

# Life Science

## LIFE SCIENCE

### Key figures

€ million	2015	2014	Change in %
Net sales <sup>1</sup>	3,355.3	2,682.5	25.1
Operating Result (EBIT)	300.8	289.2	4.0
Margin (% of net sales) <sup>1</sup>	9.0	10.8	
EBITDA	674.3	598.9	12.6
Margin (% of net sales) <sup>1</sup>	20.1	22.3	
EBITDA pre exceptionals	856.1	658.6	30.0
Margin (% of net sales) <sup>1</sup>	25.5	24.6	
Business free cash flow	675.6	419.0	61.2

<sup>1</sup> The composition of net sales has changed, see "Information on segment reporting" in the Notes to the Group accounts.

### Development of sales and results of operations

2015 was another successful year for our Life Science business sector. Net sales grew by 25.1% to € 3,355 million (2014: € 2,682 million), stemming from strong organic growth of 6.5%; positive exchange rate effects of 8.4% primarily related to the development of the U.S. dollar; and 10.2% from acquisitions and divestments.

All three business areas contributed to the organic growth of the Life Science business sector in 2015. In particular, Process Solutions generated double-digit organic sales growth of 11.6% owing to price increases and higher sales volumes. Lab Solutions continued to perform well, posting organic growth of

3.1%. The Bioscience business area, which provides products and services to support life science research for pharmaceutical, biotechnological and academic research laboratories, reported an organic increase of 0.7%.

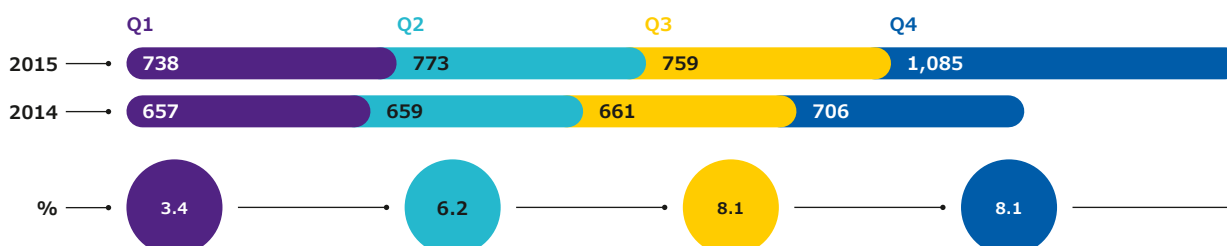
During the period from November 18, 2015 to December 31, 2015, Sigma-Aldrich contributed sales of € 279 million. This was slightly lowered by the divestment of the Discovery and Development Solutions business field in the first quarter of 2014.

The development of net sales in the individual quarters in comparison with 2014 as well as the respective organic growth rates are presented in the following overview:

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### Net sales and organic growth by quarter<sup>1</sup>

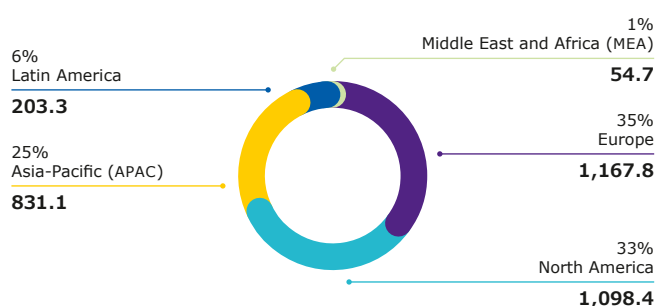
€ million / organic growth in %



<sup>1</sup> Quarterly breakdown unaudited.

**LIFE SCIENCE****Net sales by region – 2015**

€ million/% of net sales of the business sector



In North America, Life Science achieved organic growth of 8.5%, which was driven by the Process Solutions business area and its products for biopharmaceutical manufacturing processes, with contributions from Lab Solutions and Bioscience as well. Sales in North America rose to € 1,098 million (2014: € 725 million). This region's share of Life Science sales thus increased from 27% in 2014 to 33% in 2015.

