Management report
Nutrition

The Nutrition cluster comprises DSM Nutritional Products and DSM Food Specialties. These businesses serve the global industries for animal feed, food and beverages, pharmaceutical, infant nutrition, dietary supplements and personal care.

DSM Nutritional Products is one of the world’s leading producers of essential nutrients such as vitamins, carotenoids, nutritional lipids and other ingredients for the feed, food, pharmaceutical and personal care industries. Among its customers are the world’s largest food and beverage companies. DSM is uniquely positioned, offering a combination of global products and local solutions, with a strong focus on innovation. DSM Nutritional Products consists of the following business units:

- **Animal Nutrition & Health** addresses the nutritional additives segment of the global feed ingredients market. DSM’s products and premixes include vitamins, feed enzymes, carotenoids, minerals and eubiotics.

- **Human Nutrition & Health** primarily addresses the nutritional ingredients markets, but is also active in coloration and preservation in the global food ingredients market.

- **Personal Care & Aroma Ingredients** focuses on active and performance ingredients such as vitamins, UV filters and bioactives for the skin care, sun care and hair care market segments.

- **DSM Food Specialties** is a leading global supplier of food enzymes, cultures, yeast extracts, savory flavors, hydrocolloids and other specialty ingredients to the food and beverage industries. DSM Food Specialties’ advanced ingredients make a considerable contribution to the success of the world’s favorite brands for the dairy, baking, beverages and savory segments.

Materials

The Materials cluster consists of DSM Engineering Plastics, DSM Dyneema and DSM Resins & Functional Materials. These business groups are active in specialty materials for technologically sophisticated applications and offer specialized value propositions.

- **DSM Engineering Plastics** is a global player in developing, manufacturing and marketing high-performance plastics, addressing key markets in automotive and electronics, and providing solutions to specialized industries including water management, breathable textiles and flexible food packaging.

- **DSM Dyneema** is the inventor, manufacturer and marketer of Dyneema®, the world’s strongest fiber™. This product, based on ultra high molecular weight polyethylene, is produced by means of DSM’s proprietary processes. The Dyneema® brand enjoys very high recognition in the value chains served.

- **DSM Resins & Functional Materials** is a global player in developing, manufacturing and marketing high-quality resins solutions for paints, industrial coatings and fiber-optic coatings. Its continuous innovation means that customers can meet regulatory needs and respond better to consumer demands for more sustainable materials.

Innovation Center

DSM Innovation Center serves as an enabler and accelerator of innovation within DSM, providing support to the clusters. With its Emerging Business Areas, the Business Incubator and DSM Venturing & Licensing, it also has a general business development role, focusing on areas outside the current scope of the business groups.

DSM’s Emerging Business Areas provide strong long-term growth platforms based on the company’s core competences in life sciences and materials sciences. The company has three Emerging Business Areas:

- **DSM Biomedical** supplies innovative biomedical materials that enable medical device manufacturers to make less invasive devices. These can speed up recovery, shorten hospital stays and minimize reoperations, lowering health costs and helping people to lead longer, healthier and more active lives.

- **DSM Bio-based Products & Services** is at the forefront of building a more sustainable, bio-based economy with solutions for clean fuel from agricultural residue and for renewable chemical building blocks such as bio-based succinic acid.

- **DSM Advanced Solar** develops and provides solutions to increase the yield of solar panels – Same sun. More power™.

Partnerships

DSM Sinochem Pharmaceuticals (DSP), a 50-50 joint venture formed in 2011, is the global market leader in beta-lactam active pharmaceutical ingredients (APIs) such as semi-synthetic penicillins and semi-synthetic cephalosporins. It is also a leader in other active ingredients such as nystatin and next-generation statins.

Patheon is a global leader in contract development and manufacturing services established in 2014 and approximately 34%-owned by DSM, with customers across the pharmaceutical industry.

ChemicalInvest is a joint venture established in 2015 in which DSM has a 35% shareholding, and comprises the former DSM Fibre Intermediates (caprolactam and acrylonitrile) and DSM Composite Resins businesses.
Our purpose is to create brighter lives for people today and generations to come. We use our unique competences in health, nutrition and materials to create solutions that nourish, protect and improve performance.

DSM uses its Bright Science to create Brighter Living for people today and generations to come. Based on a deep understanding of key global trends that are driving societies, markets and customers, we create solutions to some of the world’s biggest challenges, thus adding to both our own and our customers’ success.

We believe that DSM’s continued success will be driven by our ability to create shared value for all stakeholders, now and in the future. Our customers derive value from being able to offer end-users improved products and services; society and the planet derive value from the impact of more sustainable, longer-lasting, safer, healthier and more nutritious alternatives; and, as a result, DSM and its shareholders derive value from stronger growth and profitability. Finally, our employees feel engaged and motivated both through the contribution they make to a better world and the success this creates for the company in which they work. More information on ‘How DSM creates value for its stakeholders’ can be found on page 20.
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Forward-looking statements

This document may contain forward-looking statements with respect to DSM’s future (financial) performance and position. Such statements are based on current expectations, estimates and projections of DSM and information currently available to the company. Examples of forward-looking statements include statements made or implied about the company’s strategy, estimates of sales growth, financial results, cost savings and future developments in its existing businesses as well as the impact of future acquisitions, and the company’s financial position. These statements can be management estimates based on information provided by specialized agencies or advisors.

DSM cautions readers that such statements involve certain risks and uncertainties that are difficult to predict and therefore it should be understood that many factors can cause the company’s actual performance and position to differ materially from these statements. These factors include, but are not limited to, macro-economic, market and business trends and conditions, (low-cost) competition, legal claims, the company’s ability to protect intellectual property, changes in legislation, changes in exchange and interest rates, changes in tax rates, pension costs, raw material and energy prices, employee costs, the implementation of the company’s strategy, the company’s ability to identify and complete acquisitions and to successfully integrate acquired companies, the company’s ability to realize planned divestments, savings, restructuring or benefits, the company’s ability to identify, develop and successfully commercialize new products, markets or technologies, economic and/or political changes and other developments in countries and markets in which DSM operates. Additional factors that could cause results to differ materially from those described in the forward-looking statements can be found in the ‘Risk Management’ chapter.

As a result, DSM’s actual future performance, position and/or financial results may differ materially from the plans, goals and expectations set forth in such forward-looking statements. DSM has no obligation to update the statements contained in this document, unless required by law. The English language version of this document is leading.
<table>
<thead>
<tr>
<th>Key data1</th>
<th>20162</th>
<th>20152</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>People</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workforce at 31 December (headcount)</td>
<td>20,786</td>
<td>20,796</td>
</tr>
<tr>
<td>Female/male ratio</td>
<td>27/73</td>
<td>28/72</td>
</tr>
<tr>
<td>Total employee benefits costs (in € million)</td>
<td>1,752</td>
<td>1,778</td>
</tr>
<tr>
<td>Frequency Index of Recordable Injuries (per 100 DSM employees and contractor employees)</td>
<td>0.33</td>
<td>0.41</td>
</tr>
<tr>
<td>Employee engagement - favorable score (in %)</td>
<td>71</td>
<td>69</td>
</tr>
<tr>
<td><strong>Planet</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy use (in petajoules)</td>
<td>22.6</td>
<td>20.9</td>
</tr>
<tr>
<td>Energy Efficiency Improvement (in %, year-on-year)</td>
<td>2</td>
<td></td>
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<tr>
<td>Greenhouse-gas emissions in CO₂ equivalents (x million tons)</td>
<td>1.5</td>
<td>1.1</td>
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<td>Greenhouse-gas efficiency improvement (in %, baseline 2008)</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>Water use (x million m²)</td>
<td>104</td>
<td>101</td>
</tr>
<tr>
<td><strong>Brighter Living Solutions (as % of net sales)</strong></td>
<td></td>
<td>63</td>
</tr>
<tr>
<td><strong>Profit (in € million)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net sales, continuing operations</td>
<td>7,920</td>
<td>7,722</td>
</tr>
<tr>
<td>Adjusted EBITDA, continuing operations1</td>
<td>1,262</td>
<td>1,075</td>
</tr>
<tr>
<td>EBITDA, continuing operations</td>
<td>1,174</td>
<td>956</td>
</tr>
<tr>
<td>Adjusted operating profit, continuing operations (EBIT)3</td>
<td>791</td>
<td>573</td>
</tr>
<tr>
<td>Operating profit, continuing operations (EBIT)</td>
<td>685</td>
<td>362</td>
</tr>
<tr>
<td>Net profit attributable to equity holders of Koninklijke DSM N.V.</td>
<td>621</td>
<td>88</td>
</tr>
<tr>
<td>Cash provided by operating activities</td>
<td>1,018</td>
<td>696</td>
</tr>
<tr>
<td>Capital expenditure, cash based</td>
<td>475</td>
<td>536</td>
</tr>
<tr>
<td>Dividend for DSM shareholders</td>
<td>310</td>
<td>297</td>
</tr>
<tr>
<td>Net debt</td>
<td>2,070</td>
<td>2,321</td>
</tr>
<tr>
<td>Shareholders' equity</td>
<td>6,072</td>
<td>5,541</td>
</tr>
<tr>
<td>Total assets</td>
<td>12,958</td>
<td>11,743</td>
</tr>
<tr>
<td>Capital employed, continuing operations</td>
<td>7,889</td>
<td>7,553</td>
</tr>
<tr>
<td>Market capitalization at 31 December4</td>
<td>10,334</td>
<td>8,396</td>
</tr>
<tr>
<td><strong>Per ordinary share in €</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net earnings</td>
<td>3.52</td>
<td>0.45</td>
</tr>
<tr>
<td>Dividend</td>
<td>1.755</td>
<td>1.65</td>
</tr>
<tr>
<td><strong>Financial ratios (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales to high growth economies / net sales</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Innovation sales / net sales</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>Adjusted EBITDA margin (continuing operations)</td>
<td>15.9</td>
<td>13.9</td>
</tr>
<tr>
<td>Average working capital / annualized net sales (continuing operations)</td>
<td>18.6</td>
<td>20.7</td>
</tr>
<tr>
<td>ROCE (continuing operations)</td>
<td>10.4</td>
<td>7.6</td>
</tr>
<tr>
<td>Gearing (net debt / equity plus net debt)</td>
<td>25.1</td>
<td>29.2</td>
</tr>
<tr>
<td>Equity / total assets</td>
<td>47.5</td>
<td>48.0</td>
</tr>
<tr>
<td>Cash provided by operating activities / Adjusted EBITDA</td>
<td>80.7</td>
<td>59.5</td>
</tr>
</tbody>
</table>

1 For definitions see ‘Explanation of some concepts and ratios’ on page 217.
2 Key data presented relate to total DSM (= continuing operations + discontinued operations), unless explicitly stated otherwise.
3 In presenting and discussing DSM’s financial position, operating results and cash flows, DSM (similar to many other publicly listed companies) uses certain Alternative performance measures (APMs) not defined by IFRS. These APMs are used because they are an important measure of DSM’s business development and DSM’s management performance. A full reconciliation of IFRS performance measures to the APMs is given in the ‘Alternative performance measures (APMs)’ on page 142.
4 Source: Bloomberg.
5 Subject to approval by the Annual General Meeting of Shareholders.
People

Workforce (at year-end 2016)
20,786

Employee engagement favorable score (in %)
71

Number of nationalities (at year-end 2016)
98

Frequency Index of Recordable Injuries (per 100 DSM employees and contractor employees)
0.33

Planet

Greenhouse-gas emissions, total DSM (in million tons CO₂eq)
1.5

Energy use, total DSM (in petajoules)
22.6

Water consumption, total DSM (in million m³)
63

Innovation sales as % of total sales
22

Profit¹

Net sales (in million)
€ 7,920

Adjusted EBITDA (in million)
€ 1,262

Adjusted EBITDA growth
17%

Net profit, total DSM (in million)
€ 621

Capital expenditure (cash-based) (in million)
€ 475

Cash provided by operating activities, total DSM (in million)
€ 1,018

Net earnings per ordinary share, total DSM
€ 3.52

Dividend per ordinary share³
€ 1.75

ROCE (in %)
10.4

ROCE growth (in bps)
280

¹ Continuing operations unless explicitly stated otherwise
² See page 142 for reconciliation
³ Subject to approval by the Annual General Meeting of Shareholders
Dear reader,

Toward the end of 2015 we presented Royal DSM’s strategic plan for the period up to and including 2018. We designed Strategy 2018: Driving Profitable Growth to capture the full potential of the portfolio of business activities we have carefully created over the years, by increasing organic growth, reducing costs, and improving our performance by strict capital allocation and a stronger organizational agility. For the time being we are not focused on major acquisitions. In the coming years we intend to monetize our three large joint ventures.

