Quarterly Statement

1st Quarter 2023

Merck – In Brief*

Overview – Q1 2023

In the first quarter of 2023, our three key performance indicators developed as follows:

- Group net sales increased slightly over the year-earlier quarter, especially thanks to the Healthcare and Life Science business sectors amid a decline in sales in Electronics.
- Group EBITDA pre decreased slightly since the EBITDA pre declines in Life Science and Electronics were offset only partly by the positive development of Healthcare.
- Operating cash flow improved slightly over the year-earlier quarter.

Merck Group

Key figures

€ million	**Q1 2023**	Q1 2022	Change
Net sales	5,293	5,198	1.8%
Operating result (EBIT)[1]	1,035	1,173	-11.8%
Margin (% of net sales)[1]	19.6%	22.6%	
EBITDA[2]	1,491	1,603	-7.0%
Margin (% of net sales)[1]	28.2%	30.8%	
EBITDA pre[1]	1,587	1,629	-2.6%
Margin (% of net sales)[1]	30.0%	31.3%	
Profit after tax	800	884	-9.5%
Earnings per share (in €)	1.83	2.02	-9.4%
Earnings per share pre (€)[1]	2.36	2.41	-2.1%
Operating cash flow	853	840	1.5%
Net financial debt[3]	8,992	8,328	8.0%
Number of employees[4]	64,011	61,517	4.1%

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Not defined by International Financial Reporting Standards (IFRS); EBITDA corresponds to operating result (EBIT) adjusted by depreciation, amortization, impairment losses, and reversals of impairment losses.

[3] Figures for the reporting period ending on March 31, 2023, prior-year figures as of December 31, 2022.

[4] Figures for the reporting period ending on March 31, 2023, prior-year figures as of March 31, 2022. Prior-year figures have been adjusted. This figure refers to all employees at sites of fully consolidated entities.

* This document is a quarterly statement pursuant to section 53 of the Exchange Rules for the Frankfurt Stock Exchange. This quarterly statement contains certain financial indicators such as operating result (EBIT), EBITDA, EBITDA pre, net financial debt and earnings per share pre, which are not defined by International Financial Reporting Standards (IFRS). These financial indicators should not be taken into account in order to assess the performance of Merck in isolation or used as an alternative to the financial indicators presented in the consolidated financial statements and determined in accordance with IFRS. The figures presented in this quarterly statement have been rounded. This may lead to individual values not adding up to the totals presented.

The Annual Report for 2022 has been optimized for mobile devices and is available at **https://www.merckgroup.com/en/annualreport/2022/**.

Significant events during the reporting period

Termination of the strategic alliance with Pfizer Inc., USA, to co-develop and co-commercialize Bavencio® with effect from June 30, 2023

Merck announced on March 27, 2023, the termination of the alliance agreement with Pfizer Inc., USA, (Pfizer) to co-develop and co-commercialize the anti-PD-L1 antibody Bavencio® (avelumab) with effect from June 30, 2023. Bavencio® is approved for the treatment of multiple cancer indications. In the first quarter of 2023, net sales generated by Merck with Bavencio® amounted to € 167 million (fiscal 2022: € 611 million).

In accordance with the termination agreement, with effect from June 30, 2023, Merck will receive the exclusive worldwide rights to develop, manufacture and commercialize Bavencio®, thus regaining full control over it. The current even split of net profits from sales and defined expense components by the alliance partners will be replaced by a 15% royalty to Pfizer on net sales of Bavencio®. While Merck and Pfizer will continue to operationalize their respective ongoing clinical trials for Bavencio®, Merck will control all future research and development activities. Likewise, product manufacturing and supply chain operation will remain solely with Merck.

Course of Business and Economic Position

Merck

Development of net sales

The development of Group net sales across the individual business sectors in the first quarter of 2023 was as follows:

Merck Group

Net sales by business sector

€ million	Q1 2023	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q1 2022	Share
Life Science	2,487	47%	0.6%	0.9%	0.3%	1.7%	2,445	47%
Healthcare	1,905	36%	5.3%	0.8%	–	6.2%	1,795	35%
Electronics	901	17%	-7.1%	0.8%	0.3%	-5.9%	957	18%
Merck Group	**5,293**	**100%**	**0.8%**	**0.8%**	**0.2%**	**1.8%**	**5,198**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

In the first quarter of 2023, the regional breakdown of Group net sales was as follows:

Merck Group

Net sales by region

€ million	Q1 2023	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q1 2022	Share
Europe	1,580	30%	7.6%	0.4%	–	8.0%	1,462	28%
North America	1,507	28%	1.1%	4.1%	0.4%	5.6%	1,427	28%
Asia-Pacific (APAC)	1,728	33%	-6.6%	-1.9%	0.2%	-8.3%	1,884	36%
Latin America	323	6%	12.1%	5.1%	0.2%	17.3%	276	5%
Middle East and Africa (MEA)	155	3%	3.9%	0.3%	–	4.2%	148	3%
Merck Group	**5,293**	**100%**	**0.8%**	**0.8%**	**0.2%**	**1.8%**	**5,198**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

Results of operations

The following table presents the composition of EBITDA pre for the first quarter of 2023 in comparison with the year-earlier period. The IFRS figures have been modified to reflect the elimination of adjustments included in the respective functional costs.

