

Performance Materials

PERFORMANCE MATERIALS

Key figures

€ million	2016	2015	Change	
			€ million	in %
Net sales	2,511	2,556	-45	-1.8%
Operating result (EBIT)	823	878	-55	-6.3%
Margin (% of net sales)	32.8%	34.4%		
EBITDA	1,077	1,120	-43	-3.9%
Margin (% of net sales)	42.9%	43.8%		
EBITDA pre exceptionals	1,106	1,132	-26	-2.3%
Margin (% of net sales)	44.1%	44.3%		
Business free cash flow	1,011	931	80	8.6%

Development of net sales and results of operations

In 2016, net sales of the Performance Materials business sector decreased by -1.8% to € 2,511 million (2015: € 2,556 million). This was mainly due to organic declines in sales (-4.7%) as Display Materials did not reach the level of 2015. The acquisition-related growth from the SAFC Hitech business of Sigma-Aldrich acquired in November 2015 (2.7%) only partially offset the organic decline in sales. Exchange rate effects of 0.2% had only a slight influence on sales in 2016.

The Display Materials business unit, consisting of the Liquid Crystals business and complementary materials, represented more than 50% of the overall net sales of Performance Materials. This business unit saw a significant organic decrease in sales, but continued to defend its market leadership position. The sales decline in 2016 is based on a strong preceding year with consistently high demand for display materials. Despite signs of a recovery, demand remained at a lower level in 2016, among other things as a result

of destocking by display industry customers. An exception was the energy-saving UB-FFS technology, which generated double-digit growth along with record sales in the fourth quarter.

The Integrated Circuit Materials (ICM) business unit generated strong organic sales growth, to which all businesses contributed. Particularly high growth rates were generated in the businesses with dielectric materials and deposition materials for chip production. In addition, sales of materials for chemical-mechanical planarization (CMP) of silicon wafers developed well.

The Pigments & Functional Materials business unit generated solid organic growth in 2016. Xirallic® pigments, which are used particularly in automotive coatings, as well as cosmetic actives and technical functional materials contributed significantly to the sales increase.

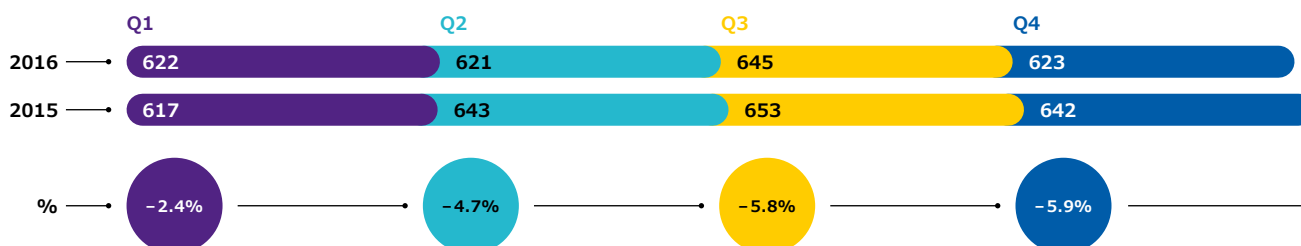
Growth in the Advanced Technologies business unit was fueled by double-digit sales increases in OLED materials.

The development of sales in the individual quarters as well as the respective organic growth rates in 2016 are presented in the following overview:

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Net sales and organic growth by quarter¹

€ million/organic growth in %

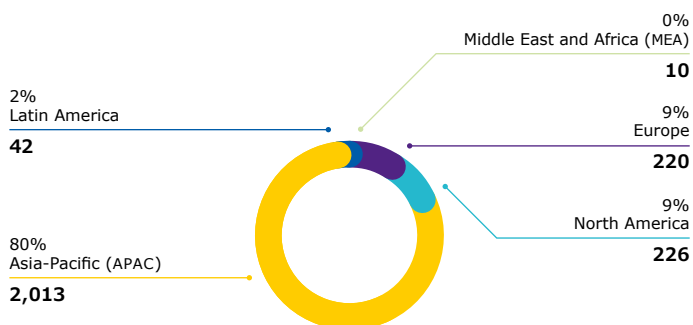


¹Quarterly breakdown unaudited.