We set two mid-term headline financial targets for the strategic period, namely a high single-digit percentage annual Adjusted EBITDA growth and a high double-digit basis point improvement in return on capital employed (ROCE). This reflects our commitment to delivering a step-up in financial performance.

We also set out stretching aspirations in the area of sustainability relating to our own operations, our customer solutions, and our impact on the world. At the same time, we aim to further develop our talent pool to ensure that we can sustainably address the challenges and demands placed upon us.

“We are intent on ‘future-proofing’ DSM, delivering higher value to all our stakeholders.”

DSM is making very good progress toward these targets. Starting already in 2015, we have taken demonstrable steps each quarter and posted 2016 results well ahead of our mid-term targets, improving both profit (Adjusted EBITDA up 17% from € 1,075 million to € 1,262 million) and returns (ROCE up 280 bps from 7.6% to 10.4%). We also succeeded in making our own operations more sustainable while at the same time increasing the proportion of Brighter Living Solutions our customers buy from us.

Our performance in 2016

Our strong operational and financial progress in 2016 has been driven by both Nutrition and Materials, supported by our growth initiatives, ambitious improvement and cost-saving actions, and strict capital allocation. This has enabled us to translate our top-line growth into a significant step-up in (financial) returns in 2016. Capital expenditure in support of DSM’s future growth amounted to just below € 0.5 billion. We furthermore undertook numerous actions to manage working capital; total working capital to sales stood at 18.4% at the end of the year, which is better than the 20% we aspire to stay below.

The Nutrition cluster posted strong organic growth figures for 2016, with both the animal and human nutrition businesses contributing. Animal Nutrition & Health maintained momentum from 2015 and had a strong year. We are also pleased with our performance in Human Nutrition & Health, where we clearly saw the benefits of our improvement actions. One of the highlights of the year was the continued rapid pace of growth for our i-Health consumer range of dietary supplements. Having proved its popularity in the US, it is now also available in a number of other countries. Our Food Specialties and Hydrocolloids texturing businesses also showed good results.

Our Materials businesses enjoyed a particularly successful 2016. We recorded strong growth in volumes, above all in specialty materials – a clear indication that our product portfolio upgrade toward specialties and our application expertise resonate well with our customers in higher-growth and higher-value market segments. Furthermore, we worked hard to manage margins in a low-input cost environment. We again recorded a step-up in returns in Materials in 2016, clearly well above the level of previous years.

At the same time as vigorously driving business growth, we are transforming our organization. We are implementing a number of major programs, which are not just aimed at lowering our cost base, but also intend to make our company more agile, resilient and market- and performance-focused, enabling DSM to fulfill its growth ambitions.

The improvement programs target € 250-300 million in cost savings versus the 2014 baseline by the end of 2018. All these initiatives are fully on track and the effects are already visible in DSM’s financial and operational progress. We are committed to maintaining our focus and fully executing these programs. The adverse consequence of this is a reduction of around 1,000 FTEs between 2015 and 2017 – a decision that was not taken lightly. I continue to be humbled by the constructive and professional attitude shown by those who have been affected by these changes.

Science and innovation drives our growth

As a science-based company, one of the pillars supporting DSM’s success in the marketplace is our ability to develop new, more sustainable solutions. Every day, our scientists strive to provide answers to global challenges, going to great lengths in doing so. In fact, scientists across the world are the unsung heroes of our time, often working in relative anonymity. Yet they inspire us by making a positive difference and a real societal impact. Our ‘Science Can Change The World’ campaign celebrates this crucial contribution and entered a new phase in 2016 with the Bright Minds Challenge, looking to fast-forward renewable energy solutions.

We introduced a number of innovations in 2016, including specialty materials that help the automotive industry in its quest to make vehicles lighter and safer, and a new technology enabling the production of highly concentrated omega-3 fish oil. We also continued work on programs for the future, many of which are directly linked to environmental or public health challenges. These include our fermentative stevia sweetener platform in Nutrition to help reduce the sugar in our diets, Clean
Cow, aimed at cutting methane emissions from cattle, and our Green Ocean partnership to make fish farming more sustainable.

The concept of the circular economy is becoming reality, and the DSM-Niaga joint venture took an important step, announcing that its technology is ready for commercial-scale production. This 100%-recyclable carpet is proof that products can be re-designed along circular economy principles of use and multiple re-use.

Looking to our Emerging Business Areas, we have experienced a delay in the start-up of the advanced biofuels facility in the US together with our partner POET. Efforts to address this took effect toward the end of the year. DSM Biomedical made steady progress, with higher volumes, especially in high-growth segments of the medical device market including cardiology, ophthalmics and orthopedics. We continued to see good growth in solar energy materials with DSM Advanced Solar. The Innovation Center reached Adjusted EBITDA break-even in 2016, as planned.

Monetizing our partnerships
Over recent years, we have carved out non-core areas of the portfolio in pharma and bulk chemicals and transferred these into partnerships. We will exit these over time, monetizing our holdings. In 2016, we took a first step through our participation in the very successful IPO of Patheon, resulting in a significant first financial gain and creating the opportunity to monetize further in the coming years. DSM Sinochem Pharmaceuticals progressed well, and we will continue to review the best options for divesting this business. Finally, for the third main partnership, Chemicalinvest with controlling partner CVC, 2016 was the first full year of operation and the focus was on improving results. In all these cases we will choose an appropriate moment to exit. Proceeds will initially be used for de-leveraging our balance sheet and to support organic growth, while unlocking the potential for acquisitions over time.

Sustainability, our core value
For DSM, sustainability is our core value and a key responsibility, as well as an important business driver. We focus on delivering science-based, sustainable and scalable solutions that address the challenges of today’s world in our main areas of competence. Not only do these products and solutions offer higher growth rates and better margins; our continuous endeavor for sustainability also makes us focus on reducing operating costs by decreasing our environmental footprint.

In 2016, over 60% of DSM’s sales were products offering measurably better environmental performance and/or societal benefits than mainstream alternatives in areas such as working conditions and health. With these Brighter Living Solutions, we help our customers make their own businesses more sustainable.

We have identified three sustainable growth platforms – areas where our core competences intersect with urgent societal challenges. These are: nutrition; climate & energy; and circular & bio-based economy. We will grow these platforms through partnering, advocacy and engagement, and through our proprietary solutions, increasing our positive impact and doing good business at the same time. Africa Improved Foods, the outcome of a multi-stakeholder approach to support the government of Rwanda in tackling stunting and stimulating economic development, is just one example.

Our corporate strategy and our growth platforms are well aligned with the United Nations’ Global Goals for Sustainable Development. These goals – often referred to as the ‘SDGs’ – are increasingly moving into implementation mode, underscoring the need for effective solutions at scale to which businesses like DSM can make an influential contribution. We are particularly proud of our strategic partnership with the UN World Food Programme, which contributes directly to Goal 2 (Zero Hunger). Among others, DSM’s activities also strongly address Goal 13 (Climate Action). Achieving the SDGs will help build societal and economic resilience worldwide. You can read more about how our company supports the SDGs throughout this Report.

The global economy presented a mixed picture in 2016, with growth remaining patchy. This was reflected in our businesses, where conditions in some territories such as in Latin America were difficult, while in others we grew well – for example, in India, China, the US and Europe. Social inequalities and economic imbalances also led to political turbulence in some parts of the world, which influenced the wider global economy. In the face of these continuing uncertainties, the SDGs remind us of the importance of taking a long-term view.

Our social and environmental performance
In 2016, we further improved the social and environmental performance of our operations. The safety and health of our workforce is our most immediate concern and I am happy to report that there was a reduction in the number of recordable injuries during the year. We remain committed to reducing this number still further. For more information on safety and health
and on these and other incidents, see ‘People in 2016’ on page 39 and ‘What still went wrong in 2016’ on page 122.

Our Employee Engagement Survey showed a clear improvement versus last year, demonstrating that we are on the right track. We also continued to strive for a representative balance across our organization in terms of gender and nationality, addressing our Inclusion & Diversity beliefs and goals. We are pleased with the improvement in the number of women in executive and senior leadership positions in recent years, yet we realize we must increase this momentum still further. Our ability to hire, develop, evaluate and manage our talented people is a fundamental enabler for DSM’s continued success. Last year, we rolled out a revamped global talent management approach across the company and further embedded the DSM leadership model.

We made pleasing progress in 2016 toward our multi-year targets for reducing our own environmental footprint, including further improving our greenhouse-gas efficiency and energy efficiency, as well as taking important steps toward our renewable electricity targets. DSM is among a growing number of companies to have implemented an internal carbon price (in our case of € 50/ton CO\textsubscript{2} equivalents) to help guide investment decisions toward low fossil-carbon choices. We support carbon pricing as an instrument to address climate change, and I am honored to co-chair, together with Minister Ségalène Royal of France, the Carbon Pricing Leadership Coalition, an initiative launched by the World Bank, the UN and the International Monetary Fund.

All of us at DSM take pride when our efforts receive external recognition. Among numerous other things, we were very pleased to be named the global industry leader in the Dow Jones Sustainability World Index in 2016. We were also delighted to be mentioned in Fortune Magazine’s ‘Change the World List’ of companies that are “doing well by doing good.” This resonates well with how we view our purpose as a company.

We continually aim to improve our integrated reporting, and this Report follows the GRI Standards from the Global Reporting Initiative as well as the <IR> framework of the International Integrated Reporting Council. We remain committed to aligning our strategy and operations with the principles of the UN Global Compact, as well as contributing to the realization of the UN Global Goals.

Our thanks to all who contribute

In conclusion, 2016 was a good year for DSM. We are pleased with our progress and have many reasons to be confident. On behalf of my colleagues, I would like to extend our thanks to everyone who has contributed to this success: our employees, customers, suppliers and other business partners. We are grateful for the trust of our shareholders and will continue to serve the interests of all our stakeholders as well as we can. We also express our gratitude to Stephan Tanda, who has been instrumental on DSM’s Managing Board in creating our unique, broad and global Nutrition business, and has moved on to become CEO of the AptarGroup, Inc. We wish him well after nine years of work for DSM. Also many thanks to Ewald Kist, whose final term as a Member of DSM’s Supervisory Board came to an end in 2016 after 12 years of service. We highly value his balanced, long-term thinking.

I would like to finish by once again thanking all who contributed to this successful year 2016 and the achievements of the DSM we have built together: we do this all to create brighter lives for people today and generations to come.

Feike Sijbesma
CEO/Chairman Managing Board Royal DSM
The Base of the Pyramid (BoP) comprises some four billion people who subsist on USD 2 per day or less. Around 800 million of these suffer from hunger, and many more are malnourished. The food basket for these people often lacks key nutrients due to its reliance on grains and rice, which provide mainly carbohydrates and thus essential calories but not the full range of nutrients required for good health.

At DSM, we use our products, expertise and partnerships to help support this group through programs designed to address malnutrition by means of food fortification, among other things. The fortification of staples such as wheat flour, maize flour, oil, margarine and salt has a long history. Rice fortification is much more technically complex. DSM’s work in this field began almost two decades ago through a collaboration with Bühler for the development of coating and hot extrusion technologies. In 2010, we began working together with WFP on rice fortification, conducting trials for including fortified rice in school meals in Egypt. We have since scaled up our involvement with many other countries and partners.

### Scaling up rice fortification in Bangladesh

A joint project by WFP and the Government of Bangladesh, supported and funded by the DSM-WFP partnership and the Dutch Embassy in Dhaka, has been established with the goal of contributing to the reduction of micronutrient deficiencies in high-risk groups. Focusing strongly on women and children in Bangladesh, the project encouraged the consumption of nutrient-rich fortified rice.

### 45Rice, Singapore

In a study by the National University of Singapore, just over 80% of interviewed migrant workers reported that the quality of food provided to them was “poor” and lacking in the necessary micronutrients (vitamins and minerals). A collaboration with the NGO BoP Hub to address this resulted in the founding of the social enterprise 45Rice in January 2016. 45Rice will supply hospitals, foundations, low-income communities, and the commercial market (FairPrice) in Singapore with rice premix and fortified rice kernels.

