

Report on Economic Position

Macroeconomic and Sector-Specific Environment

According to the latest World Economic Outlook published on January 30, 2023, the International Monetary Fund (IMF) states that the current economic challenges will continue to slow down the global economy on a broad basis and more sharply than previously expected. Global inflation continued to rise significantly during 2022 and led to a cost-of-living crisis in many regions. Inflation is forecasted to have reached its peak in late 2022, but it is expected to remain elevated for longer than initially anticipated due to ongoing supply shortages and rising energy and food prices. The inflation pressure triggered a tightening of monetary and financial conditions together with a significant appreciation of the U.S. dollar. Further challenges to the global economy include, among others, China's recovery of private consumption and investments in its real estate sector, climate change, tight labor markets in many countries, as well as geopolitical tensions including the war in the Ukraine, the re-alignment of energy supplies and the recent deterioration in China-U.S. relations threatening international trade and policy cooperation.

According to the latest IMF forecasts, global gross domestic product (GDP) growth slowed from 6.2% in 2021 to 3.4% in 2022. The slowdown of economic activity is visible across all economies. Advanced economies registered a growth of 2.7% (2021: 5.4%) while emerging markets and developing economies saw growth of 3.9% (2021: 6.7%). The GDP of the United States grew significantly slower with 2.0% (2021: 5.9%). The euro area recorded a GDP growth of 3.5% in 2022 (2021: 5.3%). The emerging economies of Asia registered a growth of 4.3% (2021: 7.4%). The strongest growth driver was India with 6.8% (2021: 8.7%). The GDP growth of China slowed down to 3.0% after initial recovery from the impacts of the pandemic in 2021 with 8.4% growth. As part of the advanced economies, the GDP of Japan grew by 1.4% (2021: 2.1%).

Our organic sales growth was above the IMF's global growth expectations in 2022 at 6.4%. It was supported by all regions. Europe accounted for the highest share of Group-wide growth with 42.3%, followed by Asia-Pacific with 24.2%, North America with 17.8%, Latin America with 12.3% and the Middle East and Africa with 3.4%.

The overall growth was predominantly driven by the Life Science business sector, despite declining Covid-19 tailwinds in 2022. Healthcare and Electronics also contributed positively to the organic sales growth. All business sectors supported growth in Europe and Latin America. Growth in the Asia-Pacific region was principally the result of operations in the Healthcare and Life Science business sectors while growth in North America was driven by the Life Science and Electronics business sectors.

Development in 2022 and 2021

	Change 2022 ¹	Change 2021
Life Science		
Growth in market for laboratory products ²	4.4%	10.4%
Growth in global sales of biopharmaceutical drugs ²	13.6%	11.4%
Share of biopharmaceutical sales in the global pharmaceutical market ³	34.6%	33.1%
Early clinical monoclonal antibody (mAb) pipeline growth ⁴	7.7%	12.6%
Healthcare		
Global pharmaceutical market	6.7%	8.9%
Market for multiple sclerosis therapies ⁵	2.0%	-3.4%
Market for type 2 diabetes therapies ⁵	18.3%	10.8%
Market for fertility treatment ⁵	4.9%	28.7%
Market for the treatment of colorectal cancer ⁶	-1.2%	-16.4%
Electronics		
Growth of wafer area for semiconductor chips	4.9%	14.1%
Growth of liquid crystal display surface area ⁷	-4.5%	4.3%
Global sales of cosmetics and care products	15.8%	4.6%
Global number of produced light vehicles	6.4%	3.0%

¹ Predicted development. Final development rates for 2022 were not available for all industries when this report was prepared.

² The Global Market for laboratory products, December 2022, Frost & Sullivan. Deceleration compared to 2021 growth attributed to declining sales for Covid-19-related life science products despite strong core growth.

³ Global pharmaceutical spending at a constant exchange rate. IQVIA market data based on the past 12 months as of the third quarter of 2022.

⁴ Number of programs in Phase I or Phase II clinical trials, Cortellis.

⁵ Growth rates based on market data in local currency, translated at a constant euro exchange rate. The IQVIA market data on the growth of indications are based on current figures, including the third quarter of 2022. Annual growth based on the values for the past 12 months. The type 2 diabetes market excludes the United States, since this market is insignificant to Merck.

⁶ Growth rates based on market data stated in US dollars. Market data from EvaluatePharma on the growth of indications are based on published company reports and are subject to exchange rate fluctuations.

⁷ Growth of display area is a pure volume indicator, which is counteracted by a negative price momentum.

Life Science

Our Life Science business sector is a leading global supplier of products, tools, and services for research laboratories, pharma and biotech production, and industrial and testing laboratories. As production of vaccines, treatments, and tests for the Covid-19 pandemic decline from their peak, robust underlying growth of the core (non-Covid-19) market results in a sustained strong outlook.

According to the market research firm Frost & Sullivan, the market for laboratory products, which is relevant to our Science & Lab Solutions business unit, grew 4.4% in 2022 (2021: 10.4%). Given strong core demand but anticipated declining demand for Covid-19 applications compared with strong previous support from additional Covid-19 revenues, the market is expected to grow in the mid-single digits longer term.

In the pharma and biotech production market, in which our Process Solutions and Life Science Services business units are active, demand is driven by the development and manufacture of therapeutics and vaccines. According to IQVIA, the end market for biopharmaceuticals grew by 14.3% in 2022 (2021: 12.0%) to € 452 billion (or 35.4% of the global pharmaceutical market). Monoclonal antibodies (mAbs), currently the leading area of biopharmaceuticals, continued to develop positively in 2022 with the number of molecules in phase 1 or 2 development growing by 7.7% (2021: 12.6%). This deceleration in year-over-year growth reflects a normalization from pandemic-era peaks in phase 1/2 pipeline growth for mAbs, viral gene therapies, and other recombinant proteins. For mAbs, year-over-year growth in the early-stage clinical pipeline remains similar to pre-pandemic rates (average 8.8% annual growth from 2018-2020).

Healthcare

In its latest study from September, the pharmaceutical market research firm IQVIA forecasts growth of 6.7% in 2022 (2021: 8.9%) for the global overall pharmaceutical market. With continued recovery from the Covid-19 pandemic, the pharmaceutical market is expected to see still high growth rates benefitting from accelerated approval pathways and increased access to innovative drugs globally. This is balanced by increasing cost containment measures driving biosimilar and generics uptake as well as stricter price reviews and prescription controls.

The developments at a regional level follow the described trend. EMEA (Europe, Middle East and Africa) grew 7.5% in 2022 (2021: 7.7%) with the EU5 growing at 7.3% (2021: 8.2%). North America grew 7.0% (2021: 7.8%) with the United States recording the same growth rate of 7.0% (2021: 7.8%). In absolute terms, the pharmaceutical market in the United States remains the biggest and most important market by far. Latin America achieved double-digit growth of 16.5% (2021: 24.9%) followed by the Asia-Pacific region (excluding China and Japan) with 8.6% growth (2021: 11.4%). China is an exception with an assumed negative growth of -1.8% in 2022 (2021: 7.6%) driven by regional and local lockdowns due to Covid-19 and continued extension of price regulations (for example, volume-based procurement) despite increasing access to innovative products and enlarged healthcare infrastructure.

Not only the growth of the pharmaceutical sector as a whole, but also the market development for biotechnologically produced active ingredients is relevant to our business. As previously stated, the market volume for biological pharmaceuticals totaled approximately € 452 billion in 2022 (2021: approximately € 396 billion) according to IQVIA, thus continuing the increase in market share of recent years. These products accounted for 35.4% of the global pharmaceutical market in 2022 (2021: 33.6%). The most important market for biological pharmaceuticals remains the United States, with a 63.2% share of global biopharmaceutical market volumes.

The developments in the therapeutic areas of relevance to Merck saw differing trends in the reporting year. The global market for type 2 diabetes excluding the United States and Russia followed the growth trend of previous years and accelerated growth, achieving 18.3% in 2022 (2021: 10.8%). The therapeutic area of infertility grew 4.9% in the reporting year (2021: 28.7%) after a significant recovery in 2021 from the pandemic in which, for example, clinics were partially closed. Colorectal cancer further declined by -1.2% in 2022 (2020: -16.4%) due to biosimilar penetration. The growth trend in the market for multiple sclerosis therapies improved compared with the previous year level of 2.0% (2021: -3.4%), as new product launches counteracted the effect of market decline due to generic competition.

Electronics

The semiconductor industry is the most important market for our business with materials, solutions and services for the production of integrated circuits (Semiconductor Solutions). In particular, the growth in demand for semiconductor materials depends mainly on the wafer area produced for semiconductors. The silicon wafers required as raw materials are used as an indicator to estimate the demand for semiconductor materials overall. According to the global industry association SEMI, the area of delivered silicon wafers grew by 4.9% in 2022, after strong growth in 2021 (14.1%). While demand for electronic devices is normalizing after the Covid-19-induced investment and upgrade cycle in 2020 and 2021, the ongoing trend of digitization and the required digital infrastructure (network, servers, 5G) continues. Semiconductors are a key component for many applications including communications, consumer electronics, automotive, transportation, clean energy, aerospace, and defense.

Driven by the aforementioned acceleration of digitization and the corresponding exponential data growth, there is a continuing need for semiconductors across all device end-markets. The high demand for and importance of semiconductors is clearly visible in the recent slow easing of the global chip bottleneck shortage and their geopolitical relevance. For this reason, all major chip manufacturers increased and accelerated their investment plans for new fabs and additional capacities. Combined with ongoing technology upgrades, these investments

will lead to rising demand for innovative materials. Our targeted semiconductor materials market is expected to have a strong long-term growth, with some cyclicity.

With our Liquid Crystals business, we are a leading producer of liquid crystal mixtures for the display industry. After the Covid-19-induced “stay at home boom” the display industry is undergoing demand normalization. The market research company OMDIA (forecast Q3 2022) forecasts a market decline in 2022. In the medium to long term, liquid crystals will continue to play a key role in the display industry in the future. OLED technology, for which we are also one of the leading material suppliers, is becoming increasingly important in high-end display applications.

The markets for automotive coatings and cosmetics are crucial to our Surface Solutions business. According to LMC, a leading global provider of automotive forecasts, global automobile production grew by 6.4% in 2022 after 3.0% growth in 2021 and a strong dip in 2020. The market is expected to continue with 4.8% growth in 2023, reaching 2019 production volumes in 2024. Underlying drivers include an ongoing latent global demand related to Covid-19 and a reduction in supply chain problems of recent years. China continues to be one of the most important markets. The market for cosmetics and care products showed a continuing, very strong development with an overall growth of 15.8% in 2022 (2021: 4.6%) following the dip in 2020. After the negative effects of Covid-19 regarding lockdowns and social distancing and increased trade conflicts between the United States and China last year, Euromonitor, a leading global provider of market research, expects the market growth to be sustainable at ~4-6% per year until 2026.

Review of Forecast against Actual Business Developments

The forecast of the Merck Group for fiscal 2022 published in the Annual Report for fiscal 2021 comprised the forecast for the Group as well as the forecast for the three business sectors: Life Science, Healthcare, and Electronics.