Merck Group

Reconciliation EBITDA pre[1]

	Q1 2023			Q1 2022			Change
€ million	IFRS	Elimination of adjustments	Pre[1]	IFRS	Elimination of adjustments	Pre[1]	Pre[1]
Net sales	**5,293**	**–**	**5,293**	**5,198**	**–**	**5,198**	**1.8%**
Cost of sales	-1,973	3	-1,970	-1,987	2	-1,985	-0.8%
Gross profit	**3,320**	**3**	**3,323**	**3,211**	**2**	**3,212**	**3.4%**
Marketing and selling expenses	-1,109	-1	-1,110	-1,087	1	-1,087	2.1%
Administration expenses	-358	72	-286	-287	20	-268	7.0%
Research and development costs	-597	-8	-605	-586	1	-584	3.5%
Impairment losses and reversals of impairment losses on financial assets (net)	-2	–	-2	-5	–	-5	-56.3%
Other operating income and expenses	-219	41	-178	-72	6	-67	>100.0%
Operating result (EBIT)[1]	**1,035**			**1,173**			
Margin (in % of net sales)[1]	19.6%			22.6%			
Depreciation/amortization/ impairment losses/reversals of impairment losses	456	-10	446	430	-3	427	4.4%
EBITDA[2]	**1,491**			**1,603**			
Margin (in % of net sales)[1]	28.2%			30.8%			
Restructuring expenses	44	-44	–	8	-8	–	
Integration expenses/ IT expenses	23	-23	–	20	-20	–	
Gains (–)/losses (+) on the divestment of businesses	–	–	–	-10	10	–	
Acquisition-related adjustments	9	-9	–	2	-2	–	
Other adjustments	19	-19	–	6	-6	–	
EBITDA pre[1]	**1,587**	**–**	**1,587**	**1,629**	**–**	**1,629**	**-2.6%**
Margin (in % of net sales)[1]	30.0%			31.3%			
thereof: organic growth[1]							-1.7%
thereof: exchange rate effects							-0.5%
thereof: acquisitions/ divestments							-0.4%

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Not defined by International Financial Reporting Standards (IFRS); EBITDA corresponds to operating result (EBIT) adjusted by depreciation, amortization, impairment losses, and reversals of impairment losses.

- Despite the slight increase in Group net sales and gross profit, the operating result (EBIT) declined in the first quarter of 2023 owing to the challenging market environment, leading to a three percentage point decrease in the EBIT margin.
- EBITDA pre, the key financial indicator used to steer operating business, decreased compared with the year-earlier quarter. This was primarily due to a slight organic decline. The Group EBITDA pre margin also decreased slightly and amounted to 30.0% in the first quarter of 2023 (Q1 2022: 31.3%).
- Earnings per share pre (earnings per share after net of tax effect of adjustments and amortization of purchased intangible assets) was below the year-earlier quarter and amounted to € 2.36 (Q1 2022: € 2.41).

The following table presents the reconciliation of EBITDA pre of all operating businesses to profit after tax of the Merck Group:

Merck Group

Reconciliation Profit after tax

€ million	**Q1 2023**	Q1 2022
EBITDA pre of the operating businesses[1]	**1,728**	**1,745**
Corporate and Other	-141	-117
EBITDA pre of the Merck Group[1]	**1,587**	**1,629**
Depreciation/amortization/impairment losses/reversals of impairment losses	-456	-430
Adjustments[1]	-96	-26
Operating result (EBIT)[1]	**1,035**	**1,173**
Financial result	-23	-34
Profit before income tax	**1,012**	**1,139**
Income tax	-213	-255
Profit after tax	**800**	**884**
Earnings per share (in €)	**1.83**	**2.02**

[1] Not defined by International Financial Reporting Standards (IFRS).

Financial position

The composition and development of net financial debt were as follows:

Merck Group

Net financial debt[1]

			Change	
€ million	**March 31, 2023**	Dec. 31, 2022	€ million	in %
Bonds and commercial paper	8,693	8,726	-33	-0.4%
Bank loans	444	203	241	>100.0%
Liabilities to related parties	920	919	1	0.1%
Loans from third parties and other financial liabilities	59	59	1	1.5%
Liabilities from derivatives (financial transactions)	49	30	19	62.2%
Lease liabilities	479	491	-12	-2.4%
Financial debt	**10,644**	**10,428**	**216**	**2.1%**
less:				
Cash and cash equivalents	1,584	1,854	-270	-14.5%
Current financial assets[2]	68	247	-179	-72.4%
Net financial debt[1]	**8,992**	**8,328**	**664**	**8.0%**

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Excluding current derivatives (operational) and contingent considerations, which are recognized in the context of business combinations according to IFRS 3.