### Africa Improved Foods, Rwanda

In 2015, DSM was invited by the Government of Rwanda to participate alongside other partners in Africa Improved Foods (AIF) with the challenge to address micronutrient deficiencies ("hidden hunger"), support local economic development, and create a commercially sustainable business operation in Rwanda. AIF now employs 260 people who produce fortified cereals and porridges for pregnant and lactating women, toddlers, and older children. The maize and soy used are sourced locally from over 9,000 local farmers, providing a market and a sustainable source of income for these smallholdings.

### Rice fortification workshop in Dominican Republic

Over 100 stakeholders were brought together at the workshop ‘Scaling Up Rice Fortification in Latin America and the Caribbean’ in August 2016. This workshop was organized by WFP with funding and support from the DSM-WFP partnership. It was designed to share global and regional evidence and operational experience; support countries in the process of developing a country-specific plan for rice fortification; facilitate the process of consultation and the exchange of experience between countries in the region; and create a network for continued learning and knowledge-sharing.
DSM and the Sustainable Development Goals

1. **No Poverty**
   - Our HR policies on (minimum) wages and fair pay. We support smallholdings through Africa Improved Foods (AIF), help improve agricultural learning through our partnership with the UN WFP and participate in economic development programs in developing countries. ••

2. **Zero Hunger**
   - We improve nutrition via initiatives such as the Nutrition Improvement Program and AIF, as well as through partnerships such as with the WFP and SUN. We continue to support Sight and Life, the nutrition think-tank. •

3. **Good Health and Well-being**
   - Our biomedical, health and nutrition product portfolio is geared to maintaining, protecting or regenerating health. The DSM Life Saving Rules and the DSM Vitality Program support safety in the workplace and good health for our employees. •

4. **Quality Education**
   - We support our employees’ personal and professional development through our learning and development programs. We help improve agricultural learning through our partnership with the WFP. •

5. **Gender Equality**
   - The DSM Inclusion & Diversity Strategy and aspirations, and our sponsorship of WIN to foster female leadership. Our CEO is signatory to the CEO Statement of Support for the Women’s Empowerment Principles and is a board member of Catalyst. •

6. **Clean Water and Sanitation**
   - We identify and take action on areas of water scarcity with waste water efficiency and treatment programs such as at DSM in Pune (India). •

7. **Affordable and Clean Energy**
   - We enable energy solutions such as advanced biofuels and materials for solar panels, and support the quest for clean energy externally via our Bright Minds Challenge. We are significantly increasing the use of renewable sources of energy and are members of RE100. See also SDG13 (Climate Action). •

8. **Decent Work and Economic Growth**
   - We make a positive contribution to economic growth in the countries and markets in which we operate and strive to decouple growth from resource consumption. We support smallholdings through AIF and participate in economic development programs in developing countries. •

9. **Industry, Innovation and Infrastructure**
   - Bright Science is the key driver behind our sustainable, science-based solutions. Our innovation strategy supports the sustainable development agenda, with clear focus on several SDGs. •

10. **Reduced Inequalities**
    - The DSM Inclusion & Diversity Strategy and aspirations promote the reduction of inequalities. Our Brighter Living Solutions program considers equal opportunities through People LCAs. Through AIF and economic development programs in developing countries we foster inclusive employment in local communities. •

11. **Sustainable Cities and Communities**
    - We support cross-sector partnerships and local philanthropic initiatives, such as our work with Global Health Corps. •

12. **Responsible Consumption and Production**
    - DSM-Niaga enables the manufacture of 100% recyclable carpets. Food waste can be reduced through solutions such as Pack-Age®. Advanced biofuels and bio-succinic acid replace fossil-fuel based alternatives. Our Brighter Living Solutions program considers the impact of our products throughout the value chain. •

13. **Climate Action**
    - We focus on reducing our own carbon footprint, enabling the low-carbon economy through renewable energy solutions and bio-based chemicals, and advocating climate action through partnerships such as CPLC and WEF and other initiatives. See also SDG7 (Affordable and Clean Energy). •

14. **Life Below Water**
    - Trevo nets support sustainable aquaculture. The Green Ocean partnership has the potential to transform aquaculture feed solutions into more sustainable systems and DSM is a partner of The Ocean Cleanup. •

15. **Life on Land**
    - Our Brighter Living Solutions program values the reduction of land use as part of the LCA assessments. •

16. **Peace and Justice Institutions**
    - Our Anti-Bribery and Corruption policy and training programs, Human Rights Policy as well as our grievance mechanism “DSM Alert”, support ethical business conduct and good corporate governance within DSM. •

17. **Partnerships for the Goals**
    - We partner with UN agencies, governments, academia, NGOs and industry peers such as WEF, WBCSD and SUN as well as many other global and local partners to accelerate our contributions to the other 16 SDGs. •

DSM’s engagement:
- • = Minor
- •• = Moderate
- ••• = Major
The 17 Global Goals for Sustainable Development were agreed by more than 190 world leaders in September 2015. At DSM, we believe that companies have a crucial role to play in creating the impact needed at scale to achieve them.

Besides being our core value and a key responsibility, for many years we have made sustainability a real business driver for DSM, developing solutions, building partnerships and increasing our impact in key areas. Our Strategy 2018: Driving Profitable Growth emphasizes the focus we place on sustainability as our core value. Addressing the challenges of nutrition & health, climate & energy and resource scarcity drive our business and innovation strategies. We believe that our expertise in health, nutrition and materials position DSM well to actively contribute to the SDGs. While all the Goals are important, our capacity to support their individual achievement varies. The overview to the left provides an initial indication of where we see intersections between the SDGs and our company and business strategy. There are five SDGs on which we believe our company and its businesses can be most influential, and we expand on these on the right.

In order to achieve impact at scale and accelerate progress, DSM collaborates with multiple partners and stakeholders, in line with SDG 17 (Partnering for the Goals), including United Nations agencies, governments, academia, NGOs and peers. This enables us to address issues, develop alliances, create new metrics and foster new markets for sustainable solutions. Our partnerships range from the UN Global Compact, World Economic Forum (WEF), UN World Food Programme (WFP), UNICEF, the Carbon Pricing Leadership Coalition (CPLC), World Vision and Accounting4Sustainability (A4S) to the Dutch consulate in China, World Business Council for Sustainable Development (WBCSD), Scaling Up Nutrition (SUN) and our collaborations on Together for Sustainability (TfS) and Windpark Krammer.

SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

DSM works to improve nutrition via initiatives such as the Nutrition Improvement Program and Africa Improved Foods, providing fortified food solutions and micronutrient products, as well as through partnerships such as with WFP. We support the Base of the Pyramid with fortified food solutions and programs and provide micronutrients through products such as MicVit sachets. We continue to support the now independent nutrition think-tank, Sight and Life.

SDG 3: Ensure healthy lives and promote well-being for all at all ages

DSM’s health, nutrition, biomedical and high-performance materials portfolios are geared to maintaining, protecting or regenerating health in all age groups (for example, by reducing salt and sugar levels in processed foods, or by reducing emissions associated with chemical manufacturing processes). Our First 1,000 Days Program supports mother and child health. We employ the DSM Life Saving Rules to protect our employees from harm and the DSM Vitality Program to promote awareness of good health and healthy living options among our employees.

SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all

SDG 13: Take urgent action to combat climate change and its impacts

In partnership with RE100, we are increasing the use of renewables in our energy mix, reducing our carbon footprint. DSM enables solar and bio-based energy solutions and supports the move toward a low-carbon economy through solutions such as POET-DSM advanced biofuels and high-performance materials for solar panels. Our Bright Minds Challenge is identifying innovative solutions and new materials that will fast-track the movement toward 100% renewable energy. We advocate responsible action on climate change in combination with our stakeholders.

SDG 12: Ensure sustainable consumption and production patterns

DSM contributes to a bio-based, circular and low-carbon economy with products such as Akulon® oil pans and Arnite® car lighting. DSM-Niaga enables the manufacture of carpets that can be recycled, again and again. Food waste is reduced through DSM food solutions such as Pack-Age®. Bio-based chemicals such as bio-succinic acid replace fossil-fuel based alternatives in applications from packaging to footwear. Through our Brighter Living Solutions program we consider the impact of our products throughout the value chain.
Strategy 2018: Driving Profitable Growth

Over recent years, DSM has been transformed into a truly global company that provides innovative, sustainable solutions in health, nutrition and materials. DSM’s Strategy 2018: Driving Profitable Growth focuses on capturing the potential of the business portfolio that has been created and translating this into improved financial results. In the period 2016-2018, we aim to step up our financial performance while pursuing our ambitions in the area of sustainability and expanding our positive impact on the world around us.

People, economies and markets worldwide are being affected by a number of fundamental societal trends. These megatrends – predominantly driven by demographic changes as populations grow (including a shift to the faster-growing countries in Asia and Africa) and people become older, more urbanized, wealthier and more connected – are exerting increased pressure on resources and the food chain. In addition they are engendering new patterns of consumption and impacting the environment. Moreover, there is increased attention to health and well-being. These trends present clear challenges, but also offer opportunities for DSM to profitably grow its businesses by supporting customers in developing science-based, sustainable solutions to meet current and future needs.

DSM’s strategy and solutions offering addresses three crucial megatrends.

Global shifts and digital transformation
The accelerating growth of the global population, accompanied by ever more rapid technological advances and the increasing wealth of the emerging economies, is creating a world that is city-oriented, technology-literate, and globally connected. It is also imposing unprecedented demands on the earth’s resources and triggering significant societal and cultural changes worldwide. Diets are changing and global spending on housing, transport, lifestyle and energy is on the increase. New technology, hyper-connectivity and big data are impacting individuals, communities, businesses and economies in unprecedented ways, bringing both opportunities and challenges.

Climate and energy
Scientific consensus on the link between human activity and climate change is clear, and the full and speedy implementation of the Paris Treaty (COP21) agreements is paramount. In the words of the Marrakech Action Proclamation for Our Climate and Sustainable Development, made at the COP22 UN Climate Change Conference in November 2016, “Our climate is warming at an alarming speed and we have an urgent duty to respond... Our task now is to rapidly build on that momentum, together, moving forward purposefully to reduce greenhouse-gas emissions and to foster adaptation efforts, thereby benefiting and supporting the 2030 Agenda for Sustainable Development and its SDGs.” This understanding is speeding up the imperative transition to the (bio-)renewable age and the low fossil-carbon economy.
Health and wellness

Advances in medicine, improvements in healthcare, and growing awareness of the importance of good nutrition have created favorable conditions for billions of people to achieve their full potential during the course of long and active lives. Yet these advances are accompanied by massive societal challenges: the growth of diet-related non-communicable diseases in both the developing and the developed world; the aging of the populations of Japan, Europe and North America, for example; and the increasing demand for – sustainable – animal protein in the emerging economies. At the same time, two billion people on the planet suffer from micronutrient and protein deficiencies, and the cycle of deprivation continues from generation to generation.

We provide our customers with the innovations and sustainable, science-based solutions they need to meet the demands arising from these megatrends. Orientating DSM’s strategy and businesses around these three megatrends not only provides us with the global scope to pursue attractive commercial opportunities across the full range of our abilities. It also ensures that our efforts target some of the biggest challenges confronting society today.

Strategy 2018: Driving Profitable Growth

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<th>Two headline financial targets</th>
<th>Clear actions identified to achieve targets</th>
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<td>High single-digit percentage annual Adjusted EBITDA growth</td>
<td>Businesses aim to outpace market growth in all segments</td>
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<td>High double-digit basis point annual ROCE growth</td>
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Taking into account these megatrends, and combined with disciplined focus on performance, we have established a three-year strategic plan with two headline financial targets: high single-digit percentage annual Adjusted EBITDA growth and high double-digit basis point annual ROCE growth. We have defined clear actions for DSM to achieve these targets, including outpacing market growth in our businesses, the rigorous execution of cost reduction and efficiency improvement programs which will deliver €250-300 million in savings versus the 2014 baseline, and improvements in our capital efficiency. In support of our growth targets, we are adjusting DSM’s global organizational and operating model to create a more agile, commercially focused and cost-efficient company.

We do not expect to engage in large acquisitions in the near future and intend to further monetize DSM’s main joint venture partnerships in the coming years.

Besides improving the financial outcomes, we are also stepping up our sustainability aspirations with Strategy 2018, both in our own operations and in the positive impact we want to have on the world around us. DSM’s competences and business plans have a strong link with the Sustainable Development Goals. While our activities align with many of the SDGs, our businesses can particularly contribute to SDGs 2, 3, 7, 12 and 13. We have identified key sustainability focus areas in which we foster the development of sustainable markets where our products, value chains, networks and partnerships can have a beneficial impact at scale. More information is given in ‘DSM and the Sustainable Development Goals’ on page 12 and throughout this Report.