The Asia-Pacific region continued to perform well, delivering organic growth of 5.5%. Sales rose sharply particularly in major Asian countries such as China, India, Singapore, and South Korea. Sales increased to € 831 million (2014: € 681 million), which represents 25% (2014: 25%) of Life Science net sales.

Compared with 2014, the geographic breakdown of Life Science sales changed as a result of different regional growth trends and the Sigma-Aldrich acquisition.

Europe remained the business sector's largest geographic market, generating sales of € 1,168 million (2014: € 1,036 million), or 35% of Life Science sales (2014: 39%). The organic sales increase of 5.6% in this region was mainly attributable to the Process Solutions business area.

Sales developed very well in the Latin America region, which grew organically by 7.8%. The organic sales development was fueled by good demand for Process Solutions and Lab Solutions products. Latin America's share of Life Science sales slightly decreased to 6% (2014: 7%).

In the Middle East and Africa region, sales showed moderate organic growth of 3.1%, representing 1% (2014: 2%) of Life Science net sales.

Sales attributable to the Sigma-Aldrich acquisition had a positive impact across all regions, particularly in North America.

Lastly, exchange rate effects boosted sales in all regions with the exception of Latin America, where currency headwinds of -3.4% partly offset the increases stemming from organic growth and acquisitions.

**LIFE SCIENCE****Net sales components by region – 2015**

€ million/change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/divestments	Total change
Europe	1,167.8	5.6	1.7	5.4	12.7
North America	1,098.4	8.5	19.8	23.2	51.5
Asia-Pacific (APAC)	831.1	5.5	10.4	6.1	22.1
Latin America	203.3	7.8	-3.4	2.5	6.9
Middle East and Africa (MEA)	54.7	3.1	0.3	5.3	8.7
<b>Life Science</b>	<b>3,355.3</b>	<b>6.5</b>	<b>8.4</b>	<b>10.2</b>	<b>25.1</b>

The Process Solutions business area, which markets products and services for the entire pharmaceutical production value chain, generated organic sales growth of 11.6%, which was the highest rate within the Life Science business sector. Including a positive foreign exchange effect of 9.8% and the 0.5% decrease in sales due to the divestment of the Drug Discovery Solutions business field in the first quarter of 2014, sales amounted to € 1,430 million in 2015 (2014<sup>1</sup>: € 1,183 million). Process Solutions thus accounted for 43% of Life Science net sales (2014: 44%). The increase was driven by higher demand for products used in biopharmaceutical production, especially in the United States, western Europe, and a few Asian countries,

as well as by the very positive development of sales to the pharmaceutical industry in 2015.

Lab Solutions, which accounted for a 36% (2014: 41%) share of Life Science net sales, delivered healthy organic sales growth of 3.1% with its broad range of products for researchers and scientific laboratories. Organic growth was mainly driven by higher demand for biomonitoring solutions, particularly from customers in the pharmaceutical industry, as well as for Lab Water products and by price increases across the portfolio. Including positive exchange rate effects of 6.2%, sales amounted to € 1,196 million (2014<sup>1</sup>: € 1,094 million).

<sup>1</sup> Previous year's figures have been adjusted owing to an internal reorganization.

The Bioscience business area recorded a slight organic increase of 0.7%. Including a positive foreign exchange effect of 10.4%, sales amounted to € 450 million (2014<sup>1</sup>: € 405 million). This growth was primarily driven by a recovery in demand in the United States and good sales performance of Separation & Preparation products, as well as hardware demand in Molecular

Cell Biology. The share of sales accounted for by Bioscience in 2015 was 13% (2014: 15%).

The first-time consolidation of Sigma-Aldrich on November 18 boosted Life Science sales by € 279 million, accounting for 8% of the business sector's net sales.