As one of the three key performance indicators alongside net sales and EBITDA pre, operating cash flow developed as follows:

Merck Group

Operating cash flow

€ million	**Q1 2023**	Q1 2022	Change
EBITDA pre[1]	**1,587**	**1,629**	**-2.6%**
Adjustments[1]	-96	-26	>100.0%
Financial result[2]	-23	-34	-33.9%
Income tax[2]	-213	-255	-16.8%
Changes in working capital[1]	-224	-322	-30.5%
thereof: changes in inventories[3]	-323	-186	73.0%
thereof: changes in trade accounts receivable[3]	-116	-343	-66.0%
thereof: changes in trade accounts payable/refund liabilities[3]	215	207	3.8%
Changes in provisions[3,4]	-8	107	>100.0%
Changes in other assets and liabilities[3,4]	-187	-234	-20.0%
Neutralization of gains/losses on disposals of fixed assets and other disposals[3]	–	-27	>100.0%
Other non-cash income and expenses[3]	17	3	>100.0%
Operating cash flow	**853**	**840**	**1.5%**

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] In accordance with the Consolidated Income Statement.

[3] In accordance with the Consolidated Cash Flow Statement.

[4] As of January 1, 2023, the tranche of the Merck Long-Term Incentive Plan to be paid out in the months following the balance sheet date is disclosed under other current non-financial liabilities and no longer under current provisions for employee benefits. For better comparability, the previous year's figures have been adjusted.

Life Science

Development of net sales and results of operations

In the first quarter of 2023, the net sales of the Life Science business sector developed as follows:

Life Science

Net sales by business unit

€ million	Q1 2023	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q1 2022[2]	Share
Science & Lab Solutions	1,276	51%	5.9%	0.5%	–	6.5%	1,199	49%
Process Solutions	1,022	41%	-4.1%	1.1%	0.1%	-3.0%	1,053	43%
Life Science Services	188	8%	-7.2%	1.7%	2.9%	-2.6%	193	8%
Life Science	**2,487**	**100%**	**0.6%**	**0.9%**	**0.3%**	**1.7%**	**2,445**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Prior-year figures have been adjusted owing to an internal realignment.

- The Science & Lab Solutions business unit, which provides products and services to support life science research for pharmaceutical, biotechnology, academic research laboratories and researchers as well as scientific and industrial laboratories, delivered solid organic sales growth across the entire product portfolio. Geographically, organic sales growth was driven by Europe, followed by North America and Asia-Pacific.

- The Process Solutions business unit, which markets products and services for the entire pharmaceutical production value chain, saw an organic decrease in sales caused by the slowing pandemic-related business. The core business delivered moderate organic sales growth.

- The Life Science Services business unit, which offers fully integrated Contract Development and Manufacturing Organization (CDMO) and Contract Testing services, recorded a strong organic sales decline. Robust double-digit growth in the core business was offset by declining pandemic-related sales. Geographically, the decrease in sales was mainly attributable to the Europe and Asia-Pacific regions, while North America contributed favorably.

The following table presents the composition of EBITDA pre for the first quarter of 2023 in comparison with the year-earlier quarter. The IFRS figures have been modified to reflect the elimination of adjustments included in the respective functional costs.

Life Science

Reconciliation EBITDA pre[1]

	Q1 2023			Q1 2022			Change
€ million	IFRS	Elimination of adjustments	Pre[1]	IFRS	Elimination of adjustments	Pre[1]	Pre[1]
Net sales	**2,487**	**–**	**2,487**	**2,445**	**–**	**2,445**	**1.7%**
Cost of sales	-999	–	-999	-965	–	-965	3.5%
Gross profit	**1,488**	**–**	**1,488**	**1,480**	**–**	**1,480**	**0.5%**
Marketing and selling expenses	-568	-1	-569	-552	–	-552	3.0%
Administration expenses	-105	11	-94	-91	7	-84	11.5%
Research and development costs	-104	–	-104	-88	–	-88	17.9%
Impairment losses and reversals of impairment losses on financial assets (net)	-1	–	-1	-2	–	-2	-37.1%
Other operating income and expenses	-38	6	-31	-24	-1	-25	27.7%
Operating result (EBIT)[1]	**672**			**723**			
Margin (in % of net sales)[1]	27.0%			29.6%			
Depreciation/amortization/ impairment losses/reversals of impairment losses	212	–	212	198	-1	197	7.4%
EBITDA[2]	**884**			**922**			
Margin (in % of net sales)[1]	35.5%			37.7%			
Restructuring expenses	–	–	–	-3	3	–	
Integration expenses/ IT expenses	11	-11	–	8	-8	–	
Gains (-)/losses (+) on the divestment of businesses	–	–	–	–	–	–	
Acquisition-related adjustments	5	-5	–	1	-1	–	
Other adjustments	–	–	–	–	–	–	
EBITDA pre[1]	**901**	**–**	**901**	**927**	**–**	**927**	**-2.9%**
Margin (in % of net sales)[1]	36.2%			37.9%			
thereof: organic growth[1]							-1.4%
thereof: exchange rate effects							-1.0%
thereof: acquisitions/ divestments							-0.5%

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Not defined by International Financial Reporting Standards (IFRS); EBITDA corresponds to operating result (EBIT) adjusted by depreciation, amortization, impairment losses, and reversals of impairment losses.