Our ability to hire, develop, evaluate and manage our talented people is a fundamental strategic enabler for DSM’s continued success, and we direct this through our People Strategy 2018.

"Our Strategy 2018 aims to unlock the tremendous potential that DSM’s business portfolio offers, outpacing growth in our markets through innovative solutions addressing important global issues, capturing the benefits of organizational optimization and helping our employees fully develop their skills and talents."

Philip Eykerman, DSM Executive Committee

While driving profitable growth throughout the company via the execution of our Strategy 2018, we continually monitor, assess and strive to respond appropriately to societal, macro-economic and segment-specific developments as they occur. Our approach to managing both opportunities and risks in DSM’s businesses is embedded in our operating and governance model and risk management approach. For more information see ‘Corporate governance’ on page 93 and ‘Risk management’ on page 102.


Progress in 2016

Having designed DSM’s strategy update in 2015, the year 2016 has been about implementing Strategy 2018 in our organization and in our markets.

Financial results

DSM delivered very strong financial results in 2016, with net sales of €7,920 million, up 3% on 2015 (€7,722 million). Group organic sales growth came to 4% on the back of strong volumes in both Nutrition and Materials. Adjusted EBITDA from continuing operations grew by 17% to €1,262 million, clearly ahead of the high single-digit growth we are currently targeting.

DSM’s overall Adjusted EBITDA margin (Adjusted operating profit before depreciation and amortization as a percentage of net sales) was 15.9% (2015: 13.9%). In 2016, Return On Capital Employed (ROCE) was up 280 basis points to 10.4% from 7.6% in 2015, also well ahead of our targeted improvement.

The Nutrition cluster had a strong year with 5% organic growth and Adjusted EBITDA up 13% versus 2015. All businesses contributed well to this growth. Adjusted EBITDA also benefited from the efficiency and cost saving programs. The Adjusted EBITDA margin was 18.0% (2015: 16.6%), already achieving the aspired range of 18-20% for 2018.

Animal Nutrition & Health had a very good year, with 8% organic growth, driven by strong volume growth in all regions with the exception of Latin America, due to the weak economic conditions in that region. Prices were up in a number of vitamins and premixes. Human Nutrition & Health delivered a significant step-up in organic growth versus recent years at 4% in 2016. This underlines the successful implementation of the strategy to drive above-market growth through new market initiatives and innovation. One of the highlights of the year was the continued rapid pace of growth for the i-Health range of dietary supplements. The range has proved its popularity in the US and is now also available in a number of other countries.

Our Materials businesses delivered a strong financial performance in 2016, reflecting the success of our differentiated approach of focusing on higher-growth specialty businesses in the Materials portfolio. Volumes grew 4% in the year. Prices were generally down across the Materials sector, including for DSM, as a result of the prevalent low input cost environment created by low oil prices. Adjusted EBITDA was up 13%, driven by strong volume growth in higher margin specialties, the benefits of the efficiency- and cost-saving programs that have been carried out in the cluster, and the support from low input costs. Margins in Materials came in at 17.3% for the year versus 15.2% in 2015. Even when normalized for the approximately one percentage-point of support resulting from the low input-cost environment, this is a significant step-up in profitability, and clearly well above the levels of just a couple of years ago and ahead of the midterm aspiration of 15%.

From a regional perspective, in North America, economic growth remained steady, with record low unemployment. North America is the only region where all DSM’s business groups and Emerging Business Areas (EBAs) have operations and sales grew by 10%. The pace of growth in the EMEA region remains patchy, with some countries and markets developing more strongly than others, influenced also by political events. Regional sales grew by 3%, with good performance in food & beverage and automotive alongside more robust conditions in building and construction.

Sales in emerging economies amounted to 44% of total sales in 2016, in line with 2015. This gives DSM a well-balanced global footprint, putting us in a position to capture opportunities arising from the megatrends in economies such as China, India, Brazil and Russia as well as in the more mature economies of the West.
In China, the economy is rebalancing toward the ‘New Normal’, whereby domestic consumption has become the most powerful driver of economic growth. Of relevance to DSM, 2016 saw high growth in automotive, and the food industry continued to develop well, while construction-related industries remained volatile. Environmental regulations have sharpened significantly in recent years, leading many segments to seek more sustainable substitutes for traditional materials. Sales in China grew by 6%. In India, GDP growth continued apace and DSM’s sales showed a 16% development, supported by an increased awareness of the importance of healthy, balanced diets, and new standards that came into force for the fortification of staple foods. Sales in Latin America declined by 6%. Economic instability, especially in Venezuela and Brazil, and to a lesser extent in Argentina, continued to affect DSM’s businesses in the region. At the same time, there is a growing willingness to address obesity and malnutrition by some governments in this region. The economy in Russia showed initial signs of improvement in 2016. A strong localization drive benefited agriculture in particular, which has been positive for DSM’s animal nutrition business. Overall, sales in Eastern Europe were up 6%.

DSM’s innovation strategy aims at developing the best, most sustainable and commercially viable solutions to continue to meet current and future market needs and to support DSM’s further profitable growth. Innovative and improved products and solutions typically have above-average margins, contributing directly to Adjusted EBITDA growth as well as top-line growth. Innovation sales, defined as sales from products and solutions introduced in the last five years, made up 22% of total sales in 2016 (2015: 24%), in line with our aspiration to maintain a level of around 20% going forward for DSM as a whole. We see this as a healthy proportion in view of the overall balance of our product portfolio and product life cycles. R&D is crucial to the realization of DSM’s innovation strategy, and most of the expenditure in this area is directed toward business-focused programs. The overall spend on R&D came to € 426 million in 2016, or 5.4% of sales.

Our three EBAs – DSM Biomedical, DSM Bio-based Products & Services and DSM Advanced Solar – continued to progress during the year. We saw solid volume growth in our Biomedical activities: worldwide, a medical device containing DSM’s specialty biomedical materials is now being implanted into someone’s body on average once every nine seconds. In Bio-based Products & Services, we have made strides together with our partner POET to bring the cellulosic bio-ethanol plant in the US toward full capacity. Furthermore, we are leveraging the expertise and the products we have built up to create new business in making the production of all generations of biofuels more efficient and sustainable. Our Advanced Solar business for solar energy materials again performed well in 2016, outpacing market growth. We also added an innovative new backsheet technology to our portfolio in this segment. Taken together, the EBAs delivered € 16 million in Adjusted EBITDA. DSM’s Innovation Center reached Adjusted EBITDA break-even overall in 2016 as planned.

For detailed information on DSM’s financial results in 2016, see ‘Profit in 2016’ on page 56. For more information on innovation and R&D, see ‘Innovation Center’ on page 82.

Cost reduction and improvement programs
DSM has instigated extensive cost-reduction and improvement programs which will deliver € 250-300 million savings versus the 2014 baseline. In 2016, all these well-identified programs progressed as planned and the programs are on track to deliver the targeted benefits.

Sustainability results
Sustainability is our core value. As such, we have expended much time and effort over the years in embedding sustainability across our business activities, both in recognition of our responsibility to reduce DSM’s environmental footprint and in developing sustainability into a strategic and successful business growth driver. We harness our strong science competences to create and deliver higher-margin, profitable products and solutions that have a positive impact on our value chains and help address global challenges. In 2016, our Brighter Living Solutions comprised 63% of total sales. For more information on what makes our solutions different, see ‘Brighter Living Solutions’ on page 22.

We are proud that DSM was named the global leader in our industry group in the Dow Jones Sustainability World Index in 2016. This top ranking means that in 2017 DSM will continue to have RobecoSAM Gold Class status.

We have set targets to drive sustainable operations at DSM relating to greenhouse-gas and energy efficiency, employee engagement, safety and diversity. These headline targets with a longer-term horizon are supported by a wide range of measures. In 2016, we made good progress in reducing our operational costs and gaining momentum in the other areas.

For detailed information on DSM’s sustainability performance in 2016, see ‘Sustainability’ on page 82.
environmental performance, improving both our greenhouse-gas and energy efficiency in the year toward the targets we have set. This included taking a significant step in the amount of electricity we purchased from renewable sources. To read about our aims and performance in detail, see ‘People in 2016’ on page 39 and ‘Planet in 2016’ on page 49.

We have defined three key focus areas in sustainability for DSM based on global societal trends that are affecting people, economies and markets. These are nutrition, climate & energy, and circular & bio-based economy.

- In nutrition, DSM has unique expertise in developing products to positively impact global nutrition, health and development in support of SDG 2 (Zero Hunger), which aims to end all forms of malnutrition by 2030. We work together with cross-sector partners to help make good nutrition aspirational, affordable and available to all. Our strategic partnership with the UN World Food Programme reached over 28 million beneficiaries in 2016. For more information, see ‘Nourishing the Base of the Pyramid’ on page 11 and ‘Cross-sector nutrition partnerships’ and ‘Review of business – Nutrition’ from page 36 and page 64 onwards respectively.

- Effectively tackling climate change is a responsibility and also a business opportunity. We focus on reducing DSM’s own carbon footprint, enabling the low fossil-carbon economy with products and solutions and advocating climate action. In April 2016, our CEO Feike Sijbesma was named Co-Chair of the Carbon Pricing Leadership Coalition, which was launched by the World Bank and the International Monetary Fund in 2015. DSM also agreed to participate in a unique partnership for renewable energy from Windpark Krammer in the Netherlands. See ‘Planet in 2016’ on page 49.

- We are committed to securing the future availability of natural resources, and to unlocking more value from the limited resources that are available. At the end of 2016, the DSM-Niaga joint venture announced its readiness for commercial-scale production of 100%-recyclable carpets. For more information, see ‘Review of business – Materials’ from page 74 onwards.

We look to foster the development of sustainable markets in these areas where our products, value chains, networks and partnerships can have a beneficial impact at scale.

Organization & culture

The DSM Employee Engagement Index expresses how our employees rate DSM in terms of commitment, pride, advocacy and satisfaction. The survey held in 2016 resulted in an engagement index of 71% (2015: 69%), just ahead of the global standard of 70%. This is a good result, especially in light of our ongoing transformation to a new organizational and operating model. Our aim is for this outcome to move toward 75% favorable by 2020.
We are well on track with the adjustments to our global organizational and operating model to support DSM’s growth and create a more agile, commercially-focused and cost-efficient business. We strengthened DSM’s management structure in 2015 by establishing an Executive Committee, which has enabled faster alignment and operational execution by increasing focus on the development of the business, innovation and people. The Executive Committee’s efforts are primarily aimed at defining the overall strategy and direction; reviewing business results and functional and regional strategies; budget-setting; and people and organization.

Programs in our new target operating model to globally leverage cross-company support functions in areas such as HR, Indirect Sourcing, Communications, Finance, Legal and ICT are well underway. In support of this transformation, we continued to anchor and embed our new way of working and ONE DSM culture, driving changes in mindset and behaviors. The changes implemented are aimed at establishing DSM as a results-driven, high-performance organization.

We further embedded the DSM Leadership Model in our key processes of hiring, developing, evaluating and managing talent across the organization and for building high-performing teams. We also rolled out a new talent management approach across the company in 2016. We will continue to invest in our talent pipeline to ensure that we can sustainably address the future challenges and demands placed on us.

For more information about our organization and employees, see ‘People in 2016’ on page 39.

Extracting value from our partnerships
DSM has established joint venture partnerships for its former pharma activities (DSM Sinochem Pharmaceuticals and Patheon) and for the remaining bulk chemical businesses (ChemicaInvest). These partnerships have been created with a view to ultimately exiting and monetizing these businesses, and we expect to extract significant value from them in the coming years.

We took a first step in 2016 with the sale of 4.8 million ordinary shares in Patheon N.V. in connection with the IPO of Patheon N.V. in July, resulting in a gain of € 232 million. Following this transaction, DSM now holds approximately 48.7 million ordinary shares, or approximately 34% of Patheon N.V. For more information, see ‘Partnerships’ on page 88.

