

Course of Business and Economic Position

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 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)

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.

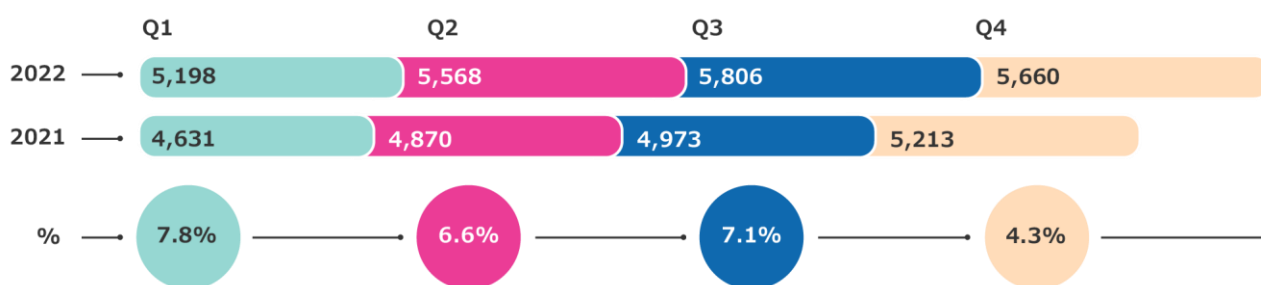
Development of sales and results of operations

In fiscal 2022, the 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:

Group

Net sales and organic growth¹ by quarter²
 € million/organic growth in %



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

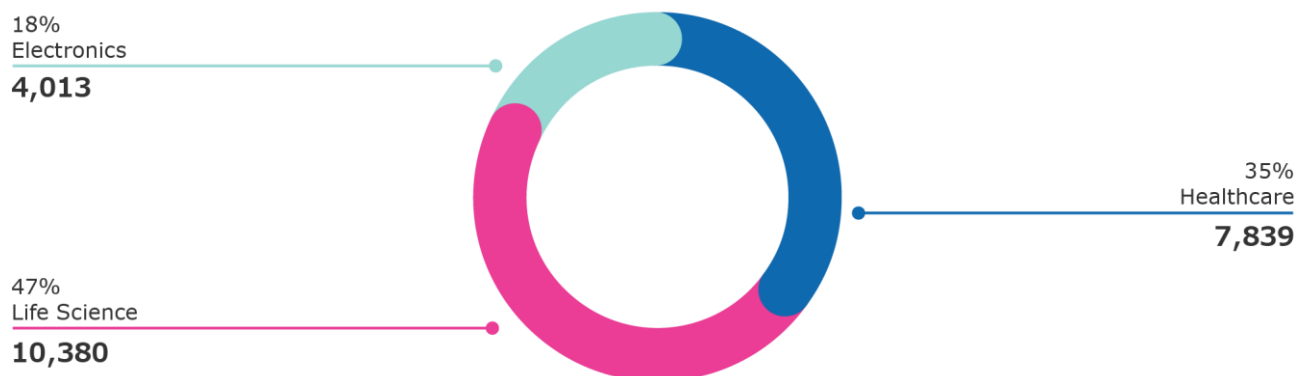
² Quarterly breakdown unaudited.

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%.

Group

Net sales by business sector - 2022

€ million/% of net sales



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%
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 Group recorded the following regional sales performance:

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%
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 Group is as follows:

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 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%).

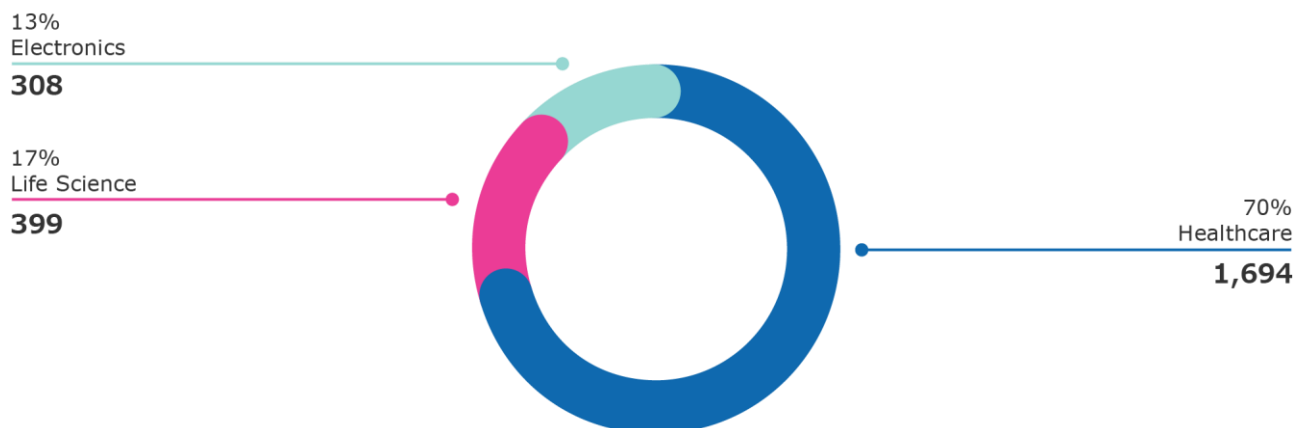
Group-wide research and development costs rose by 3.9% to € 2,521 million in 2022 (2021: € 2,426 million) and led to a research spending ratio (research and development costs as a percentage of net sales) of 11.3% (2021: 12.3%). Accounting for a 70% (2021: 73%) share¹ of Group R&D spending, Healthcare was the most research-intensive business sector of the 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.