- Adjusted gross profit for the Life Science business sector was around stable in the first quarter of 2023. This was mainly attributable to declining pandemic-related business offset by strong sales growth in the core business. At 59.8%, the adjusted gross margin was slightly below the year-earlier period (Q1 2022: 60.5%).
- Marketing and selling as well as administration expenses increased primarily owing to higher personnel costs. The evolution of research and development costs was driven by core growth areas as well as additional costs linked to the acquisition of Erbi Biosystems Inc., USA. In addition to organic developments, unfavorable foreign exchange effects impacted the development of costs in comparison with the year-earlier quarter.
- EBITDA pre saw a slight organic decline owing to slower sales growth and a higher cost base, resulting in an EBITDA pre margin of 36.2% (Q1 2022: 37.9%).

Healthcare

Development of net sales and results of operations

Sales of the key product lines and products developed in the first quarter of 2023 as follows:

Healthcare

Net sales by major product lines/products

€ million	Q1 2023	Share	Organic growth[1]	Exchange rate effects	Total change	Q1 2022	Share
Oncology	**433**	**23%**	**14.7%**	**-0.4%**	**14.3%**	**379**	**21%**
thereof: Erbitux®	250	13%	3.7%	-0.6%	3.1%	242	13%
thereof: Bavencio®	167	9%	30.6%	–	30.7%	128	7%
Neurology & Immunology	**390**	**20%**	**-2.0%**	**1.9%**	**-0.1%**	**391**	**22%**
thereof: Rebif®	154	8%	-25.4%	1.6%	-23.8%	201	11%
thereof: Mavenclad®	237	12%	23.0%	2.2%	25.2%	189	11%
Fertility	**366**	**19%**	**6.7%**	**0.6%**	**7.3%**	**341**	**19%**
thereof: Gonal-f®	197	10%	-2.1%	0.7%	-1.4%	200	11%
Cardiovascular, Metabolism and Endocrinology	**677**	**36%**	**3.0%**	**0.8%**	**3.8%**	**652**	**36%**
thereof: Glucophage®	218	11%	-0.1%	0.2%	0.1%	218	12%
thereof: Concor®	142	7%	0.8%	2.0%	2.9%	138	8%
thereof: Euthyrox®	130	7%	0.4%	0.5%	0.9%	128	7%
thereof: Saizen®	76	4%	25.1%	-0.1%	25.0%	61	3%
Other	**38**	**2%**				**32**	**2%**
Healthcare	**1,905**	**100%**	**5.3%**	**0.8%**	**6.2%**	**1,795**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

- In the first quarter of 2023, the oncology drug Erbitux® (cetuximab) generated moderate organic sales growth, driven in particular by the Latin America, Europe, and Middle East and Africa regions. By contrast, sales showed a slight organic decline in the Asia-Pacific region.
- In immuno-oncology, sales of the oncology medicine Bavencio® (avelumab) increased organically in the first quarter of 2023; all regions contributed to this growth. In particular, both Europe and North America recorded organic growth in the low double-digit percentage range. This favorable development was mainly driven by further growth in the drug's market share for first-line maintenance treatment for patients with locally advanced or metastatic urothelial carcinoma (UC).
- The medicine Rebif®, which is indicated for the treatment of relapsing multiple sclerosis (MS), saw an organic sales decline in the mid-twenties percentage range. The sales decline that was already observed in the year-earlier quarter continued due to the ongoing difficult competitive situation in the interferon market and competition from oral dosage forms and high-efficacy MS therapies. North America, the largest sales market for Rebif®, recorded a sales decline in the mid-thirties percentage range. This decrease was also attributable to changes in inventories among wholesalers.
- Mavenclad®, for the oral short-course treatment of highly active relapsing forms of multiple sclerosis, generated organic sales growth in the low-twenties percentage range in the first quarter of 2023, which was supported by positive foreign exchange effects. This organic growth was driven by all regions, especially thanks to increasing demand in North America and Europe.

- In the first quarter of 2023, the Fertility franchise generated strong organic sales growth. Gonal-f®, the leading recombinant hormone for the treatment of infertility, saw a slight organic sales decline due to pandemic-related capacity bottlenecks in hospitals in the Asia-Pacific region. This was partly offset by bottlenecks in the supply of a competing product. Meanwhile, other products from the Fertility franchise generated organic sales growth, in some cases in the mid-twenties percentage range, thus more than offsetting the slight decline in Gonal-f® sales. This favorable development occurred against the background of increased demand as well as supply bottlenecks of a competing product.

- The Cardiovascular, Metabolism and Endocrinology franchise, which commercializes products to treat cardiovascular diseases, thyroid disorders, diabetes, and growth disorders, among other things, generated moderate organic growth. Organically, sales of the diabetes medicine Glucophage®, the beta-blocker Concor® and the thyroid medicine Euthyrox® remained largely unchanged compared with the year-earlier quarter. The product Saizen® contributed to the positive development of the franchise with favorable organic sales growth in the mid-twenties percentage range thanks to increased demand and supply bottlenecks faced by a competing product.

The following table presents the composition of EBITDA pre for the reporting period in comparison with the year-earlier quarter. The IFRS figures have been modified to reflect the elimination of adjustments included in the respective functional costs.