Net sales

We forecast strong organic net sales growth for the Group in 2022. In particular, the geopolitical and economic conditions changed in the course of the year. Additionally, renewed outbreaks of Covid-19 in China and the zero-Covid strategy pursued by the Chinese government meant that temporary, locally restricted lockdowns were imposed there. Driven by the sustained dynamic organic growth of the Life Science business sector in particular, we recorded organic growth in net sales of 6.4% in fiscal 2022, thus falling within our forecast range last revised to organic sales growth of between +6% and +8% with the publication of the figures for the third quarter. At the start of the year, we still anticipated positive exchange rate effects of between +1% and +4% on our net sales. However, several currencies saw more favorable development than expected as the year progressed, particularly the U.S. dollar and the Chinese renminbi. The positive exchange rate effect in 2022 as a whole was +6.1%, thus falling within the range of between +5% and +8% set out in our most recent update in the third quarter. The slightly positive portfolio effect was negligible at +0.4%. All in all, net sales amounted to € 22,232 million, representing a year-on-year increase of +12.9%.

Life Science

Our Life Science business sector generated organic sales growth of 8.2% in 2022, this falling within the forecast range of +7% to +10% that was specified in the first quarter. This meant that Life Science also achieved the original forecast of strong organic sales growth. This development was driven by all three business units, namely Process Solutions, Life Science Services and Science & Lab Solutions. As expected, Process Solutions was again the most dynamic business unit, delivering the largest contribution to the organic sales growth within Life Science. All in all, net sales in the Life Science business sector increased by 15.4% to € 10,380 million, including a positive exchange rate effect of 6.4% and a positive portfolio effect of 0.8%.

Healthcare

We originally forecast solid organic sales growth for our Healthcare business sector compared with the previous year. We then quantified this organic sales growth forecast at between +4% and +7% when we published the figures for the first quarter. Having retained this forecast, we achieved it with organic growth of +5.5% in fiscal 2022. This development was driven in particular by the significant growth contribution from oncology business and, above all, strong growth in our recently approved product Bavencio®. Neurology & Immunology also made a substantial contribution to organic sales growth thanks to our recently approved product Mavenclad® in particular. As we originally forecast for fiscal 2022, we returned to solid organic sales growth in the Cardiovascular, Metabolism and Endocrinology franchise. Taking into account a positive exchange rate effect of 5.1%, net sales in the Healthcare business sector increased by 10.6% to € 7,839 million in fiscal 2022.

Electronics

Since we anticipated positive development in semiconductor business, we forecast solid to strong organic sales growth for our Electronics business sector at the start of the year. We quantified our organic sales growth forecast at between +5% and +8% when we published the figures for the first quarter. In addition to various economic and geopolitical factors leading to an expected slowdown in growth in the Semiconductor Solutions business in the second half of the year compared with the previous forecast, our Display Solutions business saw weaker organic growth in the third quarter. Accordingly, we lowered our forecast for the Electronics business

sector to organic sales growth of between +2% and +5% with the publication of the figures for the third quarter. The business sector achieved this reduced forecast with organic sales growth of 3.7%. Thanks to positive exchange rate effects of 7.6%, the Electronics business sector increased its net sales by 11.3% year-on-year to € 4,013 million.

EBITDA pre

For 2022, we originally forecast strong year-on-year organic growth in EBITDA pre for the Merck Group. This assumption was based on the expectation of strong organic growth in Life Science, moderate to solid growth in Healthcare, and solid organic growth in Electronics. Because of the expected favorable foreign exchange environment, we originally expected positive exchange rate effects to impact EBITDA pre by between +2% and +5% compared with the prior year. With the presentation of the figures for the first quarter, we quantified our forecast for organic growth in EBITDA pre at between +5% and +9%. Thanks to positive exchange rate effects, especially from the U.S. dollar and the Chinese renminbi, we raised our forecast for the impact of exchange rate effects on EBITDA pre twice in the course of fiscal 2022, ultimately ending with a forecast of between +6% and +10%. EBITDA pre amounted to € 6,849 million in fiscal 2022, representing a total increase of 12.2% compared with the previous year. At +6.1%, organic sales growth fell within our forecast range of between +5% and +9%. Positive exchange rate effects amounted to +6.4%, thereby coming in at the lower end of our final forecast range. The slightly negative portfolio effect was negligible at -0.3%.

Life Science

In line with the anticipated strong organic revenue growth in Life Science, we also forecast strong organic growth in EBITDA pre in this business sector. We quantified our forecast for organic growth in EBITDA pre at between +6% and +10% in the first quarter and raised it to between +8% and +11% with the publication of the figures for the second and third quarter. In addition to reflecting the more precise forecast range for net sales growth in the Life Science business sector, this range takes account of the dynamic development of demand, the accompanying operating levers, and the product mix. With EBITDA pre of € 3,760 million in fiscal 2022 (2021: € 3,286 million) and year-on-year organic growth of 9.7%, the business sector's earnings performance fell within the forecast range. Exchange rate effects had an additional positive effect of 5.1% on EBITDA pre compared with fiscal 2021. The slightly negative portfolio effect was negligible at -0.4%.

Healthcare

We forecast moderate to solid organic growth in EBITDA pre for our Healthcare business sector on the back of substantial expected earnings contributions from our new products, especially Mavenclad®, as well as the decline in marketing and selling expenses and research and development costs as a proportion of sales thanks to systematic cost management and strict pipeline prioritization. Largely because of the absence of non-recurring effects from the previous year, this original forecast was slightly below the expected organic growth in net sales (solid organic sales growth). With the publication of the figures for the first quarter, we quantified our forecast for organic growth in EBITDA pre at between +3% and +5% in fiscal 2022. This forecast was subsequently retained. We ultimately recorded year-on-year organic growth in EBITDA pre of +3.3% in fiscal 2022, thus falling within the forecast range. Exchange rates had an additional positive effect of 11.7% on EBITDA pre compared with the previous year, thereby coming in at the lower end of the most recent forecast range of between +12% and +15%.

Electronics

For the Electronics business sector, we originally anticipated solid organic growth in EBITDA pre in fiscal 2022. We expected the growth in Semiconductor Solutions to more than offset falling prices for liquid crystals with the support of active price and cost management. In response to greater adverse effects from increased raw material and logistics costs, which we were only able to partially offset by taking countermeasures, we quantified our forecast range for organic EBITDA pre growth at between +0% and +4% with the presentation of the figures for the first quarter. After initially adjusting our forecast range slightly to between +0% and +3% with the publication of the figures for the second quarter, we lowered it significantly to a year-on-year decrease of between -7% and -10% when the figures for the third quarter were presented. The main reasons for this development were a higher projected downturn in demand as well as falling prices for liquid crystals. Electronics recorded EBITDA pre of € 1,192 million across 2022 as a whole (2021: € 1,128 million). This represented a year-on-year organic decline of -7.3%, which was at the upper end of our forecast range. Exchange rates had an additional positive effect of 13% on EBITDA pre compared with fiscal 2022 (most recent forecast range +13% to +16%).

Corporate and Other

The expenses for Corporate and Other in EBITDA pre amounted to € -579 million in fiscal 2022. This was in line with the most recent forecast range of between € -570 million and € -600 million but higher than the forecast range issued with the publication of the figures for the first quarter, which was between € -510 million and € -570 million. The amended forecast range reflects the changed assumptions regarding exchange rate developments and the associated expected negative effects of currency hedging transactions, which partially offset the positive foreign exchange effects in the business sectors. Compared with the prior-year figure of € -465 million, this corresponded to an increase in costs of 24.7%.

Operating cash flow

We originally anticipated a significant year-on-year increase in the operating cash flow of the Merck Group in 2022 (2021: € 4,616 million). We quantified this forecast at between € 4,500 million and € 5,100 million with the presentation of the figures for the first quarter in order to reflect an increase in working capital as well as the expected payments within the scope of the ongoing transformation and growth programs in fiscal 2022 (especially in the Healthcare and Electronics business sectors). The operating cash flow amounted to € 4,259 million in fiscal 2022, which was lower than the quantified forecast range of between € 4,500 million and € 5,100 million. In addition to the reasons already mentioned this was mainly due to the higher tax payments.

Merck Group

	Net sales	EBITDA pre	Operating Cash Flow	EPS pre
Actual results 2021 in € million	19,687	6,103	4,616	€ 8.72
Forecast for 2022 in the 2021 Annual Report	• Strong organic growth • Positive foreign ex-change effect of 1% to 4%	• Strong organic growth • Negative foreign exchange effect of -2% to -5%	• Strong increase	
Main comments	• Strong organic growth in Life Science • Solid organic growth in Healthcare • Solid to strong organic growth in Electronics • Positive foreign exchange effects particularly from the U.S. dollar and the Chinese renminbi	• Strong organic growth in Life Science • Moderate to solid organic growth in Healthcare • Solid organic growth in Electronics • Positive foreign exchange effects particularly from the U.S. dollar and the Chinese renminbi	• Organic increase in EBITDA pre as well as positive foreign exchange effects • Rise in working capital within the scope of business performance • Payouts for ongoing transformation programs, particularly in Healthcare and Electronics • Higher fluctuation corridors than for net sales and EBITDA pre are to be expected	
Forecast for 2022 in the interim report:				
	~18,500 to 19,500	~6,600 to 7,100	~4,500 to 5,100	€ 9.60 to € 10.50
Q1/2022	• Organic increase of +6% to +9% • Exchange rate effect +3% to +6%	• Organic increase of +5% to +9% • Exchange rate effect +4% to +8%		
	~21,900 bis 23,000	~6,750 bis 7,250	~4,500 to 5,100	€ 9.85 to € 10.75
Q2/2022	• Organic increase of +6% to +9% • Exchange rate effect +5% to +8%	• Organic increase of +5% to +9% • Exchange rate effect +6% to +10%		
	~22,000 to 22,900	~6,800 to 7,200	~4,500 to 5,100	€ 9.90 to € 10.70
Q3/2022	• Organic increase of +6% to +8% • Foreign exchange effect +5% to +8%	• Organic increase of +5% to +10% • Foreign exchange effect +6% to +10%		
Results 2022 in € million	22,232 (+12.9%: +6.4% organic, +0.4% portfolio, +6.1% currency)	6,849 (+12.2%: +6.1% organic, -0.3% portfolio, +6.4% currency)	4,259 -7.7%	€ 10.05 +15.3%

Life Science

	Net sales	EBITDA pre	Operating Cash Flow
Actual results 2021 in € million ¹	8,992	3,287	n/a
Forecast for 2022 in the 2021 Annual Report	• Strong organic growth • Slight to moderately positive foreign exchange effect	• Strong organic earnings growth • Slight to moderately positive foreign exchange effect	n/a
Main comments	• All businesses contribute to organic growth • Process Solutions remains the strongest growth driver contributing Covid-19-related sales of up to € 900 million • Positive foreign exchange effects particularly from the U.S. dollar and the Chinese renminbi	• Organic earnings growth owing to the expected sales growth • Positive foreign exchange effects particularly from the Chinese renminbi and the U.S. dollar	n/a
Forecast for 2022 in the interim report:			
Q1/2022	~10,000 to 10,650 • Organic increase of +7% to +10% • Exchange rate effect +3% to +6%	~3,600 to 3,850 • Organic increase of +6% to +10% • Exchange rate effect +3% to +6%	n/a
Q2/2022	~10,150 to 10,750 • Organic increase of +7% to +10% • Exchange rate effect +5% to +8%	~3,700 to 3,900 • Organic increase of +7% to +10% • Exchange rate effect +4% to +7%	n/a
Q3/2022	~10,200 to 10,700 • Organic increase of +7% to +10% • Foreign exchange effect +5% to +8%	~3,700 to 3,900 • Organic increase of +8% to +11% • Foreign exchange effect +4% to +7%	n/a
Results 2022 in € million	10,380 (+15.4%: +8.2% organic, +0.8% portfolio, +6.4% currency)	3,760 (+14.4%: +9.7% organic, -0.4% portfolio, +5.0% currency)	n/a

¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

Healthcare

	Net sales	EBITDA pre	Operating Cash Flow
Actual results 2021 in € million	7,089	2,153	n/a
Forecast for 2022 in the 2021 Annual Report	• Solid organic growth • Slight to moderately positive foreign exchange effect	• Moderate to solid organic growth • Solid to strong positive foreign exchange effect	n/a
Main comments	• Continued significant growth contributions from Mavenclad® and Bavencio® as well as contributions from Tepmetko® • CM&E franchise returns to growth following negative impacts in the previous year due to the volume-based procurement regulations in China • Positive foreign exchange effects particularly from the U.S. dollar and the Chinese renminbi	• Expected substantial earnings contribution especially from Mavenclad® can more than offset the effect from the expected decline in sales of Rebif® • Marketing and selling expenses as well as research and development costs with a decreasing share of sales due to systematic cost management and strict pipeline prioritization • Absence of one-time effects from the previous year • Positive foreign exchange effects particularly from the U.S. dollar and the Chinese renminbi	n/a
Forecast for 2022 in the interim report:			
Q1/2022	~7,600 to 8,000 • Organic increase of +4% to +7% • Exchange rate effect +3% to +6%	~2,350 to 2,500 • Organic increase of +3% to +5% • Exchange rate effect +8% to +12%	n/a
Q2/2022	~7,700 to 8,050 • Organic increase of +4% to +7% • Exchange rate effect +4% to +7%	~2,450 bis 2,550 • Organic increase of +3% to +5% • Exchange rate effect +12% to +15%	n/a
Q3/2022	~7,700 to 8,850 • Organic increase of +4% to +7% • Foreign exchange effect +4% to +7%	~2,450 to 2,550 • Organic increase of +3% to +5% • Foreign exchange effect +12% to +15%	n/a
Results 2022 in € million	7.839 (+10.6%: +5.5% organic, 0.0% portfolio, +5.1% currency)	2,477 (+15.0%: +3.3% organic, 0.0% portfolio, +11.7% currency)	n/a

Electronics

	Net sales	EBITDA pre	Operating Cash Flow
Actual results 2021 in € million ¹	3,606	1,128	n/a
Forecast for 2022 in the 2021 Annual Report	• Solid to strong organic growth • Moderate to solid positive foreign exchange effect	• Solid organic growth • Solid to strong positive foreign exchange effect	n/a
Main comments	• Strong growth dynamic in Semiconductor Solutions and OLED materials • Positive foreign exchange effects particularly from the U.S. dollar and individual Asian currencies	• Growth in Semiconductor Solutions can more than offset price decline in Liquid Crystals supported by active price and cost management • Positive foreign exchange effects particularly from the U.S. dollar and individual Asian currencies	n/a
Forecast for 2022 in the interim report:			
Q1/2022	~3,950 to 4,150 • Organic increase of +5% to +8% • Exchange rate effect +4% to +7%	~1,200 to 1,300 • Organic increase of +0% to +4% • Exchange rate effect +9% to +12%	n/a
Q2/2022	~4,050 to 4,250 • Organic increase of +5% to +8% • Exchange rate effect +6% to +9%	~1,250 to 1,300 • Organic increase of +0% to +3% • Exchange rate effect +12% to +15%	n/a
Q3/2022	~4,000 to 4,150 • Organic increase of +2% to +5% • Foreign exchange effect +6% to +9%	~1,190 to 1,240 • Organic increase of -7% to -10% • Foreign exchange effect +13% to +16%	n/a
Results 2022 in € million	4,013 (+11.3%: +3.7% organic, 0.0% portfolio, +7.6% currency)	1,192 (+5.7%: -7.3% organic, 0.0% portfolio, +13.0% currency)	n/a

¹ Figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

Corporate and Other

	EBITDA pre	Operating Cash Flow
Actual results 2021 in € million	-465	n/a
Forecast for 2022 in the 2021 Annual Report	• For Corporate and Other, we expect a slight increase in costs in fiscal 2022. This takes into consideration expected negative effects from foreign currency hedging, which will partially offset positive foreign exchange effects in the business sectors.	
Forecast for 2022 in the interim report:		
Q1/2022	~-510 to -570	
Q2/2022	~-560 to -610	
Q3/2022	~-570 to -600	
Results 2022 in € million	-579 (+24.7%: -13.7% organic, +1.2% portfolio, +37.1% currency)	

Course of Business and Economic Position

Merck Group

Overview of 2022

- Group net sales up € 2.5 billion or 12.9% to € 22.2 billion (2021: € 19.7 billion)
- Organic sales growth of 6.4%; foreign exchange effects of 6.1%
- Group EBITDA pre improves by 12.2% to € 6.8 billion (2021: € 6.1 billion), with the EBITDA pre margin amounting to 30.8% (2021: 31.0%)
- Earnings per share pre increases by 15.3% to € 10.05 (2021: € 8.72)
- Operating cash flow of the Merck Group amounts to € 4.3 billion (2021: € 4.6 billion)
- Reduction in net financial debt of 4.9% to € 8.3 billion (December 31, 2021: € 8.8 billion)

Merck Group

Key figures

€ million	2022	2021	Change	
			€ million	%
Net sales	22,232	19,687	2,546	12.9%
Operating result (EBIT) ¹	4,474	4,179	296	7.1%
Margin (% of net sales) ¹	20.1%	21.2%		
EBITDA ²	6,504	5,946	558	9.4%
Margin (% of net sales) ¹	29.3%	30.2%		
EBITDA pre ¹	6,849	6,103	746	12.2%
Margin (% of net sales) ¹	30.8%	31.0%		
Profit after tax	3,339	3,065	274	8.9%
Earnings per share (€)	7.65	7.03	0.62	8.8%
Earnings per share pre (€) ¹	10.05	8.72	1.33	15.3%
Operating cash flow	4,259	4,616	-357	-7.7%

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.

Development of sales and results of operations

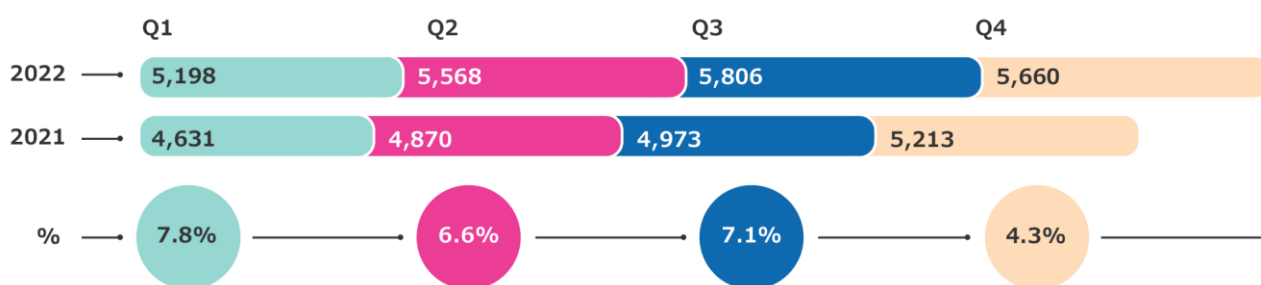
In fiscal 2022, the Merck Group generated net sales of € 22,232 million (2021: € 19,687 million), representing a year-on-year increase of € 2,546 million or 12.9%. This positive development was attributable to organic net sales growth of € 1,262 million or 6.4% and was driven by all of the Group's business sectors. Positive foreign exchange effects, which resulted primarily from the development of the U.S. dollar and the Chinese renminbi, led to an increase in net sales of € 1,208 million or 6.1% in fiscal 2022. The portfolio-related net sales increase of € 76 million or 0.4% mainly resulted from the acquisition of Exelead Inc., United States, which closed on February 22, 2022.

The net sales in the individual quarters as well as the respective organic growth rates in 2022 are presented in the following graph:

Merck Group

Net sales and organic growth¹ by quarter²

€ million/organic growth in %



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

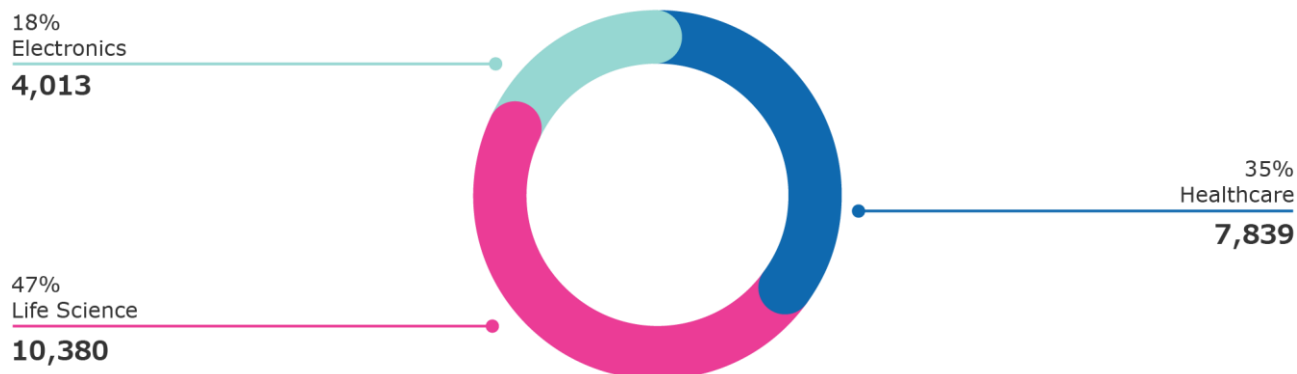
² Quarterly breakdown unaudited.

Net sales in the Life Science business sector increased by € 1,389 million or 15.4% year-on-year to € 10,380 million (2021: € 8,992 million). This development was attributable to organic growth of 8.2%, which was supported by a positive foreign exchange effect of 6.4% and an increase in net sales of 0.8% due to the acquisition of Exelead Inc., United States. Accounting for 47% of Group sales (2021: 46%), Life Science was the strongest business sector in terms of net sales. It was followed by Healthcare with 35% of Group sales (2021: 36%), where net sales rose by € 750 million or 10.6% to € 7,839 million in the year under review (2021: € 7,089 million). Organic sales growth of 5.5% was accompanied by positive foreign exchange effects of 5.1%. The € 407 million or 11.3% increase in net sales in the Electronics business sector to € 4,013 million (2021: € 3,606 million) resulted from organic net sales growth of 3.7% and positive foreign exchange effects of 7.6%. The percentage contribution of Electronics to Group net sales was unchanged year-on-year at 18%.

