

Report on Expected Developments

The following report provides a forecast for fiscal 2022 for the Merck Group and its three business sectors: Life Science, Healthcare and Electronics.

Fundamental assumptions

The acquisitions of Chord Therapeutics SA, Switzerland, a biotech company specializing in rare disorders of the nervous system, as well as Exelead Inc., USA, a biopharmaceutical contract development and manufacturing company (CDMO), are not expected to lead to a material portfolio effect at Group level in fiscal 2022 (more detailed information about these transactions can be found in Note (6) "[Acquisitions and divestments](#)" in the Notes to the Consolidated Financial Statements).

As regards exchange rate developments, we expect a continuing volatile environment due to political and macroeconomic developments. In contrast to the previous year, we expect a positive foreign exchange effect in 2022. This effect will be driven in particular by the development of the U.S. dollar and the Chinese renminbi. The vast majority of the remaining currencies are also expected to develop favorably. The expected positive exchange rate effects on EBITDA pre of the business sectors will be partially offset by our currency hedging transactions; however, we do not hedge all growth market currencies (see Note (42) "[Management of financial risks](#)" in the Notes to the Consolidated Financial Statements). This forecast for 2022 is now based on a euro-U.S. dollar exchange rate in a corridor of 1.11 to 1.16.

Forecast for the Merck Group

€ million	Actual results 2021	Forecast for 2022	Key assumptions
Net sales	19,687	<ul style="list-style-type: none"> Strong organic growth Positive foreign exchange effect 1% to 4% 	<ul style="list-style-type: none"> 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
EBITDA pre	6,103	<ul style="list-style-type: none"> Strong organic growth Positive foreign exchange effect 2% to 5% 	<ul style="list-style-type: none"> 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
Operating Cash Flow	4,616	<ul style="list-style-type: none"> Strong increase 	<ul style="list-style-type: none"> 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

Net sales

For the Merck Group in fiscal 2022, we expect strong organic net sales growth, driven by all our business sectors, particularly Life Science. In fiscal 2022, we do not expect a significant portfolio effect at Group level from the aforementioned acquisitions. We expect positive foreign exchange effects between 1% and 4%.

EBITDA pre

EBITDA pre is our key financial indicator for steering operating business. For fiscal 2022, we expect EBITDA pre to see strong organic growth. Life Science will be the main growth driver; Healthcare and Electronics will also contribute positively to the organic development. The expected foreign exchange development is forecast to have a positive effect of 2% to 5% on Group EBITDA pre compared with fiscal 2021; it is likely to be seen mainly in the Healthcare and Electronics business sectors.

Operating cash flow

Apart from EBITDA pre, operating cash flow is one of our key performance indicators at Group level. As regards the composition of operating cash flow, we refer to the section entitled "Internal Management System" as well as the Consolidated Cash Flow Statement in this report. In general, the forecast for operating cash flow is subject to a higher fluctuation corridor than the forecast for net sales and EBITDA pre. We provide an estimate of the development of operating cash flow only for the Group as a whole.

The development of operating cash flow will largely mirror the strong operating performance. The development of working capital, which will reflect strong business performance, will dampen operating cash flow as will the expected payments within the scope of the ongoing transformation and growth programs in fiscal 2022. These programs relate mainly to the Healthcare and Electronics business sectors. Positive exchange rate effects will also be reflected in operating cash flow. Overall, we expect a strong increase in fiscal 2022.

Forecast for the Life Science business sector

Forecast for the Life Science Business Sector

€ million	Actual results 2021	Forecast for 2022	Key assumptions
Net Sales	8,990	<ul style="list-style-type: none"> Strong organic growth Slight to moderately positive foreign exchange effect 	<ul style="list-style-type: none"> 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
EBITDA pre	3,286	<ul style="list-style-type: none"> Strong organic earnings growth Slight to moderately positive foreign exchange effect 	<ul style="list-style-type: none"> Organic earnings growth owing to the expected sales growth Positive foreign exchange effects particularly from the Chinese renminbi and the U.S. dollar

Net sales

For fiscal 2022, we forecast that the Life Science business sector will show strong organic growth of EBITDA pre compared with the previous year. The business unit will remain the strongest growth driver by far. Growth will be exclusively attributable to organic growth in the core business. We expect Process Solutions to see sales of up to € 900 million in connection with the fight against the Covid-19 pandemic. The Applied Solutions and Research Solutions business units will also contribute positively to the overall development of Life Science. The dynamic growth in our Life Science business is currently subject to higher volatility due to the varying developments across product groups and customer segments. Increased research and development activity as well as higher production volumes among pharmaceutical companies, especially in the biopharmaceutical segment, are the key drivers of growth in the core business. In connection with the Covid-19 pandemic, the production of vaccines, medicines and diagnostics, for which we manufacture the required input materials, is contributing to our sales. The expansion of our production capacities will enable us to meet a higher level of demand. We forecast a slight to moderately positive foreign exchange effect.