Healthcare

Reconciliation EBITDA pre[1]

	Q1 2023			Q1 2022			Change
€ million	IFRS	Elimination of adjustments	Pre[1]	IFRS	Elimination of adjustments	Pre[1]	Pre[1]
Net sales	**1,905**	**–**	**1,905**	**1,795**	**–**	**1,795**	**6.2%**
Cost of sales	-447	–	-446	-461	–	-460	-3.0%
Gross profit	**1,459**	**–**	**1,459**	**1,334**	**–**	**1,335**	**9.3%**
Marketing and selling expenses	-381	–	-380	-376	–	-375	1.4%
Administration expenses	-76	4	-72	-71	2	-69	3.3%
Research and development costs	-395	-8	-403	-397	1	-397	1.6%
Impairment losses and reversals of impairment losses on financial assets (net)	-1	–	-1	-4	–	-4	-73.5%
Other operating income and expenses	-87	–	-87	-32	1	-32	>100.0%
Operating result (EBIT)[1]	**520**			**454**			
Margin (in % of net sales)[1]	27.3%			25.3%			
Depreciation/amortization/ impairment losses/reversals of impairment losses	73	1	73	72	-1	71	3.7%
EBITDA[2]	**593**			**526**			
Margin (in % of net sales)[1]	31.1%			29.3%			
Restructuring expenses	-7	7	–	2	-2	–	
Integration expenses/IT expenses	4	-4	–	2	-2	–	
Gains (-)/losses (+) on the divestment of businesses	–	–	–	–	–	–	
Acquisition-related adjustments	–	–	–	–	–	–	
Other adjustments	–	–	–	–	–	–	
EBITDA pre[1]	**590**	**–**	**590**	**529**	**–**	**529**	**11.4%**
Margin (in % of net sales)[1]	30.9%			29.5%			
thereof: organic growth[1]							10.5%
thereof: exchange rate effects							0.9%
thereof: acquisitions/ divestments							–

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Not defined by International Financial Reporting Standards (IFRS); EBITDA corresponds to operating result (EBIT) adjusted by depreciation, amortization, impairment losses, and reversals of impairment losses.

- In the first of quarter of 2023, adjusted gross profit increased sharply, resulting in a gross margin of 76.6% (Q1 2022: 74.4%).
- Research and development costs were roughly in line with the year-earlier period. The change in other operating expenses and income is mainly attributable to income received from the out-licensing of drug candidates in the year-earlier period as well as increased sales of the oncology medicine Bavencio® and the resulting higher profit transfers owing to the strategic alliance with Pfizer Inc., USA.
- EBITDA pre increased by a low double-digit percentage amount, resulting in an EBITDA pre margin of 30.9% (Q1 2022: 29.5%).

Electronics

Development of net sales and results of operations

In the first quarter of 2023, net sales of the Electronics business sector developed as follows:

Electronics

Net sales by business unit

€ million	Q1 2023	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q1 2022	Share
Semiconductor Solutions	604	67%	2.0%	1.6%	0.5%	4.1%	581	61%
Display Solutions	187	21%	-28.1%	-0.4%	–	-28.5%	262	27%
Surface Solutions	109	12%	-4.9%	-0.2%	–	-5.1%	115	12%
Electronics	**901**	**100%**	**-7.1%**	**0.8%**	**0.3%**	**-5.9%**	**957**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

- The Semiconductor Solutions business unit, which comprises two businesses, namely Semiconductor Materials and Delivery Systems & Services (DS&S), generated slight organic sales growth. Weaker demand for most Semiconductor Materials products was more than offset by a stable order book in DS&S. The portfolio effect was due to the acquisition of the chemical business of Mecaro Co. Ltd., Korea, on December 30, 2022.

- Net sales of the Display Solutions business unit, consisting mainly of the business with liquid crystals, photoresists for display applications as well as OLED materials, decreased in the first quarter of 2023 due to lower volumes and weaker pricing associated with continued low utilization across major Liquid Crystals accounts.

- The Surface Solutions business unit saw a significant decline in sales due to weaker demand for industrial pigments and automotive coatings, especially in Asia. This decline was partially offset by continued strong demand in Cosmetics, especially in Europe.

The following table presents the composition of EBITDA pre for the reporting period in comparison with the year-earlier quarter. The IFRS figures have been modified to reflect the elimination of adjustments included in the respective functional costs.

Electronics

Reconciliation EBITDA pre[1]