Merck Group

Net sales by business sector - 2022

€ million/% of net sales



Merck Group

Net sales by business sector¹

€ million	2022	Share	Organic growth ²	Exchange rate effects	Acquisitions/divestments	Total change	2021	Share
Life Science	10,380	47%	8.2%	6.4%	0.8%	15.4%	8,992	46%
Healthcare	7,839	35%	5.5%	5.1%	–	10.6%	7,089	36%
Electronics	4,013	18%	3.7%	7.6%	–	11.3%	3,606	18%
Merck Group	22,232	100%	6.4%	6.1%	0.4%	12.9%	19,687	100%

¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.² Not defined by International Financial Reporting Standards (IFRS).

In fiscal 2022, the Merck Group recorded the following regional sales performance:

Merck Group

Net sales by region

€ million	2022	Share	Organic growth ¹	Exchange rate effects	Acquisitions/divestments	Total change	2021	Share
Europe	6,248	28%	9.4%	0.3%	0.4%	10.1%	5,675	29%
North America	6,361	29%	4.2%	12.8%	0.9%	17.9%	5,397	27%
Asia-Pacific (APAC)	7,697	35%	4.4%	5.3%	–	9.7%	7,020	36%
Latin America	1,231	5%	15.6%	8.4%	0.3%	24.3%	990	5%
Middle East and Africa (MEA)	695	3%	7.0%	7.9%	–	15.0%	605	3%
Merck Group	22,232	100%	6.4%	6.1%	0.4%	12.9%	19,687	100%

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

The Consolidated Income Statement of the Merck Group is as follows:

Merck Group

Consolidated Income Statement

€ million	2022	%	2021	%	Change	
					€ million	%
Net sales	22,232	100.0%	19,687	100.0%	2,546	12.9%
Cost of sales	-8,527	-38.4%	-7,351	-37.3%	-1,176	16.0%
Gross profit	13,705	61.6%	12,335	62.7%	1,370	11.1%
Marketing and selling expenses	-4,714	-21.2%	-4,304	-21.9%	-410	9.5%
Administration expenses ¹	-1,306	-5.9%	-1,227	-6.2%	-79	6.5%
Research and development costs ¹	-2,521	-11.3%	-2,426	-12.3%	-95	3.9%
Impairment losses and reversals of impairment losses on financial assets (net)	-6	-	1	-	-7	>100.0%
Other operating income and expenses ¹	-685	-3.1%	-202	-1.0%	-483	>100.0%
Operating result (EBIT)²	4,474	20.1%	4,179	21.2%	296	7.1%
Financial result	-187	-0.8%	-255	-1.3%	68	-26.7%
Profit before income tax	4,287	19.3%	3,924	19.9%	364	9.3%
Income tax	-948	-4.3%	-859	-4.4%	-89	10.4%
Profit after tax	3,339	15.0%	3,065	15.6%	274	8.9%
Non-controlling interests	-14	-0.1%	-10	-0.1%	-3	31.1%
Net income	3,326	15.0%	3,055	15.5%	271	8.9%

¹ Adjustment of prior-year figures due to a change in functional allocation within Corporate and Other.

² Not defined by International Financial Reporting Standards (IFRS).

The positive business performance in fiscal 2022 led to an increase of 11.1% in the Merck Group's gross profit to € 13,705 million (2021: € 12,335 million). The resulting gross margin of the Group, i.e. gross profit as a percentage of net sales, amounted to 61.6% (2021: 62.7%).

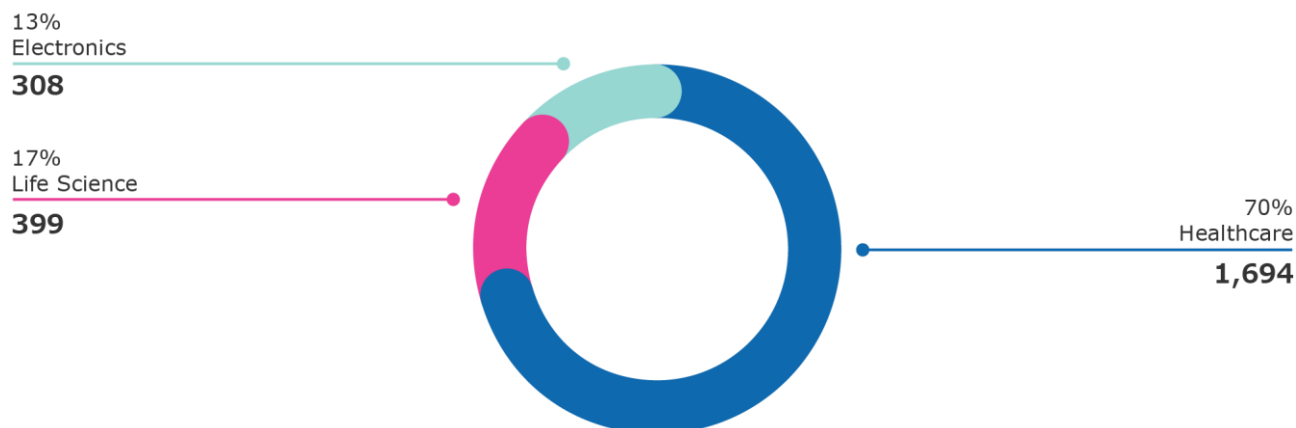
Group-wide research and development costs rose by 3.9% to € 2,521 million in 2022 (2021: € 2,426 million) and led to a research spending ratio (research and development costs as a percentage of net sales) of 11.3% (2021: 12.3%). Accounting for a 70% (2021: 73%) share¹ of Group R&D spending, Healthcare was the most research-intensive business sector of the Merck Group. Further information can be found in the "[Research and Development](#)" chapter.

¹ Not including research and development costs of € 119 million allocated to Corporate and Other.

Merck Group

Research and development costs by business sector¹ - 2022

€ million/%



¹ Not presented: research and development costs of € 119 million allocated to Corporate and Other.

Net other operating expenses and income increased to € -685 million in fiscal 2022 (2021: € -202 million). This was due to higher other operating expenses, which were significantly influenced by impairment losses on non-financial assets and a negative currency result from cash flow hedging as well as higher expenses for profit share agreements in the Healthcare business sector. In addition, other operating income declined as a result of lower upfront, milestone and license payments in the Healthcare business sector in particular (see explanations under "[Healthcare](#)"). Detailed information about the development and composition of other operating expenses and income can be found in Note (13) "[Other operating income](#)" and Note (14) "[Other operating expenses](#)" in the Notes to the Consolidated Financial Statements.

The 7.1% increase in the operating result (EBIT) to € 4,474 million (2021: € 4,179 million) was mainly driven by the positive development of gross profit.

An increase in provisions for obligations under long-term variable compensation programs (Merck Long-Term Incentive Plan) had an adverse effect on the operating result in the year under review, with the rise in the intrinsic value of the Merck Share Units being reflected in the respective functional costs depending on the area of activity of the plan beneficiaries.

The financial result improved by 26.7% to € -187 million in fiscal 2022 (2021: € -255 million). This was due in particular to the positive development of net interest income compared with the previous year. Details about the Group's financial income and expenses can be found in Note (40) "[Finance income and expenses/Net gains and losses from financial instruments](#)" in the Notes to the Consolidated Financial Statements.

Income tax expense amounted to € 948 million in 2022 (2021: € 859 million) and resulted in a tax rate of 22.1% (2021: 21.9%). Further information on income taxes can be found in Note (15) "[Income tax](#)" in the Notes to the Consolidated Financial Statements.

The net income attributable to Merck KGaA shareholders increased by 8.9% to € 3,326 million (2021: € 3,055 million) and resulted in an improvement in earnings per share to € 7.65 in fiscal 2022 (2021: € 7.03).

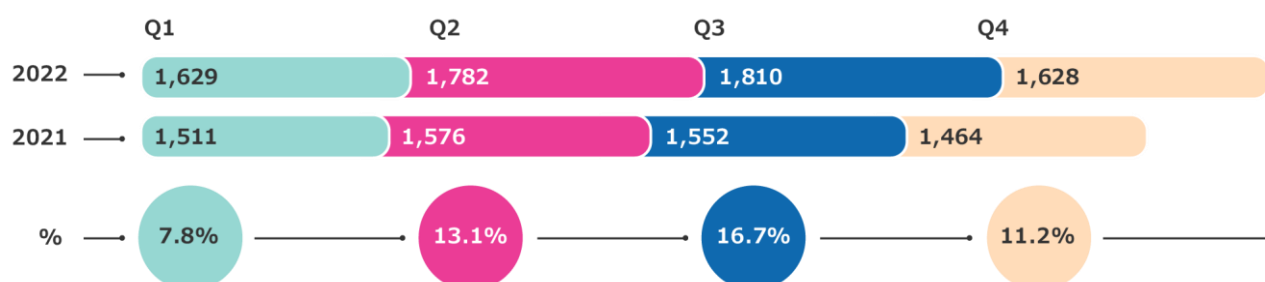
EBITDA pre, the key financial indicator used to steer operating business, rose by € 746 million or 12.2% to € 6,849 million (2021: € 6,103 million). Organic earnings growth amounted to 6.1% and foreign exchange effects had an impact of 6.4%, while portfolio effects amounted to -0.3%. The EBITDA pre margin of the Merck Group (EBITDA pre as a percentage of net sales) amounted to 30.8% (2021: 31.0%). The reconciliation of the operating result (EBIT) to EBITDA pre is presented in the "[Internal Management System](#)" chapter.

The development of EBITDA pre in the individual quarters in comparison with 2021 as well as the respective growth rates are presented in the following overview:

Merck Group

EBITDA pre¹ and change by quarter²

€ million/change in %



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

² Quarterly breakdown unaudited.

The biggest contribution to the growth in Group EBITDA pre came from the Life Science business sector, which generated EBITDA pre of € 3,760 million, up 14.4% on the previous year (2021: € 3,287 million). This meant the EBITDA pre margin in Life Science amounted to 36.2% in fiscal 2022 (2021: 36.6%). The share of Group EBITDA pre attributable to the Life Science business sector (not taking into account the € -579 million reduction due to Corporate and Other) rose to 51% (2021: 50%).

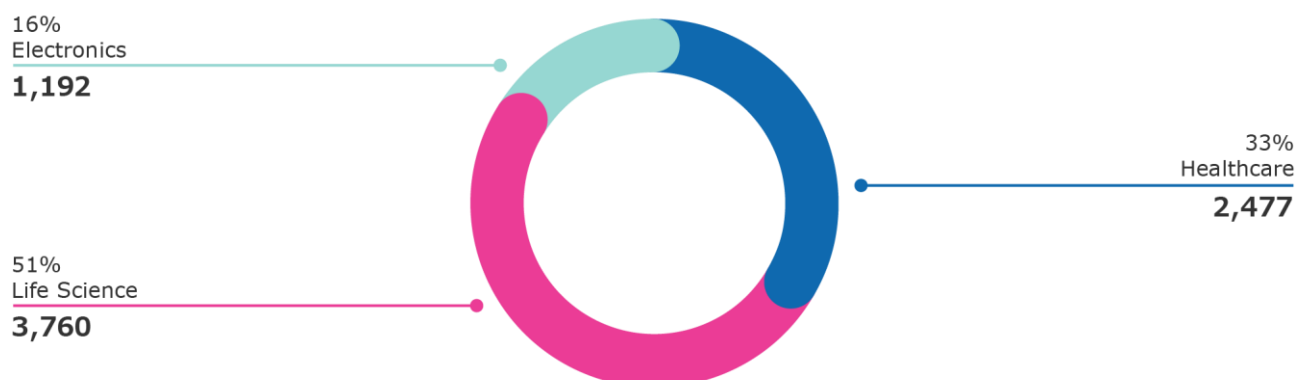
EBITDA pre in the Healthcare business sector increased by 15.0% to € 2,477 million (2021: € 2,153 million). Accordingly, the EBITDA pre margin rose to 31.6% in fiscal 2022 (2021: 30.4%). The share of Group EBITDA pre attributable to the Healthcare business sector was unchanged year-on-year at 33%.