Building for earnings growth beyond 2018
DSM has set itself strategic targets for the period to 2018. This shorter three-year period is intended to channel the organization’s focus and forcefully drive achievement of the step-up in financial performance at which the company aims, creating more value from the promising portfolio we have built over recent years. At the same time, we are also preparing for further longer-term growth; DSM’s business cycles are typically longer than the three-year period to 2018. The company has a range of key business and innovation projects across the clusters that will drive earnings growth beyond 2018 and we will continue to develop more initiatives in light of market dynamics.
How DSM creates value for its stakeholders

Capital inputs

People
- Employees
- Training & development
- Stakeholder engagement & Public-Private Partnerships
- Philanthropy & sponsoring

Planet
- Raw materials (including renewables)
- Energy (including renewables)
- Water

Profit
- Shareholder equity
- Borrowings
- Partnerships & open innovation
- Purchased goods & services
- Manufacturing asset base

Value outcomes

People
- Safety & health
- Brighter Living Solutions
- Engaged workforce
- Skills & employability
- Employee benefits
- Improved nutrition

Planet
- Reduced environmental footprint
- Brighter Living Solutions
- Enabling transition to (bio-) renewable & circular economy
- Safer ingredients & materials

Profit
- Financial performance (Adjusted EBITDA & ROCE growth)
- Dividend
- Contribution to business success for customers & suppliers
- Contribution to civil society via tax
- Patents & royalties

Human capital

DSM employs skilled and talented people from diverse backgrounds. DSM strives to provide employees with a safe and inspiring workplace as well as with the tools and training they need to be effective and to develop their abilities. DSM rewards employees with competitive benefit packages.

Societal & relationship capital

DSM engages with various stakeholders to ensure close alignment between the company’s aims and societal needs. DSM generates value for stakeholders outside its direct value chains of employees, suppliers, customers and end-users; these include employees’ families, governments, local communities and civil society.

Natural capital

DSM recognizes that the world is an interconnected system of resources. For DSM this represents a responsibility and a business opportunity. DSM aims to reduce the environmental impact of its supply chain, operations and products and services, while developing innovative solutions that deliver sustainability benefits to customers and beyond.

Financial capital

Providers of capital – shareholders and bondholders, banks and the financial markets – supply funds that DSM uses in its business to create value, driving growth and delivering sustainable returns.
DSM’s strategy is aimed at driving profitable growth through science-based, sustainable solutions based on the defining megatrends of our time. By using its unique competences in health, nutrition and materials, DSM is fostering economic prosperity, environmental progress and social advances to create value for all stakeholders simultaneously.

The diagram on the left is based on the International Integrated Reporting Council’s Integrated Reporting (IR) framework and gives a schematic overview of the value DSM creates over time based on six capitals. These are: human capital; societal & relationship capital; natural capital; financial capital; intellectual capital; and manufactured capital. Descriptions of how these capitals apply to DSM are given below left.

DSM employs these capital inputs in its business in the execution of its strategy and in the fulfilment of its mission to create brighter lives for people today and for generations to come. The company’s organizational and operating model is made up of market-facing business groups focused on the primary business functions (Innovation and R&D, Direct Sourcing, Manufacturing & Operations and Marketing & Sales), global support and functional excellence departments, and regional organizations. It uses these to minimize and mitigate risks and to take advantage of the opportunities the megatrends provide, thereby transforming the capital inputs into value outcomes aimed at having the most beneficial impact possible.

There is a strong link between DSM’s competences and business plans and the Sustainable Development Goals. While our activities align with many of the Goals, we can particularly contribute to SDGs 2, 3, 7, 12 and 13. For more information, see ‘DSM and the Sustainable Development Goals’ on page 12.

Since 2002, DSM has established a track record in Triple P reporting, disclosing its performance in terms of People, Planet and Profit. For the purposes of comparability, the six capitals as defined in the (IR) framework continue to be clustered under People (comprising the human and societal & relationship capitals), Planet (natural capital) and Profit (financial, intellectual and manufactured capitals).

Specific performance indicators relating to the capitals are provided throughout this Report.
Brighter Living Solutions

In 2016, DSM launched the ‘Brighter Living Solutions’ program in order to steer products and innovations that are better for people and the planet. The program combines DSM’s ECO+ and People+ programs to drive focused growth and develop sustainability into a strategic and successful growth driver. Brighter Living Solutions create shared value for DSM’s stakeholders and differentiate DSM through their positive impact on society and the environment.

The impact of Brighter Living Solutions can be created at any stage of the product life cycle, from raw materials through the manufacturing process to potential re-use and end-of-life disposal. DSM uses comparative Life Cycle Assessments (LCAs) and/or expert opinions to determine whether a product can be identified as a Brighter Living Solution. Within the program, DSM also conducts a yearly ‘Product Category Sustainability Review’ for all our products. This review identifies environmental and social impact differentiators for each of our product categories and confirms minimum compliance levels.

ECO+

With ECO+ DSM strives to drive innovations and products with a better impact on the planet. Products qualify as ECO+ when their environmental impact is lower than* the main competing solutions in the market as shown with comparative and standardized Environmental LCAs and/or expert opinions. ECO+ solutions provide impact along at least one of five value drivers of environmental sustainability: resource and land use, water and energy consumption and emissions.

People+

People+ provides guidance to develop solutions that measurably improve the lives of consumers, employees and/or communities across value chains compared to the main competing solutions, as demonstrated by means of comparative DSM People LCAs and/or expert opinions. Examples of People+ drivers that improve people’s lives are health condition, comfort & well-being, working conditions and community development.

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* For a small percentage of total Brighter Living Solutions (<3% out of 63%), the environmental impact is considered ‘best in class’ together with other solutions.
Maxarome®

Maxarome® is a food ingredient used in soups and sauces. It is a salt replacement ingredient that maintains great flavor in food. Reducing salt intake is one of the easiest ways to reduce high blood pressure and risks for stroke and cardiovascular diseases.

Uralac® Ultra

Uralac® Ultra technology provides coating solutions for furniture that gets heavy-duty use. Think about kitchen and bathroom cabinets, office and children’s furniture exposed to moisture and daily wear. Uralac® technology uses less water and energy throughout the life cycle than comparable alternatives, which makes it the preferred solution from an environmental viewpoint.

Dyneema® heavy marine ropes

One of the applications of high-performance Dyneema® fibers are ropes for mooring and towing tankers and other ships. This includes cruise ships and very large cargo vessels. The strength and durability of the Dyneema® fiber enables ropes that are up to 30% lighter compared to polyester, resulting in reduced emissions and making them easier to handle than traditional alternatives made of steel wire.

Pack-Age®

Pack-Age® is a moisture-permeable membrane that allows cheese to ripen naturally. It replaces conventional cheese ripening methods such as coatings without any need for additional preservatives. It also prevents cheese losses during the ripening time and processing of cheese. More cheese can be ripened and further processed than with alternative solutions.
Stakeholder engagement

Engaging in strategic and proactive dialogue with our key stakeholders helps deepen our insights into the drivers of our business and the needs of society worldwide, and thus to be ahead of the competition in adapting to changing demands.

We value engaging with our stakeholders – customers, suppliers, investors, employees, companies, governments, academia and civil society – and reach out to them in order to maintain open discussions on topics relevant to our business activities and our role in society, and to align our strategy with their views. These groups have been identified based on their influence on DSM’s operations, as well as our effect on them. The outcomes from the various stakeholder dialogues inform many aspects of our strategy, such as risk management, the identification and pursuit of business opportunities, and the overall guidance of DSM’s strategic objectives and ambitions. Continuous dialogue with our stakeholders is pursued through a variety of channels. A non-exhaustive overview of our engagements with stakeholder groups is provided under ‘Stakeholders’ on page 29 below.

Materiality

For DSM, materiality is about identifying the People, Planet and Profit topics that are most relevant to our stakeholders, and plotting these against the impact they have on our business. Business impact includes social, environmental, financial and reputational impact.

While material topics do not change substantially year-on-year, we consider it important to understand the views of both our internal and external stakeholders so as to verify whether we need to change our position on various issues. We announced our strategy update at the end of 2015, which was based on engagement with internal and external stakeholders. Our priority in 2016 was therefore to ensure that our materiality matrix was aligned with DSM’s Strategy 2018. The material topics from 2015 were challenged using a media and peer analysis process to capture emerging trends and headlines and to assess their alignment with DSM’s strategy and our Issues Management list. This procedure was supplemented by interviews with the Executive Committee aimed at identifying emerging trends, new topics, and changes in the relevance or priority of existing topics. The materiality matrix and the Corporate Risk Assessment were compared to confirm that all relevant subjects were covered from a materiality and/or risk perspective. The results of this exercise were validated by the Sustainability Leadership Team – a group of senior managers responsible for championing sustainability at DSM – and ultimately signed off by the Managing Board.

Changes in 2016

Two new topics for scrutiny were identified by this process in 2016: Digital transformation, and Geopolitical tensions & inequalities. The thematic areas Sustainable & Circular value chains, Bio-based economy and Sharing economy have been combined into a new category, Resource scarcity/Circular & bio-based economy.
Transparency has been renamed Transparency & reporting, Tax has been renamed Taxation, and Sustainable animal proteins has been renamed Sustainable food systems so as to include the climate impact of agriculture and sustainable alternative protein sources. Malnutrition & nutrition security now also encompasses overweight/obesity resulting from unhealthy diets.

Three of the four categories have been adjusted, with Societal shifts renamed Society, Eco Limits renamed Environment, and Trust & Accountability renamed Governance. Business enablers remains unchanged. Product & food safety has been moved to Governance. All topics are reported on, and our management approach explained, on the following pages.

Society

Health & wellness
The world’s population is simultaneously growing and aging. We contribute to individual health & well-being, the prevention and/or reduction of diseases, and the enhancement of the quality of life through the offerings of our Nutrition, Materials and Biomedical businesses. We respond to discussions about healthy diets (including associated health risks and claims) and to the shift in consumer preferences (such as organic) through the management of our nutrition, food and personal care ingredients portfolio. We also see that a growing consumer preference for less processed products could pose a risk to our business. This topic aligns with SDG 3 (Good Health).

Management approach. Our Nutrition strategy targets trends in health & well-being and shifts in consumer diets, including reduced salt and sugar, and ‘free from’. Within our Biomedical Emerging Business Area (EBA), we partner with the medical industry to address health, disease and quality of life. In Materials, we focus on the elimination of hazardous substances in our value chains, contributing to improved human health. Within our own operations, we recognize our employees’ need for a safe and healthy working environment. See ‘Strategy 2018’ on page 14, ‘People in 2016’ on page 39 and ‘Review of business in 2016’ on page 62.

Malnutrition & nutrition security
The cost of malnutrition – in both human and economic terms – is vast. For DSM, malnutrition includes undernutrition resulting from the insufficient intake of micronutrients (vitamins and minerals) and overweight/obesity resulting from unhealthy diets. Nutrition security means access to food that is both calorifically and nutritionally sufficient to foster health & well-being. We have been developing and piloting affordable, nutritious food solutions together with the UN World Food Programme (WFP) and other partners for over ten years. We are now in the position to scale up some of these approaches through new business ventures. We are also growing our portfolio of ‘substitute’ food ingredients to address unhealthy diets (for example, yeast extracts as a replacement for salt and developing fermentative stevia as a replacement for sugar). This topic aligns with SDG 2 (Zero Hunger).

Management approach. Cross-sector partnerships with UN agencies, governments and NGOs co-create food solutions in the developing world. The strategy and products of DSM Nutritional Products and DSM Food Specialties provide nutrition and food solutions in emerging markets as well as the developed world. See ‘Cross-sector nutrition partnerships’ on page 36, ‘Nourishing the Base of the Pyramid’ on page 11 and ‘Review of business – Nutrition’ from page 64 onwards.

Emerging economies
The emerging economies, which continue to grow in influence, represent 80% of the global population and are seeing profound economic transformations that are leading to an unprecedented rise in urbanization. We see opportunities to improve lives in emerging markets through our Brighter Living Solutions as well as through our operations and supply chains. We aim to have a positive social impact on local communities through our respect for human rights, our insistence on fair working conditions and our inclusive approach to business.

Management approach. DSM manages its regional approach and performance through its Strategy 2018: Driving Profitable Growth. Our operational and organizational model addresses regional dynamics. Through our Human Rights Policy and Supplier Sustainability Program, we strive to ensure that our value chain is sustainable. See ‘Supplier Sustainability Program’ in this chapter and ‘Human Rights’ on page 47.

Geopolitical tensions & inequalities
Unchecked tensions and inequalities could jeopardize economies, societies and communities, undermining efforts to achieve the SDGs. We monitor these macro risks, including trade and regulatory uncertainty, terrorism, political violence, and the threat of global recession, as they are relevant to our efforts at both short- and long-term value creation. This topic warrants inclusion due to its potential impact should tensions and inequalities heighten. The year 2016 was characterized by political uncertainty; any impact on global markets from developments such as Brexit will only become apparent in time.