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 (Long-Term Incentive Plan of Merck KGaA, Darmstadt, Germany) had an adverse effect on the operating result in the year under review, with the rise in the intrinsic value of the Share Units of Merck KGaA, Darmstadt, Germany, 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 the shareholders of Merck KGaA, Darmstadt, Germany, 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).

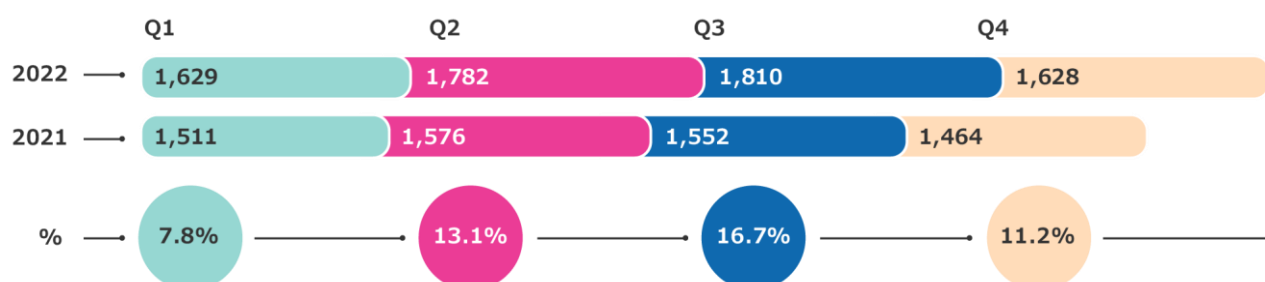
EBITDA pre, the key financial indicator used to steer operating business, rose by € 746 million or 12.2% to € 6,849 million (2021: € 6,103 million). Organic earnings growth amounted to 6.1% and foreign exchange effects had an impact of 6.4%, while portfolio effects amounted to -0.3%. The EBITDA pre margin of the 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:

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%).

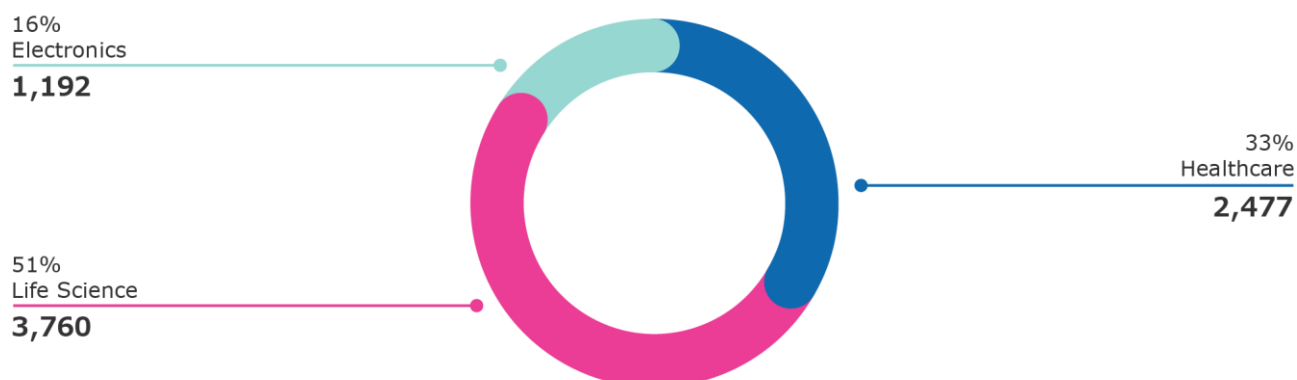
EBITDA pre in the Healthcare business sector increased by 15.0% to € 2,477 million (2021: € 2,153 million). Accordingly, the EBITDA pre margin rose to 31.6% in fiscal 2022 (2021: 30.4%). The share of Group EBITDA pre attributable to the Healthcare business sector was unchanged year-on-year at 33%.

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%).

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

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 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 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:

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.

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.

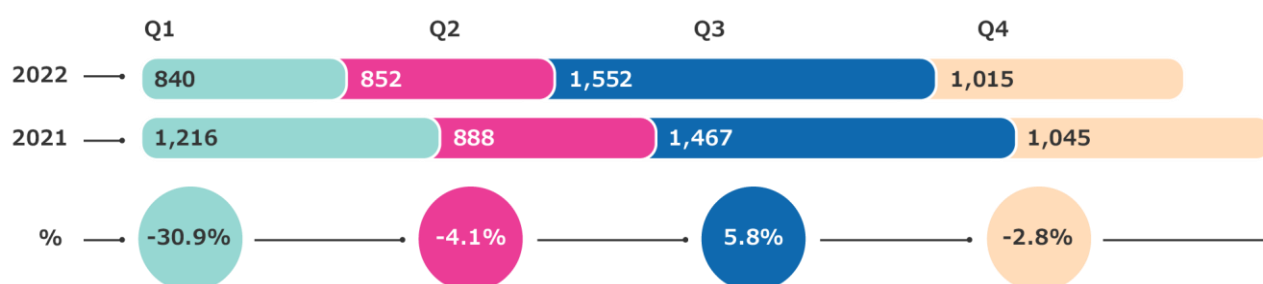
The composition of operating cash flow, which is one of the three most important key performance indicators alongside net sales and EBITDA pre, is presented in the “[Internal Management System](#)” chapter.

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:

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 the Group. We are 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:

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, the Group can look back on a successful fiscal 2022 in which it remained on its growth path. However, growing geopolitical tensions mean that the Group 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 our 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 Group generated sales growth in all regions in its three business sectors. All in all, the 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 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.

The Group'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 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.