The Electronics business sector increased its EBITDA pre by 5.7% to € 1,192 million in fiscal 2022 (2021: € 1,128 million). The share of Group EBITDA pre attributable to the Electronics business sector amounted to 16% in 2022 (2021: 17%). The EBITDA pre margin declined to 29.7% (2021: 31.3%).

Merck Group

EBITDA pre¹ by business sector² - 2022

€ million/%



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

² Not presented: Decline in Group EBITDA pre by € -579 million due to Corporate and Other.

Net assets and financial position

Merck Group

Balance sheet structure

	Dec. 31, 2022		Dec. 31, 2021		Change	
	€ million	%	€ million	%	€ million	%
Non-current assets	36,325	74.9%	34,380	75.8%	1,945	5.7%
thereof:						
Goodwill	18,415		17,004		1,410	
Other intangible assets	7,302		7,612		-311	
Property, plant and equipment	8,203		7,217		986	
Other non-current assets	2,406		2,546		-141	
Current assets	12,201	25.1%	10,982	24.2%	1,219	11.1%
thereof:						
Inventories	4,632		3,900		732	
Trade and other current receivables	4,114		3,646		468	
Other current financial assets	321		174		147	
Other current assets	1,280		1,362		-82	
Cash and cash equivalents	1,854		1,899		-45	
Total assets	48,526	100.0%	45,362	100.0%	3,164	7.0%
Equity	26,005	53.6%	21,416	47.2%	4,590	21.4%
Non-current liabilities	13,007	26.8%	13,515	29.8%	-507	-3.8%
thereof:						
Non-current provisions for employee benefits	2,030		3,402		-1,372	
Other non-current provisions	299		269		30	
Non-current financial debt	9,200		8,270		931	
Other non-current liabilities	1,477		1,574		-96	
Current liabilities	9,513	19.6%	10,432	23.0%	-919	-8.8%
thereof:						
Current provisions	611		601		10	
Current financial debt	1,228		2,531		-1,304	
Trade and other current payables/ refund liabilities	3,410		3,219		191	
Other current liabilities	4,264		4,081		184	
Total equity and liabilities	48,526	100.0%	45,362	100.0%	3,164	7.0%

The total assets of the Merck Group amounted to € 48,526 million as of December 31, 2022 (December 31, 2021: € 45,362 million), representing an increase of 7.0% or € 3,164 million in the year under review. In addition to the impact of the successful operating business performance, this increase was due in particular to exchange rate changes.

The year-on-year increase in property, plant and equipment was attributable to additions of € 1,730 million (2021: € 1,443 million), which significantly exceeded depreciation and disposals in the reporting period.

Of the additions to property, plant and equipment in 2022, € 279 million (2021: € 198 million) related to strategic investments in Germany, including € 234 million for the expansion of the Darmstadt site. Among other things, the Life Science business sector invested € 39 million in a new membrane production plant and € 35 million in a new filling and logistics center in Schnelldorf. The Healthcare business sector also invested € 28 million in a new research center. Outside Germany, high levels of strategic investments were recorded in the United States (€ 232 million), Ireland (€ 97 million) and Switzerland (€ 80 million) in particular. In the United States, the Life Science business sector invested € 23 million in a new manufacturing facility for gene therapy products in Carlsbad, while the Electronics business sector invested € 21 million in a new production facility for specialty gases for the semiconductor industry in Hometown. In Ireland, the Life Science business sector invested € 76 million in the expansion of membrane production capacities and the construction of a new filtration plant in Cork. In Switzerland, the Healthcare business sector invested € 54 million in a new development center for the manufacture of biotechnological products.

In fiscal 2022, the equity of the Merck Group rose by 21.4% to € 26,005 million (December 31, 2021: € 21,416 million). This increase was attributable not only to profit after tax (€ 3.3 billion), but especially to a positive currency translation difference (€ 1.2 billion) as well as adjustments to pension provisions recognized in equity owing to the increase in the discount factors (€ 1.4 billion). By contrast, the dividend payments and profit distribution in the reporting year served to reduce equity (see “[Consolidated Statement of Changes in Net Equity](#)” in the Consolidated Financial Statements). The equity ratio improved by more than six percentage points to 53.6% (December 31, 2021: 47.2%).

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

Merck Group

Net financial debt¹

€ million	Dec. 31, 2022	Dec. 31, 2021	Change	
			€ million	%
Bonds and commercial paper	8,726	9,320	-594	-6.4%
Bank loans	203	36	168	>100.0%
Liabilities to related parties	919	896	23	2.6%
Loans from third parties and other financial debt	59	56	3	5.3%
Liabilities from derivatives (financial transactions)	30	35	-5	-13.3%
Lease liabilities	491	459	32	6.9%
Financial debt	10,428	10,801	-373	-3.5%
less:				
Cash and cash equivalents	1,854	1,899	-45	-2.4%
Other current financial assets ²	247	149	98	65.9%
Net financial debt¹	8,328	8,753	-425	-4.9%

¹ Not defined by International Financial Reporting Standards (IFRSs).

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

Merck Group

Reconciliation of net financial debt¹

€ million	2022	2021
January 1	8,753	10,758
Operating Cash Flow	-4,259	-4,616
Payments for investments in intangible assets ²	275	355
Payments from the disposal of intangible assets ²	-38	-39
Payments for investments in property, plant and equipment ²	1,531	1,066
Payments from the disposal of property, plant and equipment ²	-21	-7
Acquisitions ²	854	4
Payments from divestments ²	-4	-1
Change in lease liabilities	187	151
Dividend payments/profit withdrawals ²	967	757
Currency translation difference	86	203
Other	-3	122
December 31	8,328	8,753

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

² As reported in the Consolidated Cash Flow Statement.

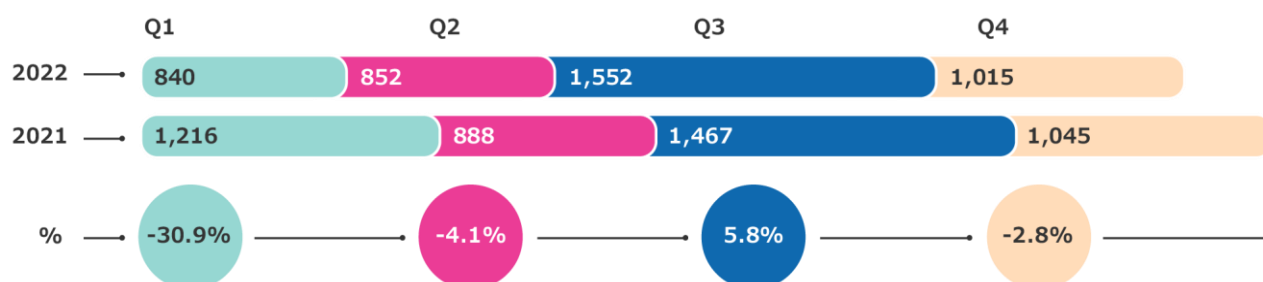
The composition of operating cash flow, which is one of the three most important key performance indicators alongside net sales and EBITDA pre, is presented in the “[Internal Management System](#)” chapter.

In fiscal 2022, operating cash flow decreased by -7.7% to € 4,259 million (2021: € 4,616 million). Further information about the development of the operating cash flow can be found in the “[Consolidated Cash Flow Statement](#)” in the Consolidated Financial Statements and Note (16) “[Operating cash flow](#)” in the Notes of the Consolidated Financial Statements. The distribution of operating cash flow across the individual quarters and the percentage changes in comparison with 2021 were as follows:

Merck Group

Operative cash flow¹ and change by quarter²

€ million/change in %



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

² Quarterly breakdown unaudited.

The capital market uses the assessments published by rating agencies to help lenders assess the risks of a financial instrument used by Merck. Merck is currently rated by Standard & Poor's, Moody's, and Scope. Standard & Poor's has issued a long-term credit rating of A with a stable outlook, Moody's a rating of A3 with a stable outlook, and Scope a rating of A- with a stable outlook. An overview of the development of our rating in recent years is presented in the [Report on Risks and Opportunities](#).

The development of key balance sheet figures was as follows:

Merck Group

Key balance sheet figures

%		Dec. 31, 2022	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2019	Dec. 31, 2018
Equity ratio ¹	Total equity	53.6%	47.2%	40.7%	40.9%	46.7%
	Total assets					
Asset ratio ¹	Non-current assets	74.9%	75.8%	77.8%	79.4%	75.0%
	Total assets					
Asset coverage ¹	Total equity	71.6%	62.3%	52.3%	51.5%	62.3%
	Non-current assets					
Finance structure ¹	Current liabilities	42.2%	43.6%	37.3%	45.7%	43.3%
	Liabilities (total)					

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

Overall assessment of business performance and economic situation

Despite the challenging societal and macroeconomic environment, Merck can look back on a successful fiscal 2022 in which it remained on its growth path. However, growing geopolitical tensions mean that Merck remains compelled to respond to various challenges and uncertainties around the world. Nevertheless, the strong business performance in fiscal 2022 once again served to underline Merck's impressive resilience in difficult times, which has always proved to be an important competitive advantage in the past.

Our 'Big 3' growth drivers – Process Solutions and Life Science Services in the Life Science business sector, new products from the Healthcare development pipeline, and Semiconductor Solutions in the Electronics business sector – made a particularly important contribution to our success. The Merck Group generated sales growth in all regions in its three business sectors. All in all, the Merck Group increased its net sales by 12.9% or € 2.5 billion to € 22.2 billion in fiscal 2022. With organic growth of 6.4% or € 1.3 billion, we reached an important milestone on the way to achieving our medium-term growth target of sales of around € 25 billion by 2025. Our most important key performance indicator, EBITDA pre, increased by 12.2% to € 6.8 billion. In light of our successful performance in fiscal 2022, we will propose to the Annual General Meeting that the dividend payment be increased by 19% to € 2.20 per share.

The solid financing policies of the Merck Group were reflected in its consistently good key balance sheet figures. The equity ratio was an impressive 53.6% as of December 31, 2022 (December 31, 2021: 47.2%). Net financial debt was reduced further, amounting to € 8.3 billion at the end of the fiscal year.

Merck's extremely successful business performance allowed it to continue to expand its excellent financial flexibility. This forms the basis for realizing our ambitious investment and growth plans and means we are still planning to increase total investments between 2021 and 2025 by more than 50% compared with the previous five-year period.

Based on our solid net assets and financial position as well as our profitable operations, we view the economic situation of the Merck Group as positive overall. Thanks to our resilient business model and our clear positioning as a science and technology company, we are well positioned even in economically challenging times.

Life Science

Life Science

Key figures¹

€ million	2022	2021	Change	
			€ million	%
Net sales	10,380	8,992	1,389	15.4%
Operating result (EBIT) ²	2,808	2,480	328	13.2%
Margin (% of net sales) ²	27.1%	27.6%		
EBITDA ³	3,678	3,258	420	12.9%
Margin (% of net sales) ²	35.4%	36.2%		
EBITDA pre ²	3,760	3,287	473	14.4%
Margin (% of net sales) ²	36.2%	36.6%		

¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

³ 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.