Management approach. We address the potential impact of this topic through stakeholder engagement activities (such as the World Economic Forum (WEF), the UN Global Compact (UNGC) and the Dutch Sustainable Growth Coalition). Corporate Risk Management also monitors developments in this area. See ‘Risk management’ on page 102.

Environment

Climate change & renewable energy
Recent international agreements highlight the global urgency of this topic. The ‘COP21 agreement’ to limit the impact of climate
change to less than 2°C on average is legally binding and has been agreed by over 190 nations.

Observable changes such as the loss of sea ice, the accelerating rise in sea levels, and longer and more intense heat waves are already making themselves felt. We see tackling climate change as both a responsibility and a business opportunity. We are focusing on reducing our own carbon footprint through initiatives including increasing our use of renewable energy; enabling the low-carbon economy by driving innovations in upstream and downstream low-carbon solutions; and advocating action on climate in an appropriate manner by engaging in discussions on topics such as carbon pricing. This topic aligns with SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).

Management approach. We monitor metrics that impact on Climate change & renewable energy in the DSM Responsible Care Plan. Through the activities of our Materials and Advanced Solar businesses, we contribute solutions that are lighter, more durable, better-performing and have lower carbon footprints. Our engagement with stakeholder groups and climate advocates such as UNGC, the Carbon Pricing Leadership Coalition (CPLC) and RE100 influences public discourse on this topic. See 'Sustainable food systems' below, ‘Planet in 2016’ on page 49 and ‘Review of business - Nutrition’ and ‘Review of business - Materials’ from page 64 and page 74 onwards respectively.

Resource scarcity / Circular & bio-based economy
We support the move toward a circular, bio-based and sharing economy in response to growing resource scarcity. We see opportunities to innovate in both product and system design, and to investigate lower-impact business models, including sharing models that emphasize reusability, renewability and recyclability. This approach is most relevant to our Materials businesses; however, we also see opportunities to strengthen our work on nutrition security with circular concepts. This aligns with SDG 12 (Responsible Consumption and Production).

Management approach. We have identified the circular and bio-based economy as a sustainable growth area and will focus attention on opportunities in this area. The strategy and portfolio of our EBA DSM Bio-based Products & Services and new business ventures (such as DSM-Niaga) directly address this topic, which is a key driver in our Materials strategy and portfolio. See ‘Planet in 2016’ on page 49 and ‘Review of business - Materials’ and ‘Review of business - Innovation Center’ from page 74 and page 82 onwards respectively.

Water security
The issue of water security is playing an ever-more important role in the global development agenda. Due to the nature of our business, water availability and water quality represent a fundamental operational and reputational business risk for DSM. We established a context-based water target in 2015 to acknowledge that water issues are usually local or regional in nature. Our focus on sites in regions of water scarcity and sites that have a relatively high groundwater consumption or waste water discharge will ensure that appropriate measures are taken at site level.

Management approach. We are committed to the responsible use of water resources. The DSM Responsible Care Plan guides our approach to water. DSM is a signatory to the UN CEO Water mandate, and we voluntarily disclose our policy and performance on water as part of the Carbon Disclosure Partnership. Brighter Living Solutions and our Supplier Sustainability Program address this topic in the value chain. See also ‘Planet in 2016’ on page 49.

DSM supports the UN CEO Water Mandate

“Water security for the world’s growing population is a global concern. Many areas in the world are facing water scarcity and pollution, as well as damage from natural disasters. Individual and collective actions are necessary to mitigate the adverse effects on water quality and availability. For DSM, the sustainable management of water within our own operations and along our value chain is a material topic. Thus we truly value initiatives such as the UN Global Compact CEO Water Mandate and its principles, and commit to reporting annually on our progress through this Report.”

Feike Sijbesma, CEO/Chairman Managing Board

Sustainable food systems
As the global population continues to grow and a large proportion of mankind remains poorly nourished, the pressure on food systems to deliver more food and better nutrition is immense, causing in turn enormous pressure. As a leading player in nutrition, we see it as our responsibility to help the world move toward more nutritious and sustainable food and feed solutions. This topic aligns with SDG 2 (Zero Hunger).

Management approach. Our Animal Nutrition & Health portfolio for the feed sector and new opportunities in sustainable plant proteins address this topic through products such as Clean Cow and the Green Ocean partnership. We also address the issue of food waste through our innovative packaging solutions and our food ingredient portfolio, which can increase the shelf-life and processing efficiency of certain foods. We pro-actively engage with relevant stakeholders on initiatives concerning this topic. See ‘Brighter Living Solutions’ on page 22 and ‘Review of business - Nutrition’ from page 64.

Biodiversity
Diverse and healthy ecosystems are among the preconditions for a sustainable world. The variety of life on earth and the patterns of the natural world can influence the supply of...
ecosystem services such as food, water, and clean air. We believe that maintaining healthy ecosystems is important from both an operational and a reputation management perspective. The Natural Capital Protocol was launched in 2016. The protocol defines how companies can identify, measure, and value natural capital in a standardized way into business decisions and risk management.

Management approach. The DSM Responsible Care Plan outlines how we monitor and assess the impact of our operations on protected areas within our vicinity. We are exploring natural capital concepts via the Natural Capital Protocol development pilot to prepare for incorporating these into our future decision-making. We comply with the Convention on Biological Diversity protocols, which stresses the interconnection between biodiversity and climate change. Our position paper on biodiversity can be found on the company website. See also ‘Planet in 2016’ on page 49.

Business Enablers

Open innovation
Open innovation helps companies to counter increasing competitive pressures and ever-shorter product life cycles. Companies that embrace it typically grow more quickly and generate more sales than their competitors. We see many opportunities to be gained from combining our own capabilities with the vast pool of ideas, know-how and expertise that are available outside DSM. Open innovation supports our sustainable growth areas and sustainability commitments and allows us to work together with suppliers, customers and other partners to create new solutions in a collaborative way. We see the role that open innovation and new technologies can play to help the world to deliver on the SDG commitments. For example, we are currently drawing on the knowledge of scientists around the world to scale up renewable energy solutions through our Bright Minds Challenge.

Management approach. DSM approaches innovation as a growth driver in Strategy 2018: Driving Profitable Growth. The DSM Innovation Center uses partnerships, funding and crowd sourcing to foster open innovation. See ‘Review of business - Innovation Center’ from page 82.

Careers & employment
We aim to provide rewarding career opportunities, high levels of employee engagement, a healthy work-life balance, and a diverse workforce in which individual differences are respected. We follow trends in careers & employment to adapt our organization to changing needs, so as to unlock the full potential that the right employees can make to our company, and to ensure that our employee base continues to match DSM’s capability requirements as these evolve over time.

Management approach. Our HR strategies and policies prepare for changes such as the increasing age of the world’s population and the growing use of technology. We apply the International Labour Standards of the International Labour Organisation. Lastly, we address the issue of fair pay in our supply chain through our Supplier Sustainability Program. See ‘Suppliers’ in this chapter and ‘People in 2016’ on page 39.

Advocacy & reputation
Companies are increasingly asked to define how they are contributing to a better world, and business leaders are increasingly becoming advocates on critical issues. For DSM, advocacy means interacting with government, policymakers, industry associations and societal interest groups on topics of mutual interest to create a receptive environment for the solutions we offer. We encourage legislators to promote competitiveness, sustainability and innovation.

Management approach. Our reputation underpins our license to operate with stakeholders both within and beyond our direct value chains. We are a vocal advocate on policy issues including action on climate change, malnutrition & nutrition security, and the circular economy, as these topics are of particular relevance to our strategy and our sustainable growth areas. We actively manage our sustainability profile, and ensure that we take care of our own operations (for example, regarding emissions and pollution), in order to support our reputation as a sustainable company. See also ‘Stakeholders’ in this chapter.

Trade barriers
This topic is closely linked with ‘Geopolitical tensions & inequalities’. DSM actively follows international geopolitical developments and the consequences for the trade barriers affecting its operations, which include import and export trade controls, legislation on strategic goods, sanctions and embargoes, sanctioned parties, restricted chemicals, and technology controls. During 2016, the options linked to the entry into force of the Joint Comprehensive Plan Of Action were elaborated. Other lifted sanctions opened new market possibilities, while additional sanctions imposed on conflict areas have not affected DSM yet.

Management approach. The DSM Code of Business Conduct defines the core of our approach to this topic. Through our Supplier Code of Conduct and contracting practices, we manage this topic in the Supply Chain. Trade Control Compliance is managed through our standard business processes.

Digital transformation
Digital transformation is a megatrend that will profoundly change the way companies operate in years to come. For DSM, this change is seen in three main areas: manufacturing, marketing & sales, and careers & employment. Digital transformation is also expected to disrupt many of our end-markets, such as health and automotive. Within health, the opportunities for patient engagement through precision medicine and medical printing will change the way the health profession operates. In
automotive, assisted driving or self-driven vehicles represent the future. The rise of ‘big data’ brings with it business opportunities and risks (such as privacy and cyber security).

Management Approach. The digital transformation is identified in DSM’s Strategy 2018: Driving Profitable Growth as one of the megatrends to which we are responding. Big data is being developed as a competence in the R&D and IT disciplines that support our business and functional needs. Our Privacy Policy and Information Security Office work to protect our information assets.

Governance

Responsible business practices
Doing business in a responsible way, and complying with the many relevant laws and regulations, provides us with the license to operate in our dynamic, international environment. Responsible business practices cover a wide category of subjects including corporate governance, human rights, labor policies, Safety, Health and Environment (SHE) practices, competition law compliance, trade controls, anti-bribery & corruption measures, and privacy.

Management approach. Our approach to this topic is covered in our Code of Business Conduct and, for the supply chain, our Supplier Code of Conduct and Supplier Sustainability Program. Our Human Rights Policy, due diligence practices and HR policies cover the People-related aspects of this topic. See ‘Suppliers’ in this chapter and ‘People’ and ‘Code of Business Conduct’ on page 39 and page 98 respectively.

Transparency & reporting
We transparently report to meet the needs of diverse stakeholders, such as employees, customers, investors, governments, civil society and local communities on topics including tax payments, disclosures on the environmental and social impacts of our solutions, and remuneration of the Managing Board. The year 2016 saw increasing investor requests concerning climate disclosure and customer requests for additional supplier information, especially concerning human rights, as well as expectations on a global scale for reporting on our contribution to the SDGs.

Management approach. We address this topic through the publication of an Integrated Annual Report (published since 2010) and the annual Corporate Social Responsibility (CSR) report in China (published since 2007). The application of financial and non-financial reporting guidelines and disclosures such as IFRS, GRI and CDP and ranking in investor questionnaires and indices such as the Dow Jones Sustainability World Index (DJSI) foster external confidence in our approach.

Product & food safety
Product & food safety is highly relevant to DSM as an operational and reputational business risk and provides excellent opportunities to differentiate our product offering. The risks include the potential negative impact of product recalls, product contamination, health risks related to nanotechnology during handling, for instance, and regulatory restrictions.

Management approach. This topic requires us to have practices in place to ensure ingredient and substance quality, and covers the production, handling, preparation, storage and use of DSM solutions in ways that prevent risks to health & wellness. We see opportunities for differentiation with our management of Product & food safety through our Brighter Living Solutions program and Product Stewardship strategy. See ‘Brighter Living Solutions’ on page 22 and ‘Product Stewardship’ on page 54.

Taxation
In 2016, corporate tax avoidance figured once more in the news headlines, and civil society continues to press for corporate tax transparency and reform. We believe that a responsible approach to tax is integral to business sustainability. We view the fulfilment of our tax obligations as part of the process of creating long-term value for all our stakeholders.

Management approach. Our tax position is consistent with the normal course of our business operations and reflects our corporate strategy as well as the geographic spread of our activities. DSM strives to be compliant with the letter and spirit of national and international rules, regulations and best-practice guidelines (such as the OECD Guidelines for Multinational Enterprises) and operates in line with the arm’s length principle.

DSM supports the idea of a global solution for fair tax policies and systems. We therefore closely monitor and provide input on the OECD initiative on Base Erosion & Profit Shifting. DSM is transparent toward tax authorities in all the countries in which it operates, and works closely together with them to determine the amount of tax due.