	Q1 2023			Q1 2022			Change
€ million	IFRS	Elimination of adjustments	Pre[1]	IFRS	Elimination of adjustments	Pre[1]	Pre[1]
Net sales	**901**	**–**	**901**	**957**	**–**	**957**	**-5.9%**
Cost of sales	-526	2	-524	-560	1	-559	-6.3%
Gross profit	**375**	**2**	**377**	**397**	**1**	**398**	**-5.4%**
Marketing and selling expenses	-158	–	-158	-156	–	-156	1.6%
Administration expenses	-33	2	-31	-28	–	-28	11.0%
Research and development costs	-74	–	-74	-75	–	-75	-1.2%
Impairment losses and reversals of impairment losses on financial assets (net)	–	–	–	–	–	–	–
Other operating income and expenses	-24	15	-8	7	9	16	>100.0%
Operating result (EBIT)[1]	**86**			**145**			
Margin (in % of net sales)[1]	9.5%			15.2%			
Depreciation/amortization/impairment losses/reversals of impairment losses	143	-10	132	134	–	133	-0.8%
EBITDA[2]	**228**			**279**			
Margin (in % of net sales)[1]	25.3%			29.1%			
Restructuring expenses	2	-2	–	5	-5	–	
Integration expenses/IT expenses	3	-3	–	5	-5	–	
Gains (-)/losses (+) on the divestment of businesses	–	–	–	–	–	–	
Acquisition-related adjustments	4	-4	–	1	-1	–	
Other adjustments	–	–	–	–	–	–	
EBITDA pre[1]	**237**	**–**	**237**	**289**	**–**	**289**	**-18.0%**
Margin (in % of net sales)[1]	26.4%			30.2%			
thereof: organic growth[1]							-19.8%
thereof: exchange rate effects							2.3%
thereof: acquisitions/divestments							-0.4%

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Not defined by International Financial Reporting Standards (IFRS); EBITDA corresponds to operating result (EBIT) adjusted by depreciation, amortization, impairment losses, and reversals of impairment losses.

- Adjusted gross profit for the Electronics business sector decreased in the first quarter of 2023 in line with the decline in sales. At 41.9%, the adjusted gross margin was relatively flat in comparison with the year-earlier quarter (Q1 2022: 41.6%).
- Administration costs, marketing and selling expenses and research and development costs were relatively stable year-on-year, excluding the effects of inflation and foreign exchange.
- Consequently, EBITDA pre declined in first quarter of 2023 in comparison with the year-earlier quarter. The EBITDA pre margin decreased year-on-year by -3.9 percentage points to 26.4% (Q1 2022: 30.2%). The EBITDA pre margin declined as the decreased sales, especially due to the situation in Liquid Crystals, led to a lower level of gross profit to cover fixed operating expenses.

Corporate and Other

Corporate and Other comprises administration expenses for Group functions that cannot be directly allocated to the business sectors.

Corporate and Other

Key figures

€ million	**Q1 2023**	Q1 2022	Change
Operating result (EBIT)[1]	-243	-149	63.0%
EBITDA[2]	-214	-123	74.3%
EBITDA pre[1]	-141	-117	20.3%

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Not defined by International Financial Reporting Standards (IFRS); EBITDA corresponds to operating result (EBIT) adjusted by depreciation, amortization, impairment losses, and reversals of impairment losses.

Report on Expected Developments

With the publication of the results of fiscal 2022, we provided a forecast of the development of net sales and EBITDA pre for the Merck Group and the individual business sectors Life Science, Healthcare and Electronics as well as an estimation of Group operating cash flow in 2023. With the completion of the first quarter of 2023, we further specify this forecast as follows:

Forecast for the Merck Group

Forecast for FY 2023

€ million	**Net sales**	**EBITDA pre**	**Operating cash flow**
Merck Group	**~21,200 to 22,700** Organic +1% to +4% (ex-Covid +4% to +7%) Foreign exchange effect -5% to -2%	**~6,100 to 6,700** Organic -5% to 0% Foreign exchange effect -2% to -5%	**~3,700 to 4,300**
Life Science	**~9,700 to 10,450** Organic -2% to +2% (ex-Covid +3% to +8%) Foreign exchange effect -1% to -5%	**~3,200 to 3,500** Organic -4% to -8% Foreign exchange effect -2% to -6%	
Healthcare	**~7,750 to 8,300** Organic +5% to +9% Foreign exchange effect -3% to -6%	**~2,350 to 2,550** Organic +8% to +12% Foreign exchange effect -9% to -13%	
Electronics	**~3,700 to 4,000** Organic -2% to +3% Foreign exchange effect -3% to -6%	**~950 to 1,080** Organic -3% to -12% Foreign exchange effect -5% to -8%	
Corporate and Other	–	**~-390 to -450**	

EPS pre € 8.80 to € 9.90, based on an effective tax rate of 22%.

Full-year FX assumption for 2023: € 1 = US$ 1.07 to US$ 1.11

Fundamental assumptions

Against the backdrop of macroeconomic, geopolitical and industry-specific circumstances, the forecast is subject to greater uncertainty and volatility in fiscal 2023 as well. It continues to assume an elevated level of inflation. Countermeasures will be taken to soften the expected negative effects as far as possible.

As regards the development of exchange rates, we expect a continuing volatile environment due to geopolitical and macroeconomic developments. We continue to expect a negative foreign exchange impact in 2023 resulting mainly from the development of the U.S. dollar and the Chinese renminbi. In the first quarter, the euro-U.S. dollar exchange rate was within the range we had forecast of 1.07 to 1.11, which we confirm for fiscal 2023. In comparison with the previous forecast, we expect stronger negative effects from the decline in value of individual Asian and emerging market currencies.

We do not expect the acquisitions of Erbi Biosystems Inc., USA, and M Chemicals Inc., Korea, the chemical business of Mecaro Co. Ltd., Korea, to have a material portfolio effect at Group level in fiscal 2023.