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Net sales by region – 2016

€ million/% of net sales of the business sector



In Europe, Performance Materials generated sales of € 220 million (2015: € 206 million). The organic sales increase of 5.2% was generated by functional materials and Xirallic® pigments in the Pigments & Functional Materials business unit as well as by process materials in the IC Materials business unit.

With an 80% share (2015: 82%), the Asia-Pacific region once again accounted for the vast majority of the business sector's net sales. This is due to the concentration of customers for display and integrated circuit materials in Asia. In this region, sales declined to € 2,013 million (2015: € 2,107 million). Organically, sales decreased by –6.6% owing to the performance of the Display Materials business unit. The increases in sales of IC and OLED materials and of Pigments & Functional Materials could not compensate for this.

In North America, the double-digit increase in sales to € 226 million was fueled by the SAFC Hitech business of Sigma-Aldrich (2015: € 194 million). Organically, sales reached the previous year's level. The slight growth in Pigments & Functional Materials was canceled out by declines in the other business units.

Since they account for a low proportion of sales, the two regions Latin America and Middle East and Africa (MEA) played a subordinate role. Whereas Latin America continued to show double-digit organic growth at a low overall level, the sales improvement in the Middle East and Africa region was primarily acquisition-related.

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Net sales components by region – 2016

€ million/change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/divestments	Total change
Europe	220	5.2%	-0.4%	2.0%	6.9%
North America	226	-0.3%	0.9%	15.7%	16.3%
Asia-Pacific (APAC)	2,013	-6.6%	0.6%	1.6%	-4.5%
Latin America	42	21.0%	-16.8%	-	4.3%
Middle East and Africa (MEA)	10	8.0%	-2.6%	23.5%	28.8%
Performance Materials	2,511	-4.7%	0.2%	2.7%	-1.8%

The results of operations developed as follows:

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Results of operations

€ million	2016		2015		Change	
	€ million	in %	€ million	in %	€ million	in %
Net sales	2,511	100.0%	2,556	100.0%	-45	-1.8%
Cost of sales	-1,145	-45.6%	-1,151	-45.1%	7	-0.6%
<i>(of which: amortization of intangible assets)¹</i>	<i>(-118)</i>		<i>(-115)</i>		<i>(-3)</i>	<i>(2.4%)</i>
Gross profit	1,366	54.4%	1,404	54.9%	-38	-2.7%
Marketing and selling expenses	-233	-9.3%	-208	-8.1%	-25	12.0%
<i>(of which: amortization of intangible assets)¹</i>	<i>(-13)</i>		<i>(-16)</i>		<i>(3)</i>	<i>(-16.2%)</i>
Administration expenses	-61	-2.4%	-63	-2.5%	3	-4.1%
Research and development costs	-213	-8.5%	-197	-7.7%	-16	8.0%
<i>(of which: amortization of intangible assets)¹</i>	<i>(-2)</i>		<i>(-1)</i>		<i>(-2)</i>	<i>(>100.0%)</i>
Other operating expenses and income	-37	-1.5%	-58	-2.3%	21	-36.3%
Operating result (EBIT)	823	32.8%	878	34.4%	-55	-6.3%
Depreciation/amortization/impairment losses/ reversals of impairment losses	254	10.1%	242	9.5%	12	4.8%
<i>(of which: exceptionals)</i>	<i>(16)</i>		<i>(-)</i>		<i>(16)</i>	<i>(>100.0%)</i>
EBITDA	1,077	42.9%	1,120	43.8%	-43	-3.9%
Restructuring costs	1		2		-1	-70.7%
Integration costs/IT costs	26		15		11	73.0%
Gains/losses on the divestment of businesses	-		-6		6	>100.0%
Acquisition-related exceptionals	3		1		2	>100.0%
Other exceptionals	-		-		-	-
EBITDA pre exceptionals	1,106	44.1%	1,132	44.3%	-26	-2.3%

¹ Excluding amortization of internally generated or separately acquired software.