DSM’s contribution to society includes the provision of employment to more than 20,000 people around the world. In addition to corporate income taxes, the company pays many other taxes, including payroll taxes and social security contributions on the wages of its employees, value added taxes, customs duties, property taxes, etc. All these taxes are a significant source of funding of public services by governmental institutions at several levels worldwide. DSM sees it as its responsibility to contribute to this.

Our Managing Board is responsible for establishing the company’s approach to taxation under the supervision of the Audit Committee of the Supervisory Board. Proper organization, procedures and processes are in place at DSM between Group Taxation, the business, and other support functions and functional excellence departments. The aim is to create a strong interconnection in order to keep everyone aware of relevant tax legislation and to ensure compliance. Compliance with both direct and indirect tax matters is monitored through a Tax...
Control Framework in order to achieve an effective, efficient and transparent tax function. The Tax Control Framework is a tax risk management and control system which ensures that Group Taxation is aware of the worldwide tax risks for the company. Group Taxation possesses sufficient insights to adequately manage these risks. The key stakeholders in the Tax Control Framework are well established and include the Supervisory Board, Managing Board, Executive Committee, Group Taxation, business, external auditors, as well as the tax authorities in countries where DSM is operating. For further detailed information, see ‘Taxation at DSM’ on the company website.

Bioethics

New or unfamiliar technologies can trigger ethical discussions about their implications for public health or the environment. Consumer acceptance of new technologies cannot be taken for granted, so addressing safety and other potential concerns is a top priority for us. We firmly believe that biotechnology can offer unique solutions to global challenges related to the world’s growing and aging population and the depletion of fossil resources. Our latest consultations with stakeholders show that the debate now focuses on the role Genetically Modified Micro-organisms (GMMs) might be able to play in nourishing the world’s population by 2050.

Management approach. We manage this topic through active consultation with the scientific community, industry, NGOs, governments and the general public. Our safety assessments are science-based and transparent, enabling authorities to fairly assess and approve our innovative technology and resulting GMMs. DSM uses GMMs as tools for the manufacture of a range of products. DSM does not sell GMMs or products containing GMMs. All GMMs are contained within our production processes. See also our position paper on biotechnology on the company website.

Stakeholders

DSM’s various stakeholders – both those within our value chain such as suppliers and customers, and those that influence our business operations, such as investors, governments and civil society – have thoughts and views that must be balanced against our own strategic objectives and focus areas.

We appreciate the open dialogue we have with our stakeholders through a variety of channels. It equips us to respond to the needs of society and to create shared value for all our stakeholders.

In the following pages, we present how DSM engages with external stakeholders, including the partners in our value chain. Information on how DSM engages with its own employees can be found in ‘People in 2016’ on page 39.

Partners in the value chain

Customers

Customers drive our business. They are our most important partners for realizing both our strategic growth ambitions and our vision to improve the lives of people today and for generations to come. Customers buy our solutions to create consumer-facing products, or to distribute our own consumer products through their various channels.

We do our utmost to strengthen DSM’s commercial and strategic relationships with customers. We work together to provide the solutions they are seeking while offering them an exceptional customer experience. Our customer-centric approach is manifested in various ways:

- To meet individual customer demands, we apply customer segmentation to ensure that value propositions and service levels are in line with our customers’ strategic ambitions.
- Developing consumer insights together with our customers is crucial for driving new business developments that meet consumer needs. For example, DSM Personal Care has developed a new methodology that enables the personal care industry to visualize the effectiveness of facial skin moisturization and helps it to demonstrate and test the effectiveness of its skin products. The new method came about through our epidermal science platform CORNEOCARE™, in cooperation with partners from industry and academia.


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## Stakeholders

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<th>External stakeholder group</th>
<th>How DSM engages</th>
<th>Examples of engagement 2016</th>
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| Investors - DSM aims to provide an attractive financial return for our shareholders | Annual General Meeting, Capital Markets Day, conference calls, roadshows, investor indices (e.g. DJSI, Sustainalytics), surveys | - In September, DSM organized an Investor day in Charleston (South Carolina, USA) to give US-based investors deeper insights into the underlying growth and earnings profile of the company’s Nutrition and Materials businesses.  
- DSM engaged in dialogues with investors and their representatives on topics such as climate strategy, social supply chain management, natural capital and responsible taxation, which helped foster mutual understanding around respective sustainability focal points. |
| Scientific research institutions - DSM openly collaborates with renowned universities and science institutes | Financial support, knowledge & research, sharing facilities, lectures           | - DSM broadened its biotech engagement, becoming a member of both the Engineering Biology Research Consortium and the MIT- Broad Foundry in 2016. In Materials, engagement in the year included the Materials Research Laboratory/Complex Fluids Design consortium of the University of Santa Barbara (California, USA), and the iPrime consortium of the University of Minnesota (Michigan, USA).  
- DSM was the innovation partner of the 2016 Sasol Solar Challenge-winning Nuon solar car, and we supported the Dutch-based team with our light-trapping technology. |
| NGOs and civil society - DSM works together with other organizations to jointly find solutions to societal challenges | Meetings, discussion panels, philanthropic events                              | - In India, in partnership with the Indian Academy of Pediatrics, HealthPhone and Vodafone, DSM launched the Poshan cards program. The program supports the Indian Government’s mission to combat malnutrition and micronutrient deficiencies among mothers and children by providing information to pregnant and lactating women. This unique public-private partnership uses technology as an enabler and is expected to positively impact the lives of more than 1.5 million women. |
| Communities - a good relationship with parties that are geographically close to DSM’s operations is important to maintain the company’s license to operate | Open days, news bulletins, social media, education, support through local initiatives | - In North America, DSM committed to help mitigate the current refugee crisis by setting up employee volunteer English language programs and cultural training, hiring employees and working with groups such as Upwardly Global on refugee and immigration issues. |
| Governments - DSM engages with governments individually, as part of coalitions or through its memberships of relevant trade associations | Meetings with officials, position papers on the company website, case studies, letters, reviewing proposed legislation, engagements in trade associations | - DSM engaged with the European Commission, Members of the European Parliament and Member States on reviewing the Circular Economy Package and the Bio-economy Strategy in 2016.  
- DSM advocated the importance of Mission Innovation to the government of the Netherlands, a global initiative to double public investments in energy innovation by 2020, resulting in the Netherlands signing up to the initiative.  
- DSM’s new business ventures and innovations (such as Niaga®, Discovery® and advanced biofuels) were presented at events such as the European Business Summit, the European Retail Round Table, and the European Forum for Industrial Biotechnology and the Bioeconomy, leading to more exposure within Europe.  
- DSM participated in Startup Fest Europe, held under the patronage of its Chairman, Prince Constantijn van Oranje. DSM was one of the companies hosting a section of the event dedicated to energy solutions. |
- We have implemented a key account approach to build relationships with customers and ensure that we reach mutually agreed goals. The customer executive sponsorship program, launched in 2014, has resulted in co-developments in all our industries. We co-develop solutions with customers to jointly implement customer- and consumer-driven innovations. For example, in 2016 we partnered with Nexeo Solutions, a global chemicals and plastics distributor, to bring new, high-value performance filaments to customers who perform 3D printing using fused filament fabrication (FFF) technology.

“The 3D printing sector, and particularly its FFF segment, represents an exciting, high-growth market with new found potential. Partnering with DSM means we can be sure that our customers will have access to an innovative new range of products specifically developed for 3D printing.” Jérôme Abrahmi, VP EMEA at Nexeo

- With our strong science base as a differentiating factor, we share our knowledge at conferences and trade shows and ensure that our valuable insights are accessible to our customers and partners through relevant platforms, communities and our sales force.

- A skilled sales force is crucial for ensuring the best customer experience and personalized interactions. All our sales people are selected on the basis of their industry experience and knowledge, and we invest in their continuous development. For example, we have partnered with a leading business school to launch a learning portal and training program for our Marketing & Sales professionals.

- Digital transformation is allowing us to further optimize customer and consumer interactions by strengthening our global online presence (both through websites and through social media) to improve our outreach. For example, DSM Dyneema integrated the customer relationship into its web presence through its ‘Where to Buy’ connections. This not only shows our strong relationship with our customers but also generates leads for them.

- The success of our customer-centric approach is measured through the use of Net Promotor Score® (NPS). In 2016, DSM increased its overall NPS score to 38 (in 2015: 35), which ensures that it remains one of the leading companies in its sector. In the B2B space, an NPS score in the 30s is considered high. A three-point increase on this is a significant achievement and testifies to our drive to continuously improve in response to customer feedback.

- DSM considers its brand an important business asset and aspires to be a company with a strong brand and reputation for providing innovative and sustainable solutions that fulfill the needs of its market segments and society. DSM’s brand value as assessed by Brand Finance has grown considerably over the last five years and for 2016 was valued at €650 million.

The decrease versus prior year was primarily attributable to the portfolio changes that took place in 2015.

![DSM Brand Value](chart.png)

*As measured by the Brand Finance valuation methodology

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**Suppliers**

DSM needs to be smart in how it engages with its 40,000 suppliers. We do this through a Supplier Sustainability Program (SSP), which is implemented through annual supplier sustainability plans and sustainability roadmaps. Progress against targets is shared on a quarterly basis within DSM Sourcing and also with the Managing Board. The Supplier Sustainability Plan 2016 addressed a number of relevant topics for the materiality matrix: Resource scarcity/circular & bio-based economy, Responsible business practices, and Climate change & renewable energy.

**DSM Supplier Sustainability Program**

- **Better Business**
- **Supplier Code of Conduct**
- **TfS Assessments & Audits**
- **Supplier Relationship Management**
- **Requirements to do business with DSM**
- **High Risk – Mandatory Corrective Action Plan / Opportunity**
- **Medium Risk – Recommended Corrective Action Plan / Opportunity**
- **Low Risk – Opportunity for value creation**

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Supplier Sustainability Program strategy

DSM’s SSP consists of two main elements: compliance and solutions. By means of the compliance program we have been able to very clearly define how we choose to do business with our suppliers. We have invited suppliers to contribute to our competitiveness in areas of sustainability, innovation, business growth, security of supply, new business models and strategic alliances. This occurs via our ‘better business’ projects and other initiatives.

In 2016, DSM assessed the maturity level of its SSP along four dimensions: Strategy/Plan; Supply Risk & Opportunity; People, Infrastructure & Measurements; and Processes. The maturity assessment was used to indicate areas of improvement to meet the ambition level for 2020. The SSP was also benchmarked against the practices of other leading sustainable companies. The results of the benchmark and the maturity assessment were incorporated in the Sustainable Purchasing Roadmap 2016-2020, which aims to anchor sustainability even more firmly in DSM’s daily sourcing activities.

Internal skills and capabilities

Internal capability-building continued in 2016. Further training in sustainability was provided to the sourcing community. The trainings offer practical tools on integrating sustainability into the daily work of sourcing professionals. The Strategic Sourcing Award and Key Supplier Management Award highlight sustainability as a key topic in selecting the winners.

Collaboration

DSM works with external partners to enhance collaboration in the supply chain. These include the Roundtable for Sustainable Palm Oil (RSPO), Together for Sustainability (TiS) and the Dutch consulate in China.

- While palm oil is only used on a very limited scale by DSM, RSPO membership is important due to the potential risks to the environment, human rights issues and labor practices in the palm oil supply chain.
- DSM has ‘Friends of the Sea’ certification for over 98% of its fish oil purchases and ensures that the fisheries involved in providing fish oil for the production of its omega-3 product range are sustainable.
- We are collaborating with the Dutch consulate in China in a project that focuses on sustainable supply chains in China. The Consulate General of the Netherlands in Shanghai partnered with two professional CSR advisors, China National Textile & Apparel Council and Solidaridad China, for this three-year CSR project. Within the framework of the project, a Sustainable Supply Chain Management Platform for Dutch Businesses in China was established, providing a training program focusing on topics such as EHS (Environment, Health and Safety), CSR management system, and labor issues. In 2016, 16 Dutch brands and 54 local factories (suppliers of the Dutch brands as well as member companies of Jiangsu
Federation of Industry and Commerce) participated. DSM has nominated four suppliers to join this initiative.

Compliance

DSM’s approach to compliance is via the Supplier Code of Conduct (SCoC), comprising assessments and audits to check that suppliers act in compliance with the norms and values of DSM. Where a risk or breach occurs, DSM works with suppliers to define and execute an improvement plan. If non-compliance still persists, DSM may choose to terminate the relationship with the supplier. In 2016, 96% of DSM’s spend was covered by the SCoC. Since 2015, sustainability compliance has also been integrated into our standard supply risk management approach and new supplier onboarding process.