Development of sales and results of operations

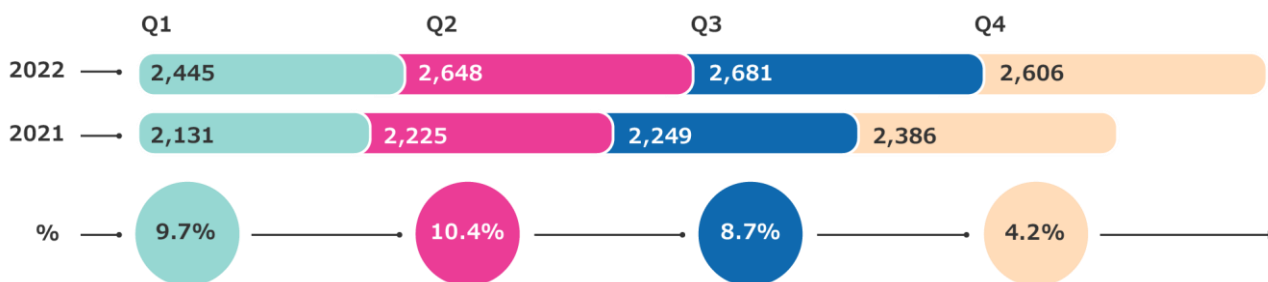
In fiscal 2022, Life Science generated organic sales growth of 8.2%. Including a favorable foreign exchange effect of 6.4% and a portfolio effect of 0.8%, net sales grew by 15.4% compared with the previous year. All three business units contributed to the organic growth, with the largest contribution coming from Process Solutions followed by Science & Lab Solutions and Life Science Services. Overall, Life Science net sales increased to € 10,380 million (2021: € 8,992 million).

The development of sales in the individual quarters in comparison with 2021 as well as the respective organic growth rates are presented in the following graph:

Life Science

Net sales¹ and organic growth² by quarter³

€ million/organic growth in %



¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

³ Quarterly breakdown unaudited.

Life Science

Net sales by business unit¹

€ million	2022	Share	Organic growth ²	Exchange rate effects	Acquisitions / divestments	Total change	2021	Share
Science & Lab Solutions	4,898	47%	6.2%	6.0%	–	12.2%	4,367	48%
Process Solutions	4,526	44%	10.9%	6.6%	–	17.5%	3,853	43%
Life Science Services	956	9%	6.1%	8.0%	9.8%	23.9%	772	9%
Life Science	10,380	100%	8.2%	6.4%	0.8%	15.4%	8,992	100%

¹ Prior-year figures have been adjusted owing to the reorganization of the Life Science business sector completed on April 1, 2022, as well as to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Accounting Standards (IFRS).

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 organic sales growth of 6.2% in 2022. This was mainly driven by growth in the core business amid a decline in pandemic-related demand. Including a favorable foreign exchange effect of 6.0%, net sales amounted to € 4,898 million (2021: € 4,367 million). Science & Lab Solutions thus accounted for 47% of Life Science net sales (2021: 48%). Organic sales growth was mainly driven by Asia-Pacific and North America.

The Process Solutions business unit, which markets products and services for the pharmaceutical production value chain, generated organic sales growth of 10.9%. While pandemic-related business declined as expected, the performance of the core business was robust. Including a favorable foreign exchange effect of 6.6%, net sales increased to € 4,526 million in 2022 (2021: € 3,853 million). The percentage contribution of the Process Solutions business unit to Life Science net sales was 44% (2021: 43%). In regional terms, mainly Europe and North America contributed to the organic sales growth within Process Solutions.

The Life Science Services business unit, which offers fully integrated Contract Development and Manufacturing Organization (CDMO) and Contract Testing services, accounted for a 9% share of Life Science net sales (2021: 9%). Life Science Services delivered an organic sales growth of 6.1% in 2022 which was driven by both Covid-19-related and core business sales. Including a favorable foreign exchange effect of 8.0% as well as a positive portfolio effect of 9.8% from the acquisition of Exelead Inc., USA, net sales totaled € 956 million (2021: € 772 million). Geographically, Life Science Services organic sales growth was mainly attributable to the North America and Asia-Pacific regions.

Net sales of the business sector by region developed as follows:

Life Science

Net sales by region¹

€ million	2022	Share	Organic growth ²	Exchange rate effects	Acquisitions / divestments	Total change	2021	Share
Europe	3,445	33%	7.9%	1.1%	0.7%	9.8%	3,139	35%
North America	3,931	38%	8.4%	13.3%	1.6%	23.3%	3,189	36%
Asia-Pacific (APAC)	2,536	25%	7.0%	3.9%	–	10.9%	2,286	25%
Latin America	353	3%	16.8%	9.0%	1.1%	26.9%	278	3%
Middle East and Africa (MEA)	116	1%	13.9%	2.0%	–	15.9%	100	1%
Life Science	10,380	100%	8.2%	6.4%	0.8%	15.4%	8,992	100%

¹ Prior-year figures have been adjusted due to product reallocations between Life Science and Electronics business sectors.

² Not defined by International Financial Accounting Standards (IFRS).

The following table presents the composition of EBITDA pre for 2022 in comparison with 2021. The International Financial Reporting Standards (IFRS) figures have been modified to reflect the elimination of adjustments included in the respective functional costs.

Life Science

Reconciliation EBITDA pre^{1,2}

	2022			2021			Change
€ million	IFRS	Elimination of adjustments	Pre ²	IFRS	Elimination of adjustments	Pre ²	Pre ²
Net sales	10,380	-	10,380	8,992	-	8,992	15.4%
Cost of sales	-4,280	7	-4,273	-3,578	4	-3,574	19.6%
Gross profit	6,100	7	6,107	5,414	4	5,418	12.7%
Marketing and selling expenses	-2,400	16	-2,384	-2,119	5	-2,114	12.8%
Administration expenses	-400	22	-377	-352	22	-331	14.1%
Research and development costs	-399	-	-399	-351	1	-349	14.3%
Impairment losses and reversals of impairment losses on financial assets (net)	-9	-	-9	-3	-	-3	>100.0%
Other operating income and expenses	-85	61	-24	-109	7	-102	-76.4%
Operating result (EBIT)²	2,808			2,480			
Depreciation/amortization/impairment losses/reversals of impairment losses	870	-24	845	778	-11	767	10.2%
EBITDA³	3,678			3,258			
Restructuring expenses	41	-41	-	26	-26	-	
Integration expenses/IT expenses	24	-24	-	21	-21	-	
Gains (-)/losses (+) on the divestment of businesses	-	-	-	-	-	-	
Acquisition-related adjustments	18	-18	-	-18	18	-	
Other adjustments	-	-	-	-	-	-	
EBITDA pre²	3,760	-	3,760	3,287	-	3,287	14.4%
of which: organic growth ²							9.7%
of which: exchange rate effects							5.0%
of which: acquisitions/divestments							-0.4%

¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

³ 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.

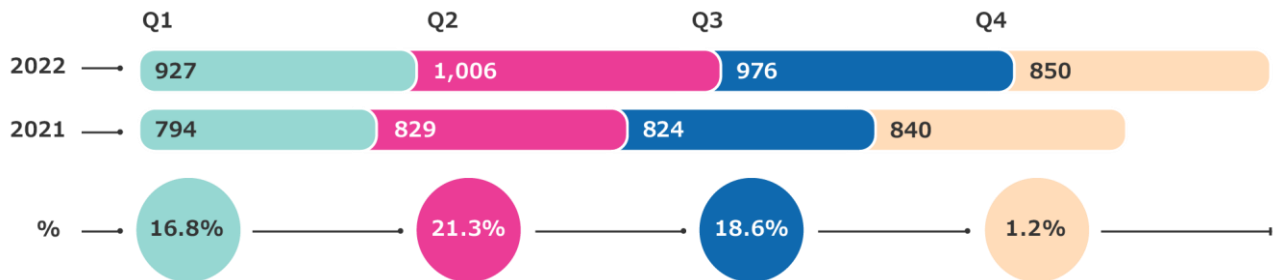
Adjusted gross profit increased by 12.7% to € 6,107 million (2021: € 5,418 million). The increase was mainly driven by a strong sales growth of the core business, while sales related to the Covid-19 pandemic declined. Adjusted marketing and selling expenses increased by 12.8% to € 2,384 million (2021: € 2,114 million) due to higher logistics costs and increased personnel expenses. Adjusted administration expenses increased by 14.1% to € 377 million (2021: € 331 million) owing to additional expenses to support our sustainability strategy as well as our organic transformation. Adjusted research and development costs increased by 14.3% to € 399 million (2021: € 349 million) driven mainly by our core growth areas. In addition to organic developments, unfavorable foreign exchange effects impacted the development of costs compared to 2021. After eliminating adjustments, amortization and depreciation, EBITDA pre rose by 14.4% to € 3,760 million (2021: € 3,287 million). Organically, the EBITDA pre grew by 9.7% in 2022.

The development of EBITDA pre in the individual quarters in comparison with 2021 is presented in the following overview:

Life Science

EBITDA pre^{1,2} and change by quarter³

€ million/change in %



¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

³ Quarterly breakdown unaudited.

Healthcare

Healthcare

Key figures

€ million	2022	2021	Change	
			€ million	%
Net sales	7,839	7,089	750	10.6%
Operating result (EBIT) ¹	1,895	1,823	72	3.9%
Margin (% of net sales) ¹	24.2%	25.7%		
EBITDA ²	2,385	2,146	239	11.2%
Margin (% of net sales) ¹	30.4%	30.3%		
EBITDA pre ¹	2,477	2,153	323	15.0%
Margin (% of net sales) ¹	31.6%	30.4%		

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.

Development of sales and results of operations

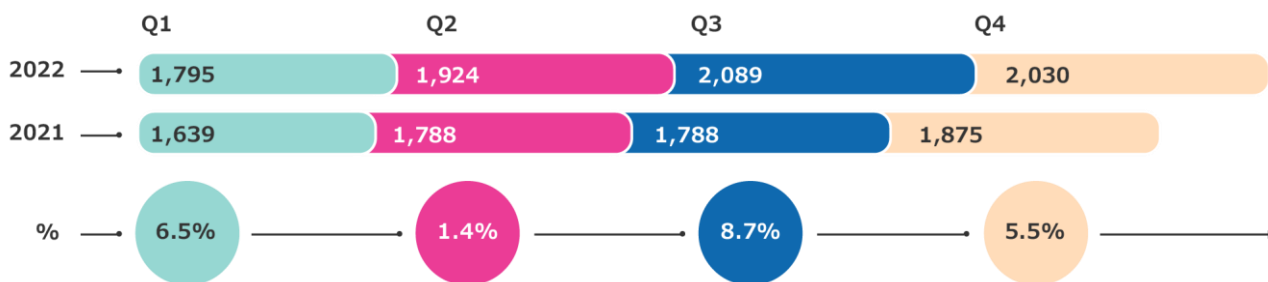
The Healthcare business sector reported organic sales growth of 5.5% in fiscal 2022. Including positive foreign exchange effects of 5.1%, net sales totaled € 7,839 million (2021: € 7,089 million). The positive foreign exchange effects were attributable in particular to the development of the U.S. dollar and the Chinese renminbi.