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### Net sales components by business area – 2015

€ million/change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/divestments	Total change
Bioscience	450.3	0.7	10.4	-	11.1
Lab Solutions	1,196.3	3.1	6.2	-	9.3
Process Solutions	1,429.7	11.6	9.8	-0.5	20.9
Sigma-Aldrich	279.0	-	-	-	-

The results of operations developed as follows:

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### Result of operations<sup>2</sup>

€ million	2015		2014		Change	
	€ million	in %	€ million	in %	€ million	in %
<b>Net sales</b>	<b>3,355.3</b>	<b>100.0</b>	<b>2,682.5</b>	<b>100.0</b>	<b>672.8</b>	<b>25.1</b>
Cost of sales	-1,482.8	-44.2	-1,168.7	-43.6	-314.1	26.9
<i>(of which: amortization of intangible assets)<sup>3</sup></i>	<i>(-50.7)</i>		<i>(-47.6)</i>		<i>(-3.1)</i>	<i>(6.6)</i>
<b>Gross profit</b>	<b>1,872.5</b>	<b>55.8</b>	<b>1,513.8</b>	<b>56.4</b>	<b>358.7</b>	<b>23.7</b>
Marketing and selling expenses	-1,038.5	-31.0	-859.8	-32.1	-178.7	20.8
<i>(of which: amortization of intangible assets)<sup>3</sup></i>	<i>(-197.2)</i>		<i>(-151.8)</i>		<i>(-45.4)</i>	<i>(29.9)</i>
Administration expenses	-151.1	-4.5	-110.4	-4.1	-40.7	36.9
Research and development costs	-197.5	-5.9	-162.6	-6.1	-34.9	21.4
<i>(of which: amortization of intangible assets)<sup>3</sup></i>	<i>(-0.5)</i>		<i>(-)</i>		<i>(-0.5)</i>	<i>(-)</i>
Other operating expenses and income	-184.6	-5.5	-91.8	-3.4	-92.8	101.1
<b>Operating result (EBIT)</b>	<b>300.8</b>	<b>9.0</b>	<b>289.2</b>	<b>10.8</b>	<b>11.6</b>	<b>4.0</b>
Depreciation/amortization/impairment losses/reversals of impairment losses	373.5	11.1	309.7	11.5	63.8	20.6
<i>(of which: exceptionals)</i>	<i>(0.6)</i>		<i>(-)</i>		<i>(0.6)</i>	<i>(-)</i>
<b>EBITDA</b>	<b>674.3</b>	<b>20.1</b>	<b>598.9</b>	<b>22.3</b>	<b>75.4</b>	<b>12.6</b>
Restructuring costs	6.8		11.9		-5.1	-43.0
Integration costs/IT costs	43.0		31.6		11.4	35.9
Gains/losses on the divestment of businesses	-		-0.4		0.4	-
Acquisition-related exceptionals	132.0		16.6		115.4	-
Other exceptionals	-		-		-	-
<b>EBITDA pre exceptionals</b>	<b>856.1</b>	<b>25.5</b>	<b>658.6</b>	<b>24.6</b>	<b>197.5</b>	<b>30.0</b>

<sup>1</sup> Previous year's figures have been adjusted owing to an internal reorganization.

<sup>2</sup> The reporting structure has changed, see "Information on segment reporting" in the Notes to the Group accounts.

<sup>3</sup> Excluding amortization of software either produced in-house or purchased individually.

Gross profit amounted to € 1,872 million (2014: € 1,514 million), equivalent to an increase of 23.7%. This very strong increase was driven by a manufacturing site optimization program, a price increase initiative and a favorable product mix. This development was also positively impacted by exchange rate effects and the Sigma-Aldrich acquisition.

In addition to the Sigma-Aldrich acquisition, Life Science continued to execute its growth strategy by investing in commercial operations and developing new products. Marketing and selling expenses increased by 20.8% to € 1,038 million (2014: € 860 million) while R&D expenses grew by 21.4%. Part of this increase was also driven by the stronger U.S. dollar since a significant portion of our Life Science operations is located in the United States. Other operating expenses and income increased significantly to € 185 million (2014: € 92 million) due to the Sigma-Aldrich acquisition, integration costs and restructuring activities.