Net sales

We are specifying our expectations for the Merck Group. For fiscal 2023, we expect organic growth of net sales of between 1% and 4% (previously slight to solid organic growth). Our core business (excluding Covid-19-related sales) is likely to grow by between 4% and 7% (previously solid to strong growth). The Healthcare business sector will be the main driver of net sales with not only Bavencio® and Mavenclad®, but also our established portfolio of Fertility as well as Cardiovascular, Metabolism and Endocrinology products contributing to growth. For the Life Science business sector, we forecast organic growth, particularly in our core business. We confirm our assumption that Life Science sales stemming from the demand for products in connection with Covid-19 will total around € 250 million (2022: around € 800 million). The development of the Electronics business sector reflects the declining Display Solutions business as well as the weakening of the semiconductor materials market. This forecast is still based on the assumption that the semiconductor market will recover in the second half of 2023. However, in comparison with the previous forecast, an even stronger market decline is assumed. This is associated with a delayed and stronger recovery, which is now expected to begin later in the second half of 2023. Growth in the Semiconductor Solutions business unit will be driven by the project business in particular. Including negative foreign exchange effects of -2% to -5% (previously -1% to -4%), we forecast net sales for the Merck Group of between € 21.2 billion and € 22.7 billion (2022: € 22.2 billion).

EBITDA pre

We are specifying our estimate for EBITDA pre and assume an organic development of -5% to 0% (previously a moderate decline to organically stable). Overall, we expect a negative impact on EBITDA pre of all business sectors due to a higher level of costs stemming from inflation. This effect will be reflected especially in the Life Science and Electronics business sectors. We will mitigate the negative effects through active cost management and corresponding price measures, insofar as expedient. By contrast, we expect a positive organic development in Healthcare. This will be particularly attributable to the expected strong business performance. The termination of the alliance with Pfizer Inc., USA, as a result of which we will regain the exclusive global rights to develop, manufacture and commercialize Bavencio®, will also have a positive effect on the development of earnings. We continue to assume that active portfolio management will lead to income in the mid to high double-digit million euro range in fiscal 2023. The forecast foreign exchange development is expected to impact EBITDA pre of the Group by -2% to -5% (previously -1% to -4%) and manifest primarily in the Healthcare business sector. Positive effects of currency hedging transactions will mitigate the impact in comparison with the previous year. For Group EBITDA pre, we therefore expect an amount ranging from € 6.1 billion to € 6.7 billion (2022: € 6.8 billion).

Operating cash flow

The forecast for operating cash flow is generally subject to a higher fluctuation corridor than the forecast for EBITDA pre. We provide an estimate of the development of operating cash flow only for the Group as a whole.

The development of operating cash flow is forecast to be largely in line with operating performance. For operating cash flow, we also expect impacts from negative foreign exchange effects in fiscal 2023. Positive effects will result from a weaker rise in working capital in comparison with the previous year. Fiscal 2022 was particularly impacted by increased inventories to secure production and supply capacities as well as higher material prices. Overall, we forecast operating cash flow of € 3.7 billion to € 4.3 billion (previously moderate decline to stable development) in fiscal 2023 (2022: € 4.3 billion). As regards the composition of operating cash flow, we refer to the consolidated cash flow statement in this report.

Supplemental financial information

Consolidated Income Statement

€ million	Q1 2023	Q1 2022
Net sales	**5,293**	**5,198**
Cost of sales	-1,973	-1,987
Gross profit	**3,320**	**3,211**
Marketing and selling expenses	-1,109	-1,087
Administration expenses	-358	-287
Research and development costs	-597	-586
Impairment losses and reversals of impairment losses on financial assets (net)	-2	-5
Other operating income	32	112
Other operating expenses	-251	-185
Operating result (EBIT)[1]	**1,035**	**1,173**
Finance income	42	31
Finance costs	-65	-65
Profit before income tax	**1,012**	**1,139**
Income tax	-213	-255
Profit after tax	**800**	**884**
thereof: attributable to Merck KGaA shareholders (net income)	796	880
thereof: attributable to non-controlling interests	4	3
Earnings per share (in €)		
Basic	1.83	2.02
Diluted	1.83	2.02

[1] Not defined by International Financial Reporting Standard (IFRS).

Consolidated Statement of Comprehensive Income

€ million	**Q1 2023**	Q1 2022
Profit after tax	**800**	**884**
Items of other comprehensive income that will not be reclassified to profit or loss in subsequent periods		
Net defined benefit liability		
Changes in remeasurement	-13	589
Tax effect	1	-112
Changes recognized in equity	-12	477
Equity instruments		
Fair value adjustments	8	-45
Tax effect	-6	4
Changes recognized in equity	3	-42
	-9	435
Items of other comprehensive income that may be reclassified to profit or loss in subsequent periods		
Cash flow hedge reserve		
Fair value adjustments	40	-20
Reclassification to profit or loss	8	15
Reclassification to assets	–	–
Tax effect	–	3
Changes recognized in equity	48	-2
Cost of cash flow hedge reserve		
Fair value adjustments	-10	3
Reclassification to profit or loss	5	1
Tax effect	–	3
Changes recognized in equity	-5	8
Currency translation difference		
Changes taken directly to equity	-608	261
Reclassification to profit or loss	–	-2
Changes recognized in equity	-608	259
	-566	**265**
Other comprehensive income	**-575**	**700**
Comprehensive income	**225**	**1,584**
thereof: attributable to Merck KGaA shareholders	222	1,581
thereof: attributable to non-controlling interests	3	3