The net sales in the individual quarters as well as the respective organic growth rates in 2022 are presented in the following graph:

Healthcare

Net sales and organic growth¹ by quarter²

€ million/organic growth in %



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

² Quarterly breakdown unaudited.

Net sales of the key product lines and products developed as follows in 2022:

Healthcare

Net sales by major product lines/products

€ million	2022	Share	Organic growth ¹	Exchange rate effects	Total change	2021	Share
Oncology	1,683	22%	16.9%	2.3%	19.2%	1,411	20%
thereof: Erbitux®	1,023	13%	2.7%	1.0%	3.6%	987	14%
thereof: Bavencio®	611	8%	57.9%	5.8%	63.8%	373	5%
Neurology & Immunology	1,743	22%	-0.5%	6.5%	6.0%	1,645	23%
thereof: Rebif®	887	11%	-13.2%	6.4%	-6.8%	952	13%
thereof: Mavenclad®	856	11%	16.9%	6.6%	23.6%	693	10%
Fertility	1,446	18%	3.9%	4.3%	8.2%	1,337	19%
thereof: Gonal-F®	825	11%	3.1%	4.4%	7.5%	767	11%
Cardiovascular, Metabolism and Endocrinology	2,806	36%	4.5%	6.0%	10.5%	2,540	36%
thereof: Glucophage®	930	12%	0.4%	7.2%	7.6%	864	12%
thereof: Concor®	590	8%	6.2%	6.7%	12.9%	523	7%
thereof: Euthyrox®	553	7%	12.8%	4.8%	17.7%	470	7%
thereof: Saizen®	266	3%	7.2%	-0.1%	7.1%	248	3%
Other	161	2%				157	2%
Healthcare	7,839	100%	5.5%	5.1%	10.6%	7,089	100%

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

The oncology drug Erbitux® generated organic sales growth of 2.7% compared with the previous year. Including positive foreign exchange effects of 1.0%, net sales increased by a total of 3.6% to € 1,023 million (2021: € 987 million). The prior-year figure was positively impacted by the temporary partnership with Eli Lilly and Company, United States, which led to net sales of € 59 million in the North America region. Organic growth was driven in particular by the Asia-Pacific region, which recorded organic growth of 9.1% and net sales totaling € 441 million (2021: € 391 million), as well as the similarly important Europe region, where organic growth amounted to 4.8% and net sales totaled € 434 million (2021: € 417 million). Encouraging development was also recorded in the Latin America region, with organic growth of 26.3% and total net sales of € 85 million (2021: € 71 million), and the Middle East and Africa region, with organic growth of 23.3% and net sales of € 62 million (2021: € 49 million).

Thanks to strong organic growth of 57.9% and positive foreign exchange effects of 5.8%, net sales of the oncology drug Bavencio® rose to € 611 million (2021: € 373 million). All regions contributed to this encouraging development, which 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).

Mavenclad®, for the oral short-course treatment of highly active relapsing multiple sclerosis (MS), saw organic sales growth of 16.9% in fiscal 2022. Including positive foreign exchange effects of 6.6%, total net sales increased to € 856 million (2021: € 693 million). The organic growth of Mavenclad® was driven by higher demand in all regions, especially Europe.

Healthcare

Product sales and organic growth¹ of Erbitux®, Glucophage® and Rebif® by region – 2022

		Total	Europe	North America	Asia-Pacific (APAC)	Latin America	Middle East and Africa (MEA)
	€ million	1,023	434	–	441	85	62
Erbitux®	Organic growth ¹	2.7%	4.8%	–	9.1%	26.3%	23.3%
	Share	100%	43%	–	43%	8%	6%
	€ million	930	132	–	524	174	100
Glucophage®	Organic growth ¹	0.4%	1.3%	–	–	9.7%	-11.3%
	Share	100%	14%	–	56%	19%	11%
	€ million	887	240	563	9	33	43
Rebif®	Organic growth ¹	-13.2%	-14.9%	-12.4%	-13.4%	6.9%	-24.3%
	Share	100%	27%	63%	1%	4%	5%

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

Net sales of Rebif®, which is used to treat relapsing forms of multiple sclerosis, amounted to € 887 million in fiscal 2022 (2021: € 952 million). The downward trend that was observed in the previous year continued as a result of the persistently difficult competitive situation on the interferon market and the competition from oral dosage forms and high-efficacy MS therapies. This led to an organic decline in net sales of -13.2% even though foreign exchange effects were positive at 6.4%. Net sales in North America, the biggest market for Rebif®, fell by -12.4% organically to € 563 million (2021: € 571 million), while net sales in Europe saw an organic decline of -14.9% to € 240 million (2021: € 286 million).

With organic growth of 4.5% and positive foreign exchange effects of 6.0%, net sales of products from the Cardiovascular, Metabolism and Endocrinology franchise totaled € 2,806 million in fiscal 2022 (2021: € 2,540 million). Sales of the diabetes drug Glucophage® amounted to € 930 million in fiscal 2022 (2021: € 864 million). Following an organic decline in the previous year, Glucophage® returned to slight organic growth of 0.4% in fiscal 2022. Net sales of the beta-blocker Concor® saw organic growth of 6.2% to € 590 million (2021: € 523 million). The thyroid product Euthyrox® enjoyed strong organic growth of 12.8% in fiscal 2022, with net sales increasing to € 553 million (2021: € 470 million). Saizen® also saw encouraging organic growth of 7.2% and increased its net sales to a total of € 266 million (2021: € 248 million).

The Fertility franchise delivered organic growth of 3.9%. Taking into account positive exchange rate effects of 4.3%, global net sales increased to € 1,446 million (2021: € 1,337 million). Gonal-f®, the leading recombinant hormone used in the treatment of infertility, saw organic growth of 3.1% on the back of development in the Asia-Pacific region in particular. Including positive foreign exchange effects of 4.4%, net sales of Gonal-f® increased to € 825 million (2021: € 767 million).

Net sales in the Healthcare business sector by region in 2022 developed as follows:

Healthcare

Net sales by region

€ million	2022	Share	Organic growth ¹	Exchange rate effects	Acquisitions/divestments	Total change	2021	Share
Europe	2,433	31%	8.6%	-1.3%	–	7.3%	2,268	32%
North America	1,781	23%	-5.1%	11.5%	–	6.5%	1,673	23%
Asia-Pacific (APAC)	2,261	29%	8.2%	5.0%	–	13.2%	1,997	28%
Latin America	838	10%	14.9%	7.9%	–	22.8%	682	10%
Middle East and Africa (MEA)	527	7%	3.4%	9.0%	–	12.4%	468	7%
Healthcare	7,839	100%	5.5%	5.1%	–	10.6%	7,089	100%

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

The following table presents the composition of EBITDA pre in fiscal 2022 in comparison with 2021. The IFRS figures have been modified to reflect the elimination of adjustments included in the functional costs.

Healthcare

Reconciliation EBITDA pre¹

€ million	2022			2021			Change
	IFRS	Elimination of adjustments	Pre ¹	IFRS	Elimination of adjustments	Pre ¹	Pre ¹
Net sales	7,839	–	7,839	7,089	–	7,089	10.6%
Cost of sales	-1,925	4	-1,921	-1,713	-3	-1,715	12.0%
Gross profit	5,914	4	5,917	5,376	-3	5,374	10.1%
Marketing and selling expenses	-1,644	13	-1,631	-1,600	7	-1,593	2.4%
Administration expenses	-313	18	-296	-313	12	-302	-1.9%
Research and development costs	-1,694	73	-1,622	-1,712	5	-1,707	-5.0%
Impairment losses and reversals of impairment losses on financial assets (net)	2	–	2	5	–	5	-44.9%
Other operating income and expenses	-370	172	-198	67	-8	59	>100.0%
Operating result (EBIT)¹	1,895			1,823			
Depreciation/amortization/impairment losses/reversals of impairment losses	490	-187	303	323	-6	317	-4.3%
EBITDA²	2,385			2,146			
Restructuring expenses	91	-91	–	11	-11	–	
Integration expenses/IT expenses	16	-16	–	9	-9	–	
Gains (-)/losses (+) on the divestment of businesses	-15	15	–	-13	13	–	
Acquisition-related adjustments	–	–	–	–	–	–	
Other adjustments	–	–	–	–	–	–	
EBITDA pre¹	2,477	–	2,477	2,153	–	2,153	15.0%
of which: organic growth ¹							3.3%
of which: exchange rate effects							11.7%
of which: 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.

The adjusted gross profit of the Healthcare business sector rose to € 5,917 million in fiscal 2022 (2021: € 5,374 million). At 75.5%, the resulting gross margin was at almost the same level as in the 2021 reporting period (2021: 75.8%).

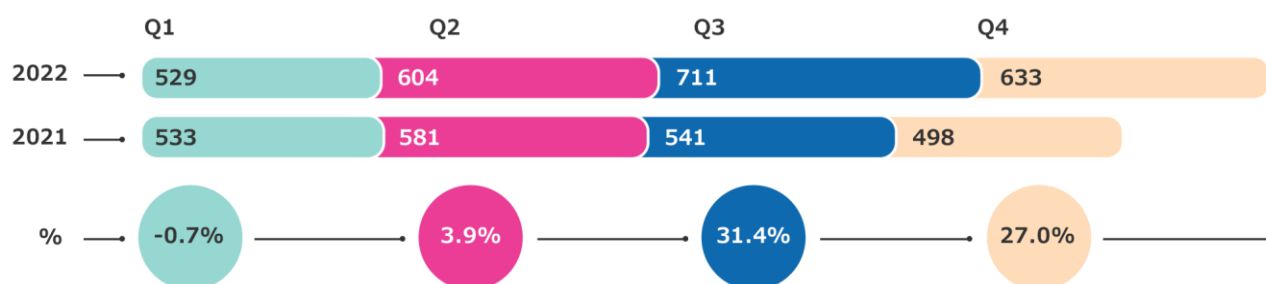
Adjusted marketing and selling expenses increased by 2.4% year-on-year to € 1,631 million (2021: € 1,593 million). The -5.0% reduction in research and development costs to € 1,622 million (2021: € 1,707 million) was due in part to the comparatively high cost base in the previous year as a result of the provisions that were recognized for subsequent costs from the near-complete discontinuation of the bintrafusp alfa program and the associated cost savings. The termination of the global Phase II study of the drug candidate berzosertib, which was announced in the second quarter of 2022, also led to cost savings. Adjustments to research and development costs in the amount of € 73 million primarily related to costs for transformation programs. The reduction in other operating expenses and income to € -198 million (2021: € 59 million) was mainly due to the final earnings effect of € 123 million in the previous year from the receipt of the previously deferred upfront cash payment for the global strategic alliance with GlaxoSmithKline plc, United Kingdom (GSK), to co-develop and co-commercialize bintrafusp alfa, as well as higher profit transfers from the strategic alliance with Pfizer Inc., United States, to develop and commercialize Bavencio®. In addition, the figure for the previous year included milestone payments of around € 50 million for the approvals of Bavencio® in Europe and Japan as a first-line maintenance treatment for patients with locally advanced or metastatic urothelial carcinoma (UC). License income from partners on sales of the medicine Viibryd® also declined in 2022.