After eliminating depreciation and amortization, EBITDA rose by 12.6% to € 674 million (2014: € 599 million).

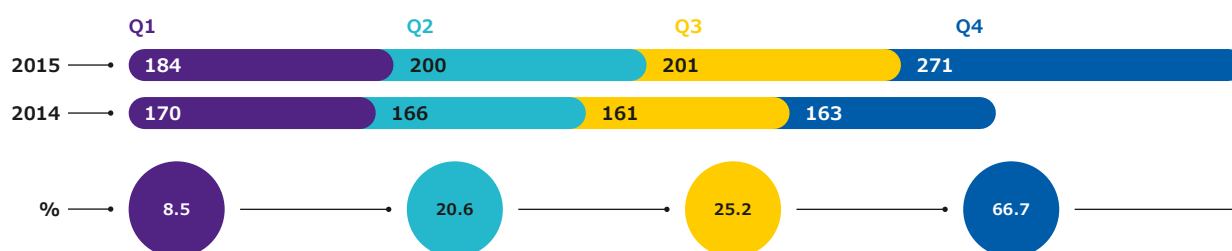
Adjusted for exceptionals, EBITDA pre exceptionals rose by 30.0% to € 856 million, or 25.5% of net sales (2014: € 659 million, 24.6% of net sales). Consequently, the key financial indicator rose more sharply than sales (+25.1%) thanks to the execution of efficiency initiatives, leveraging of Life Science capabilities and competencies, and the Sigma-Aldrich acquisition. The improvement in the EBITDA margin pre exceptionals reflects strong organic sales growth, a favorable product mix, exchange rate effects, and strict cost control.

The development of EBITDA pre exceptionals in the individual quarters in comparison with 2014 is presented in the following overview:

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### EBITDA pre exceptionals and change by quarter<sup>1</sup>

€ million/change in %



<sup>1</sup> Quarterly breakdown unaudited.

### Development of business free cash flow

In 2015, business free cash flow of the Life Science business sector rose by 61% or € 257 million to € 676 million. This very strong increase was primarily due to the positive development of EBITDA pre exceptionals.

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### Business free cash flow

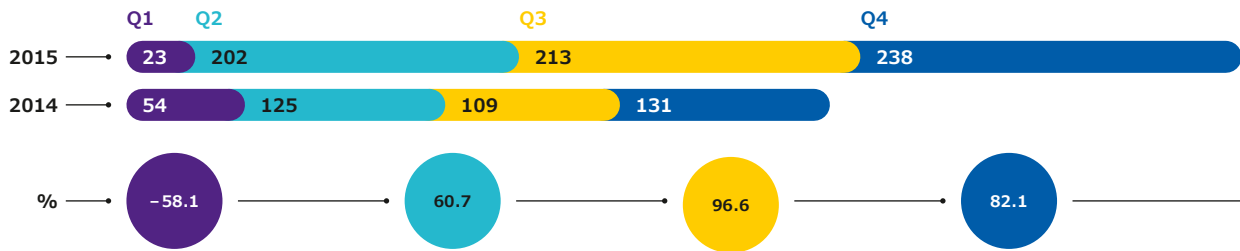
€ million	2015	2014	Change in %
EBITDA pre exceptionals	856.1	658.6	30.0
Investments in property, plant and equipment, software as well as advance payments for intangible assets	-149.9	-141.0	6.3
Changes in inventories	-850.1	-44.2	-
Changes in trade accounts receivables as well as receivables from royalties and licenses	-375.4	-54.4	-
Adjustments first-time consolidation of Sigma-Aldrich	1,194.8	-	-
<b>Business free cash flow</b>	<b>675.6</b>	<b>419.0</b>	<b>61.2</b>

The development of business free cash flow items in the individual quarters in comparison with 2014 is presented in the following overview:

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**Business free cash flow and change by quarter<sup>1</sup>**

€ million/change in %



<sup>1</sup> Quarterly breakdown unaudited.