EBITDA pre

For fiscal 2022, we forecast that the Life Science business sector will show strong organic growth of EBITDA pre compared with the previous year. Earnings growth will continue to be driven mainly by the dynamic development of demand. In this context, the development of EBITDA pre is subject to higher uncertainty owing to the currently existing supply bottlenecks and the pressure on prices caused by rising inflation. Based on our estimates, the foreign exchange effect on earnings in fiscal 2022 should be slightly to moderately positive.

Forecast for the Healthcare business sector

Forecast for the Healthcare Business Sector

€ million	Actual results 2021	Forecast for 2022	Key assumptions
Net Sales	7,089	<ul style="list-style-type: none"> • Solid organic growth • Slight to moderately positive foreign exchange effect 	<ul style="list-style-type: none"> • 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
EBITDA pre	2,153	<ul style="list-style-type: none"> • Moderate to solid organic growth • Solid to strong positive foreign exchange effect 	<ul style="list-style-type: none"> • 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

Net sales

For fiscal 2022, we expect solid organic growth of net sales. We expect further significant increases in sales of Mavenclad® and Bavencio® to contribute substantially to this. We also expect the oncology drug Tepmetko®, our oral MET inhibitor, which was approved in the United States in fiscal 2021, to increasingly contribute to growth. For our established portfolio, we forecast a roughly stable organic development. Generally, this will be driven by organic growth in the Fertility franchise and by products in the Cardiovascular, Metabolism & Endocrinology franchise. Following the adverse impacts on sales of products from the Cardiovascular, Metabolism & Endocrinology (CM&E) franchise in fiscal 2021 caused by the volume-based procurement regulations introduced in China in 2021, the franchise will return to a growth course in fiscal 2022 as expected. The decline in sales of Rebif® due to continued competitive pressure can thus be offset. We forecast a slight to moderately positive foreign exchange effect.

EBITDA pre

For fiscal 2022, we expect EBITDA pre of the Healthcare business sector to see moderate to solid organic growth. Significant earnings contributions, especially from Mavenclad®, should more than compensate for the negative earnings effects due to the expected decline in sales of Rebif®. The expected positive development of EBITDA pre will result from continued strict cost management. Consequently, operating expenses will develop more moderately compared with the rise in sales. In addition, we will further pursue the continuous prioritization of our development pipeline. We therefore expect the share of both marketing and selling expenses as well as research and development costs to decline as a percentage of sales. The development of research and development costs will remain heavily dependent on clinical data as well as further expected study results. The absence of one-time effects from fiscal 2021 will negatively impact the development of EBITDA pre. This relates primarily to the milestone payments realized in the previous year within the scope of our strategic alliance with Pfizer to develop and commercialize Bavencio® as well as the earnings effect from the full receipt

of the previously deferred upfront cash payment as a result of the mutual decision to end the global strategic alliance with GlaxoSmithKline plc (GSK) on the co-development and co-commercialization of bintrafusp alfa. In total, these one-time effects amounted to € 173 million, which was disclosed in other operating income. In fiscal 2022, we expect income from active portfolio management at the year-earlier level. For the Healthcare business sector, we expect solid to strong positive foreign exchange effects.

Forecast for the Electronics business sector

Forecast for the Electronics Business Sector

€ million	Actual results 2021	Forecast for 2022	Key assumptions
Net sales	3,608	<ul style="list-style-type: none"> • Solid to strong organic growth • Moderate to solid positive foreign exchange effect 	<ul style="list-style-type: none"> • Strong growth dynamic in Semiconductor Solutions and OLED materials • Positive foreign exchange effects particularly from the U.S. dollar and individual Asian currencies
EBITDA pre	1,128	<ul style="list-style-type: none"> • Solid organic growth • Solid to strong positive foreign exchange effect 	<ul style="list-style-type: none"> • 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

Net sales

For the Electronics business sector, we forecast solid to strong organic net sales growth in fiscal 2022. The key growth driver of the development compared with the previous year will be the Semiconductor Solutions business unit, for which we expect a strong growth dynamic that will exceed market growth in the medium term. As expected, the project business in this business unit will be subject to stronger fluctuations owing to its dependency on major individual orders. We also expect our Surface Solutions business unit to see a positive organic development in fiscal 2022. Our Display Solutions business will continue to decline organically. This will be attributable to the organic decrease in the Liquid Crystals business, which is facing persistent price erosion due to the price pressure common in this industry. This will be dampened by the continued strong business performance in OLED materials. We forecast a moderate to solid positive foreign exchange effect.

EBITDA pre

For our Electronics business sector, we expect a solid organic increase in EBITDA pre in 2022. We assume that the anticipated growth of Semiconductor Solutions as well as active price and cost management will more than offset the price erosion in Liquid Crystals. In this context, the development of EBITDA pre is subject to higher uncertainty owing to the currently existing supply bottlenecks and the related pressure on prices caused by rising inflation. We forecast solid to strong positive foreign exchange effects on EBITDA pre.

Corporate and Other

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.