After eliminating adjustments, amortization, and depreciation, EBITDA pre increased to € 2,477 million (2021: € 2,153 million). This overall rise of 15.0% was composed of organic earnings growth of 3.3% and positive foreign exchange effects of 11.7%. The resulting EBITDA pre margin for fiscal 2022 amounted to 31.6% (2021: 30.4%).

The development of EBITDA pre in the individual quarters in comparison with 2021 is presented in the following overview:

Healthcare

EBITDA pre¹ and change by quarter² € million/change in %



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

² Quarterly breakdown unaudited.

Electronics

Electronics

Key figures¹

€ million	2022	2021	Change	
			€ million	%
Net sales	4,013	3,606	407	11.3%
Operating result (EBIT) ²	572	508	64	12.6%
Margin (% of net sales) ²	14.3%	14.1%		
EBITDA ³	1,138	1,070	68	6.3%
Margin (% of net sales) ²	28.3%	29.7%		
EBITDA pre ²	1,192	1,128	64	5.7%
Margin (% of net sales) ²	29.7%	31.3%		

¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

³ 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.

Development of net sales and results of operations

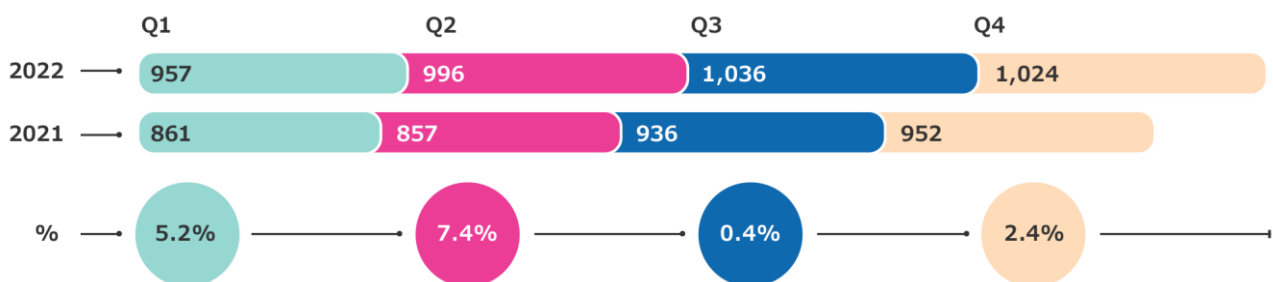
In 2022, net sales of the Electronics business sector increased 11.3% to € 4,013 million (2021: € 3,606 million). Strong growth in Semiconductor Solutions compensated for market weakness in Display Solutions and led to an overall organic increase of 3.7% for the Electronics business sector. Foreign exchange rates were favorable at 7.6%.

The net sales in the individual quarters as well as the respective organic growth rates in 2022 are presented in the following graph:

Electronics

Net sales¹ and organic growth² by quarter³

€ million/organic growth in %



¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

³ Quarterly breakdown unaudited.

Electronics

Net sales by business unit¹

€ million	2022	Share	Organic growth ²	Exchange rate effects	Acquisitions/divestments	Total change	2021	Share
Semiconductor Solutions	2,674	67%	15.4%	9.0%	–	24.4%	2,150	60%
Display Solutions	900	22%	-20.1%	6.1%	–	-14.0%	1,046	29%
Surface Solutions	439	11%	3.2%	3.9%	–	7.1%	410	11%
Electronics	4,013	100%	3.7%	7.6%	–	11.3%	3,606	100%

¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors and adjustments within the Electronics business sector.

² Not defined by International Financial Accounting Standards (IFRS).

Net sales of Semiconductor Solutions increased by a total of 24.4% to € 2,674 million (2021: € 2,150 million). The Semiconductor Solutions business unit, which comprises two businesses, namely Semiconductor Materials and Delivery Systems & Services, accounted for 67% of net sales of the Electronics business sector in 2022 (2021: 60%). Semiconductor Materials focuses on the development and commercialization of innovative material-based solutions for the semiconductor industry, while Delivery Systems & Services focuses on developing, selling and operating delivery systems for semiconductor manufacturers. Organically, net sales grew by 15.4% in 2022 for Semiconductor Solutions. Strong, broad-based demand across both Semiconductor Materials and Delivery Systems & Services along with price increases to offset inflation drove the organic increase. Foreign exchange effects of 9.0% contributed to the increase in sales.

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 by -14.0% to € 900 million (2021: € 1,046 million). Display Solutions saw an organic decline of -20.1% primarily from weaker end-market demand driving decreased utilization at key customers in both liquid crystals and OLED. Foreign exchange effects were favorable at 6.1%.

Net sales of the Surface Solutions business unit grew 7.1% to € 439 million (2021: € 410 million). Organically, Surface Solutions increased sales by 3.2%. Price increases across Surface Solutions to offset inflation along with increased demand for cosmetic actives drove the growth. Foreign exchange effects were favorable at 3.9%.

Net sales of the Electronics business sector by region developed as follows:

Electronics

Net sales by region¹

€ million	2022	Share	Organic growth ²	Exchange rate effects	Acquisitions/divestments	Total change	2021	Share
Europe	371	9%	33.6%	4.3%	–	37.9%	269	7%
North America	649	16%	7.9%	13.4%	–	21.3%	535	15%
Asia-Pacific (APAC)	2,901	72%	-0.6%	6.7%	–	6.0%	2,736	76%
Latin America	40	1%	22.0%	14.0%	–	36.0%	30	1%
Middle East and Africa (MEA)	53	2%	34.9%	10.2%	–	45.1%	36	1%
Electronics	4,013	100%	3.7%	7.6%	–	11.3%	3,606	100%

¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

The following table presents the composition of EBITDA pre for 2022 in comparison with 2021. The IFRS figures have been modified to reflect the elimination of adjustments included in the respective functional costs.

Electronics

Reconciliation EBITDA pre^{1,2}

€ million	2022			2021			Change
	IFRS	Elimination of adjustments	Pre ²	IFRS	Elimination of adjustments	Pre ²	Pre ²
Net sales	4,013	–	4,013	3,606	–	3,606	11.3%
Cost of sales	-2,314	21	-2,292	-2,059	23	-2,036	12.6%
Gross profit	1,700	21	1,721	1,547	23	1,570	9.6%
Marketing and selling expenses	-662	3	-659	-573	5	-569	16.0%
Administration expenses	-128	8	-120	-138	16	-122	-2.2%
Research and development costs	-308	2	-306	-278	1	-277	10.8%
Impairment losses and reversals of impairment losses on financial assets (net)	–	–	–	-1	–	-1	-61.8%
Other operating income and expenses	-28	40	12	-49	46	-3	>100.0%
Operating result (EBIT)²	572			508			
Depreciation/amortization/impairment losses/reversals of impairment losses	565	-20	545	561	-33	528	3.1%
EBITDA³	1,138			1,070			
Restructuring expenses	31	-31	–	26	-26	–	
Integration expenses/IT expenses	13	-13	–	32	-32	–	
Gains (-)/losses (+) on the divestment of businesses	–	–	–	–	–	–	
Acquisition-related adjustments	11	-11	–	–	–	–	
Other adjustments	–	–	–	–	–	–	
EBITDA pre²	1,192	–	1,192	1,128	–	1,128	5.7%
of which: organic growth ²							-7.3%
of which: exchange rate effects							13.0%
of which: acquisitions/divestments							–

¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

³ 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.

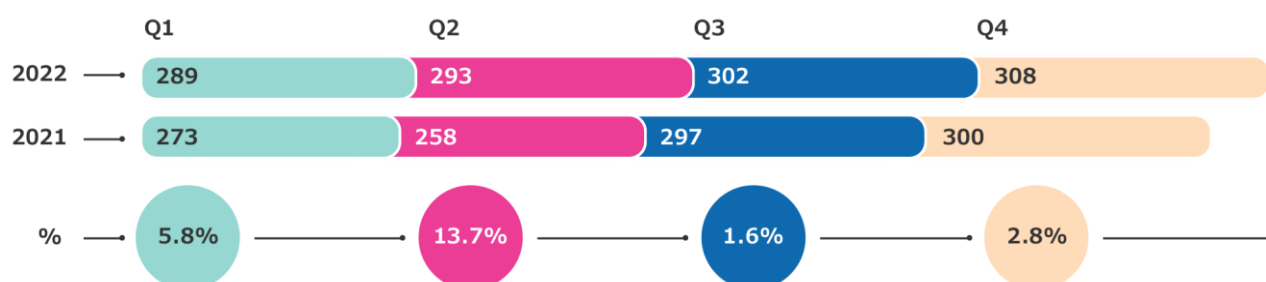
Adjusted gross profit of the Electronics business sector increased 9.6% to € 1,721 million (2021: € 1,570 million) largely due to the higher sales discussed above. The adjusted gross profit margin declined slightly to 42.9% (2021: 43.5%) as positive foreign exchange effects and increased pricing discussed above were not enough to cover the rising costs of materials and other inflationary cost increases. Further pressure on gross profit and margin arose from a negative product mix caused by a temporary loss of high-margin liquid crystals sales while our customers significantly reduced their factory utilization. Adjusted marketing and selling expenses increased by 16.0% as global shipping capacity constraints and increasing fuel costs drove significantly higher logistics expenses. Adjusted administration expenses declined slightly. Adjusted research and development costs increased by 10.8% as we continued to invest in our innovation capabilities and product pipeline. EBITDA pre of Electronics grew by 5.7% to € 1,192 million (2021: € 1,128 million). Sales increases discussed above, including price increases, were not enough to cover for the liquid crystal sales shortfall and the inflationary increases in production and logistics costs which led to an organic EBITDA pre decline of -7.3%. Foreign exchange effects favorably impacted EBITDA pre by 13.0%. At 29.7%, the EBITDA pre margin was below the year-earlier figure (2021: 31.3%).

The development of EBITDA pre in the individual quarters in comparison with 2021 is presented in the following overview:

Electronics

EBITDA pre^{1,2} and change by quarter³

€ million/change in %



¹ Prior-year figures have been adjusted due to product reallocations between the Life Science and Electronics business sectors.

² Not defined by International Financial Reporting Standards (IFRS).

³ Quarterly breakdown unaudited.

Corporate and Other

Corporate and Other comprises administrative expenses for central Group functions that cannot be directly allocated to the business sectors, such as Finance, Procurement, Legal, Communications, and Human Resources. Corporate costs additionally encompass expenses for central, non-allocated IT functions, including expenses related to the expansion and harmonization of IT systems within the Merck Group as well as research and development costs spanning business sectors.

Corporate and other

Key figures

€ million	2022	2021	Change	
			€ million	%
Operating result (EBIT) ¹	-801	-632	-169	26.7%
EBITDA ²	-696	-527	-169	32.1%
EBITDA pre ¹	-579	-465	-115	24.7%

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.

The operating result (EBIT) amounted to € -801 million in fiscal 2022 (2021: € -632 million). Earnings were impacted in particular by a negative currency result from cash flow hedging, which were reflected in higher net other operating expenses. After eliminating adjustments, administrative expenses amounted to € 399 million in 2022 (2021: € 390 million). Cross-business research and development costs amounting to € 119 million (2021: € 85 million) were allocated to Corporate. After eliminating depreciation, amortization, and adjustments, EBITDA pre amounted to € -579 million in 2022 (2021: € -465 million).