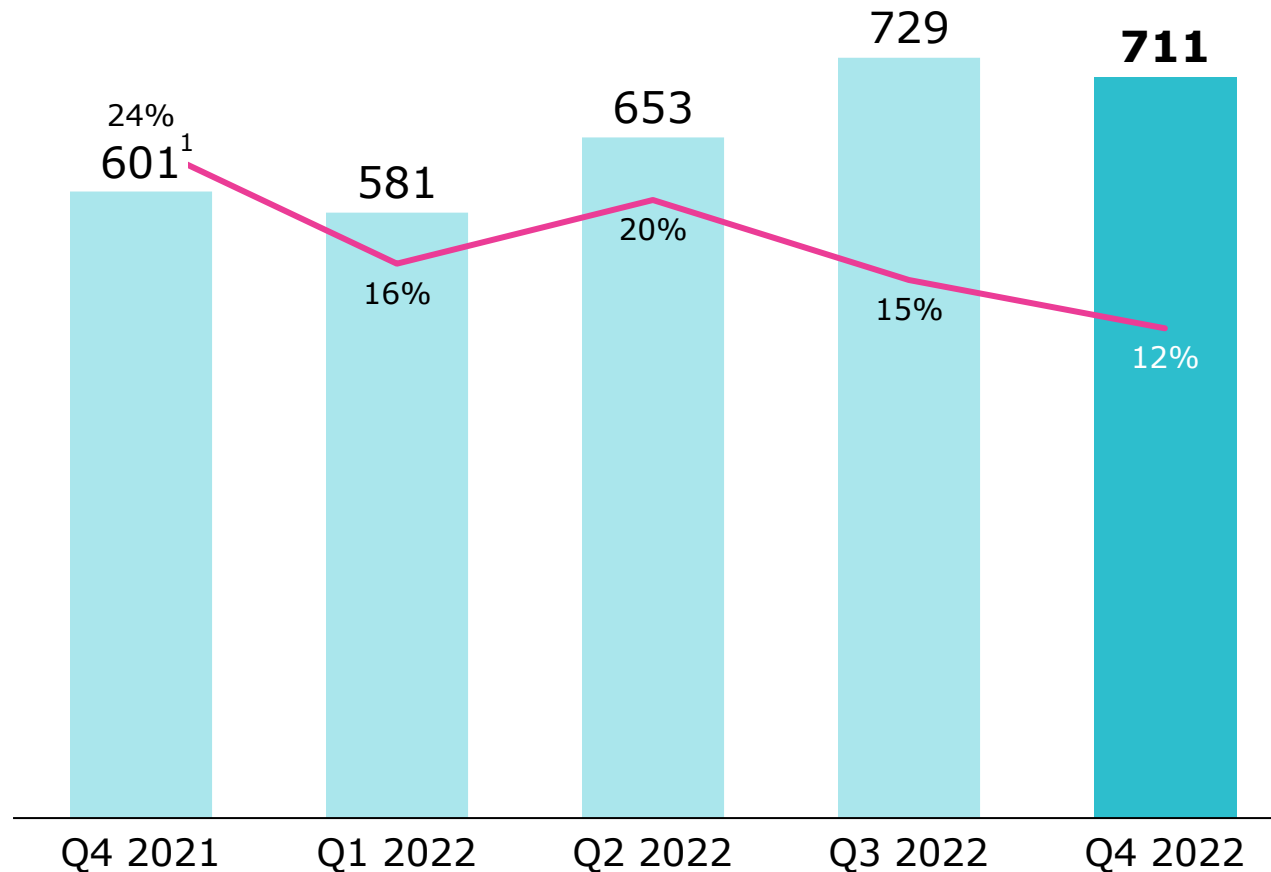
EBITDA pre bridge



- M&S about stable (~16% of sales) despite higher logistics costs
- R&D around stable as a % of sales (~8%), primarily driven by investments in Semi Solutions
- EBITDA pre margin decrease (-1.6pp vs 2021), driven primarily by significant Display decline further intensified by first impact of higher material, energy and logistic costs; Semi margins remain intact

Semiconductor Solutions continues to grow organically with a slight sequential decline amid softening market

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



- **Semiconductor Solutions** remains strong amid first signs of Semi market slowdown
- **Semiconductor Materials and DS&S business** both contributing with double-digit growth
- Growth driven by higher demand and fab ramping, especially in **Thin Films & Equipment Sales in DS&S**

¹Prior-year figures have been adjusted due to product reallocations between Life Science and Electronics. Prior year growth rates as previously shown, not reflecting product reallocations.

Cash flow statement

FY 2022 – cash flow statement

[€m]	FY 2021	FY 2022	Δ
Profit after tax	3,065	3,339	274
D&A	1,767	2,030	263
Changes in provisions	196	113	-83
Changes in other assets/liabilities	-121	-279	-158
Other operating activities	57	-27	-84
Changes in working capital	-349	-917	-568
Operating cash flow	4,616	4,259	-357
Investing cash flow	-1,578	-2,743	-1165
thereof Capex on PPE	-1,059	-1,510	-452
Financing cash flow	-2,504	-1,555	949

Cash flow drivers

- +9% profit after tax growth driven by strong operational performance, particularly in Life Science
- D&A driven by higher impairments in Healthcare
- Net working capital outflow driven by decreased payables and increased inventories
- Decrease in operating cash flow mainly driven by changes in working capital, partially offset by higher D&A
- Higher investing cash flow reflects Exelead acquisition and ongoing capacity expansion
- LY financing cash flow reflecting bank loans and commercial paper repayments

Adjustments in Q4 2022

Adjustments in EBIT

[€m]	Q4 2021		Q4 2022	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Life Science	14	11	28	23
Healthcare	-17	3	155	96
Electronics	26	8	35	9
Corporate & Other	-49	1	50	0
Total	-26	23	268	128

Adjustments in FY 2022

Adjustments in EBIT

[€m]	FY 2021		FY 2022	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Life Science	40	11	106	24
Healthcare	14	6	279	187
Electronics	91	33	75	20
Corporate & Other	65	3	117	0
Total	210	53	577	232



Financial Calendar

Date	Event
March 2, 2023	Q4 2022 Earnings release
April 28, 2023	Annual General Meeting
May 11, 2023	Q1 2023 Earnings release
August 3, 2023	Q2 2023 Earnings release
November 9, 2023	Q3 2023 Earnings release

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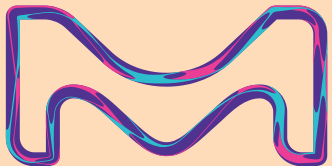


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