In 2016, gross profit was € 38 million below the previous year's level, leading to a gross margin of 54.4% (2015: 54.9%). The operating result (EBIT) decreased by € 55 million to € 823 million in 2016 (2015: € 878 million). Apart from the sales-related decline in gross profit, the main reasons for the decrease were higher marketing and selling expenses as well as additional research costs attributable to the SAFC Hitech business from the Sigma-Aldrich

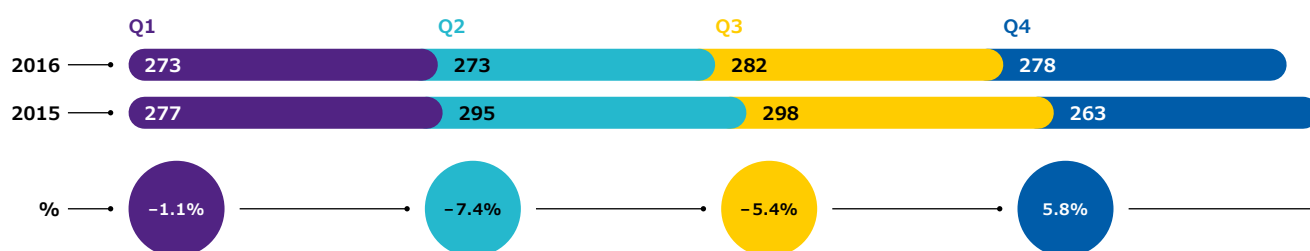
acquisition. EBITDA pre exceptionals amounted to € 1,106 million, which was € 26 million lower than in the previous year (2015: € 1,132 million). Yet the EBITDA margin pre exceptionals of 44.1% almost reached the good year-earlier level (2015: 44.3%).

The development of EBITDA pre exceptionals in the individual quarters in comparison with 2015 is presented in the following overview:

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EBITDA pre exceptionals and change by quarter¹

€ million/change in %



¹Quarterly breakdown unaudited.

Development of business free cash flow

In 2016, the business free cash flow of the Performance Materials business sector increased to € 1,011 million (2015: € 931 million). This improvement was mainly attributable to significant inventory reductions, which more than offset the decline in EBITDA pre exceptionals.

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Business free cash flow

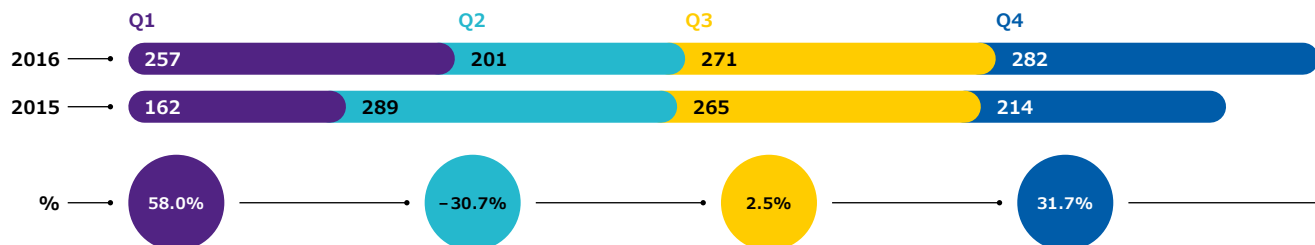
€ million	2016	2015	Change	
			€ million	in %
EBITDA pre exceptionals	1,106	1,132	-26	-2.3%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	-109	-109	-	-
Changes in inventories	35	-83	119	>100.0%
Changes in trade accounts receivable as well as receivables from royalties and licenses	-19	-34	15	-44.7%
Adjustments first-time consolidation of Sigma-Aldrich	-3	25	-28	>100.0%
Business free cash flow	1,011	931	80	8.6%

The development of business free cash flow in the individual quarters in comparison with 2015 is presented in the following overview:

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Business free cash flow and change by quarter¹

€ million/change in %



¹ Quarterly breakdown unaudited.