Consolidated Balance Sheet

€ million	March 31, 2023	Dec. 31, 2022
Non-current assets		
Goodwill	18,077	18,415
Other intangible assets	6,954	7,302
Property, plant and equipment	8,218	8,203
Investments accounted for using the equity method	3	3
Non-current receivables	24	27
Other non-current financial assets	959	957
Other non-current non-financial assets	100	99
Non-current income tax receivables	9	10
Deferred tax assets	1,343	1,310
	35,686	**36,325**
Current assets		
Inventories	4,890	4,632
Trade and other current receivables	4,270	4,114
Contract assets	133	128
Other current financial assets	137	321
Other current non-financial assets	1,516	705
Current income tax receivables	422	446
Cash and cash equivalents	1,584	1,854
	12,951	**12,201**
Total assets	**48,637**	**48,526**
Total equity		
Equity capital	565	565
Capital reserves	3,814	3,814
Retained earnings	19,250	18,463
Gains/losses recognized in equity	2,520	3,086
Equity attributable to Merck KGaA shareholders	**26,149**	**25,927**
Non-controlling interests	81	78
	26,230	**26,005**
Non-current liabilities		
Non-current provisions for employee benefits	1,965	2,030
Other non-current provisions	307	299
Non-current financial debt	9,159	9,200
Other non-current financial liabilities[1]	142	141
Other non-current non-financial liabilities[1]	19	19
Non-current income tax liabilities	38	38
Deferred tax liabilities	1,219	1,279
	12,851	**13,007**
Current liabilities		
Current provisions for employee benefits	132	81
Current provisions[2]	379	372
Current financial debt	1,485	1,228
Other current financial liabilities[1]	1,017	1,153
Trade and other current payables	2,326	2,498
Refund liabilities	947	912
Current income tax liabilities	1,461	1,483
Other current non-financial liabilities[1,2]	1,809	1,786
	9,556	**9,513**
Total equity and liabilities	**48,637**	**48,526**

[1] As of January 1, 2023, wage- and salary-related liabilities are disclosed under other non-financial liabilities instead of under other financial liabilities as in the past. For better comparability, the previous year's figures have been adjusted.

[2] As of January 1, 2023, the tranche of the Merck Long-Term Incentive Plan to be paid out in the months following the balance sheet date is disclosed under other current non-financial liabilities and no longer under current provisions for employee benefits. For better comparability, the previous year's figures have been adjusted.

Consolidated Cash Flow Statement

€ million	Q1 2023	Q1 2022
Profit after tax	**800**	**884**
Depreciation/amortization/impairment losses/reversals of impairment losses	456	430
Changes in inventories	-323	-186
Changes in trade accounts receivable	-116	-343
Changes in trade accounts payable/refund liabilities	215	207
Changes in provisions	-8	107
Changes in other assets and liabilities	-187	-234
Neutralization of gains/losses on disposals of assets	–	-27
Other non-cash income and expenses	17	3
Operating cash flow	**853**	**840**
Payments for investments in intangible assets	-79	-68
Payments from the disposal of intangible assets	4	21
Payments for investments in property, plant and equipment	-572	-430
Payments from the disposal of property, plant and equipment	10	17
Payments for investments in financial assets	-22	-24
Payments for acquisitions less acquired cash and net cash equivalents	–	-695
Proceeds from the disposal of other financial assets	225	87
Payments from disposal of non-financial assets	-897	-100
Proceeds from the disposal of non-financial assets	100	100
Payments from other divestments	–	4
Investing cash flow	**-1,231**	**-1,089**
Dividend payments to Merck KGaA shareholders	–	–
Dividend payments to non-controlling interests	–	-10
Dividend payments to E. Merck KG	-90	-91
Payments from new borrowings from E. Merck KG	–	–
Repayments of financial debt to E. Merck KG	-1	-406
Payments from the issuance of bonds	–	–
Repayments of bonds	–	-883
Changes in other current and non-current financial debt	216	1,074
Financing cash flow	**124**	**-315**
Changes in cash and cash equivalents	**-254**	**-564**
Changes in cash and cash equivalents due to currency translation	-16	4
Cash and cash equivalents at the beginning of the reporting period	1,854	1,899
Changes in cash and cash equivalents due to reclassification to assets held for sale	–	–
Cash and cash equivalents as of March 31 (consolidated balance sheet)	**1,584**	**1,339**

[1] As of January 1, 2023, the tranche of the Merck Long-Term Incentive Plan to be paid out in the months following the balance sheet date is disclosed under other current non-financial liabilities and no longer under current provisions for employee benefits. For better comparability, the previous year's figures have been adjusted.

Darmstadt, May 10, 2023

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financial calendar

August 3, 2023 Half-yearly Financial Report

November 9, 2023 Quarterly Statement Q3

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