We focus on approximately 1,000 critical suppliers, defined as those that provide critical components, are located in potentially high-risk countries, supply a high volume of products or services, are non-substitutable, or have the potential to create shared value in areas of innovation and sustainability.

Since 2015, we have been actively collaborating with TfS. Founded in 2011, TfS now has 19 members (and rising) and aims to develop and implement a global audit program to assess and improve sustainability practices within the chemical industry’s supply chain. TfS works with EcoVadis, a recognized provider of CSR ratings, to implement the program. The EcoVadis methodology is aligned with international standards and supervised by a scientific committee. This collaboration gives DSM access to assessments and audits which are executed by other TfS members and shared on the TfS platform. This collaboration enabled DSM to screen approximately 4,200 suppliers in 2016, resulting in 1.4% being identified as ‘suppliers at risk’. In line with internal follow-up guidelines, these will be further investigated by means of an on-site audit of their facilities so as to ensure that improvement plans will be made. DSM was able to screen 7% of new suppliers with regard to their environmental performance, impact on society, human rights and labor practices. The average EcoVadis sustainability performance score of DSM’s supply base improved by 2% in 2016. The average of the supplier performance level indicates that our suppliers are engaged with sustainability.

The collective (potential) supply base of the TfS members has been rated by 6,383 EcoVadis assessments and 724 TfS audits. In 2016, a total of 1,773 sustainability assessments were shared among TfS members and 241 new TfS audit reports were received by the initiative.

### Supplier Sustainability Program results

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th></th>
<th>2015</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>Achieved</td>
<td>Leverage TfS</td>
<td>Target</td>
</tr>
<tr>
<td>Spend coverage SCoC</td>
<td>91%</td>
<td>96%</td>
<td>-</td>
<td>91%</td>
</tr>
<tr>
<td>Sustainability audits</td>
<td>200</td>
<td>200</td>
<td>996</td>
<td>200</td>
</tr>
<tr>
<td>Quality audits</td>
<td>20</td>
<td>20</td>
<td>105</td>
<td>20</td>
</tr>
<tr>
<td>Solutions</td>
<td>36</td>
<td>50</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

1 Total number of DSM suppliers assessed by TfS members
2 The lower target set for Sustainability audits in 2015 resulted from DSM’s membership of TfS

Moving beyond compliance

Our collaboration with TfS and partner EcoVadis gives us insight into the compliance of our supply base with our sustainability criteria. Beyond this, we will look to increase transparency regarding the incidents involving our suppliers using a 360-degree monitoring process that includes insights from online news sources on positive or negative CSR developments on the part of the suppliers we assess. As a first step, the suppliers screened in 2016 were assessed on legal and financial sanctions of any scale whatsoever. The area of labor and human rights currently trends as being of highest concern among those assessed.

Better business

While compliance remains the cornerstone for achieving a sustainable supply base, procurement activities will increasingly focus on so-called ‘better business’.

As part of our drive to foster better business through our supplier solution projects, DSM’s Sourcing organization engages in proactive dialogue with suppliers in order to move the business agenda forward on topics such as climate change, food & nutrition security, health, and the circular economy. In this context, Sourcing pursues initiatives to create joint value, awareness and engagement in areas related to Brighter Living Solutions.
We continued to engage in joint initiatives with suppliers that led to environmental benefits in the value chain, such as projects in packaging, logistics, and reduction in raw materials and carbon emissions. Via the CO₂ Emission Reduction Initiative, the physical distribution team investigates suppliers’ footprints in road transportation, marine and packaging to explore opportunities for improvement. This is a continuation of the Green Tender Initiative that began in 2012 with the aim of achieving a 20% reduction in emissions associated with logistics and packaging. Since 2012, over 30% of our global spend on physical distribution has been covered by the Green Tender Initiative. The cumulative CO₂ emission reduction compared to 2010 reached 15% at the end of 2015, the latest reporting period.

We use carbon pricing of €50 per ton CO₂ equivalents (CO₂eq) internally to evaluate our industrial gas purchases. By embedding the internal carbon price in the template RFQ for industrial gases, we make our sites more aware of the financial impact of industrial gas supply. The carbon price for two cases in Switzerland and the Netherlands had an impact of 2-4% and 17% on the total cost of ownership, respectively. In Switzerland, this confirmed that our chosen supplier was the correct business decision. In the Netherlands, the difference between the best solutions was not significant enough to influence the decision making although it showed a significant improvement over the existing situation. Business managers agreed that the inclusion of the carbon price had an added value for the RFQ process.

DSM Nutritional Products’ Purchasing team has been working on replacing an 18% hydrogen chloride (HCl) solution used at its Dalry site (UK) with a more concentrated solution, which will be diluted on site. This obviously has more than mere economic benefits, as transportation can be significantly reduced by diluting the HCl on site, rather than transporting the water component of the solution across the north of the UK. The annual environmental impact will be a saving of some 560 tons of CO₂eq emissions, equivalent to planting 15,000 trees.

Collaborative platforms and networks

We collaborate with like-minded peers within cross-sector platforms and business networks to develop social and environmental measurement and performance standards, to find new opportunities within our sustainable growth areas, and to act as advocates on material topics such as climate change & renewable energy, nutrition, the circular economy, and natural and social capital. Below, we describe our engagement with some of the most significant global, partnership-based strategic initiatives.

World Economic Forum (WEF)

- As a strategic partner, we attended WEF meetings throughout 2016, including the Annual Meeting in Davos. We strengthened our presence at regional meetings, including in Africa and Latin America, to bring visibility to important DSM partnerships and initiatives concerning nutrition and climate change.
- In June, our CEO Feike Sijbesma co-chaired the Annual Meeting of the New Champions in Tianjin (China) and led roundtable sessions about pioneering the circular economy, implementing the climate deal, and the impact of the fourth industrial revolution.
- We continued our engagement in WEF CEO Climate Leaders, specifically around carbon pricing. Together with the WEF, the CPLC and Yale University, we initiated a learning track on internal carbon pricing, with the launch of a webinar series. Our CEO Feike Sijbesma and CFO Geraldine Matchett featured in the first webinar, which was about ‘Practical experiences from the private sector’.

World Business Council for Sustainable Development (WBCSD)

- We co-chaired the WBCSD Reaching Full Potential group, with – among others – Solvay, BASF, AkzoNobel, Evonik, Eastman, Henkel, and SABIC. A guidance on Social Life Cycle Metrics for the Chemical Sector was published in November.
- Together with leading businesses and top accounting firms, we participated in the WBCSD Social and Natural Capital project. The project aims to foster simple and practicable methods for monetization. Our contribution has led to the publication of methods for monetizing safety, skills and employment.
- As part of the WBCSD Product Sustainability Assessment group, we have been aligning with our peers on portfolio steering methods, with a focus on hazardous substances and toxicology, and building on Life Cycle Assessment (LCA) and product social metrics methodologies.
- Within the Low Carbon Technology Partnerships initiative (LCTPi) – a multi-stakeholder platform led by the WBCSD that presents the opportunities of large-scale development and deployment of low-carbon technologies – we helped set up the new global campaign ‘below50’. This campaign unites companies that produce, use and/or invest in fuels that are at least 50% less carbon-intensive than fossil fuels. The aim is to promote the best sustainable fuels that can achieve significant carbon reductions, and to scale up their development and use.
- A DSM executive has been seconded to the WBCSD to set up the Food Systems Transformation program to address the key challenges of food systems. Our material topic Malnutrition & nutrition security is being addressed, including sub-topics such as obesity, calorie & nutrient balance in food, and sustainable protein supply.

Accounting for Sustainability (A4S)

- Our CFO Geraldine Matchett continued her active role in the A4S CFO Leadership Network, with a focus on topics such as the importance of having a comprehensive conversation with investors on long-term value creation, as well as the importance of actively engaging the finance function internally on the value of sustainability as an essential component of good enterprise management.
- We continued to contribute to A4S projects through the participation of our experts in both its finance and sustainability teams. The main focus was the completion of the project ‘Integrated management reporting’, to help business embed environmental and social considerations into (internal) management reporting in order to enhance decision making. We shared our own best practices, such as linking performance management and remuneration with sustainability targets, and also gathered new insights from other A4S members into the topics they discuss in their wider interactions with the financial community.

Carbon Pricing Leadership Coalition (CPLC)
- In April, our CEO Feike Sijbesma was appointed Co-Chair of the High Level Assembly of the CPLC. The CPLC’s long-term objective is for carbon pricing to be applied throughout the global economy. In addition to facilitating leadership dialogues, the CPLC will also mobilize business support to put an internal price on carbon. As Co-Chair, Mr. Sijbesma shared DSM’s experience with applying an internal carbon price of €50 per ton CO$_2$eq when reviewing large investments, and called on businesses to do the same.

Ellen MacArthur Foundation
- We continued our engagement with the Foundation, participating in Project Mainstream, a global multi-industry initiative to accelerate business-driven innovation to help scale up the circular economy. We contributed to ‘The New Plastics Economy: Rethinking the future of plastics’, a publication which provides a vision of a global economy in which plastics never become waste, and which outlines concrete steps to achieve this systemic shift.
- We offered employees an internal training program on the circular economy delivered by CE100 and Bradford University (UK).

RE100
- We continued our engagement with RE100 during 2016 and participated in the learning opportunities that are available through this peer-learning, advocacy and action platform, which is led by the Climate Group.
- As part of our RE100 commitment, we joined forces with AkzoNobel, Google and Philips in a long-term commitment to jointly source power from renewable energy projects in the Netherlands. The first agreement – to buy power from Windpark Krammer in the province of Zeeland – will cover approximately half of DSM’s bought-in electricity requirements in the Netherlands. See ‘Planet’ on page 53.

Dutch Sustainable Growth Coalition (DSGC)
- We continued our engagement with the DSGC, with a focus on the SDGs. As co-initiator of the Dutch SDG Charter, we used the coalition to raise the profile of the Charter and encourage more Dutch companies to commit to joint action on SDGs of national priority.
- In December, we facilitated a masterclass as part of a conference on the SDGs, in which students shared their ideas on how to engage with the financial sector to drive and finance improvements and innovations in renewable energy technologies, rather than scaling up existing renewable energy technologies alone.
Cross-sector nutrition partnerships

As a leading micronutrient provider, DSM develops innovative solutions for improved nutrition. In order for these solutions to have the broadest reach, we work with partner organizations that have direct access to beneficiaries. DSM’s nutrition partnerships focus on the following objectives: wider base of scientific evidence and endorsement; increased market for nutrition products; and improved employee engagement.

DSM’s partners range from UN agencies, governments, academia and NGOs to industry peers. We commit support through financial and non-financial means including time, technical expertise, products and volunteers. DSM’s main partners are described below. For a more extensive list and description of DSM’s other nutrition platforms and partnerships, see the company website.

### Cross-sector nutrition partnerships

<table>
<thead>
<tr>
<th>Partner</th>
<th>Partnership benefits</th>
<th>Impact</th>
</tr>
</thead>
</table>
| **The DSM-WFP partnership ‘Improving Nutrition, Improving Lives’** aims to improve the nutritional value of the food that WFP distributes through product innovations such as fortified rice and a product aimed at people living with HIV/AIDS. The partnership reaches over 28 million beneficiaries per year with improved nutrition. Further to this, DSM continues to support WFP in the development of learning and development initiatives.  

- **Product development**  
- **Value chains for enhanced nutrition**  
- **Advocacy**  
- **Employee engagement and development**  
- **Corporate reputation** |
| **DSM and UNICEF collaborate to support micronutrient programs in Nigeria, with the initial pilots executed in the course of 2016. Additional focus will be placed on micronutrient supplementation programs specifically targeting women and adolescents girls. The partnership continues its capacity support of the African Nutrition Leadership program.**  

- **Value chains for enhanced nutrition**  
- **Market-based solutions for improved nutrition**  
- **Advocacy**  
- **Corporate reputation** |
| **DSM and World Vision International’s flagship project in Tanzania, Miller’s Pride, was fully ramped up in 2016. A number of successful fortification trials have led to approval from the Tanzania Food & Drug Authority for maize fortification. Millers have improved food safety, hygiene and manufacturing processes. We are also ramping up another program, ‘Joining forces for last mile nutrition’.**  

- **Value chains for enhanced nutrition**  
- **Market-based solutions for improved nutrition**  
- **Advocacy**  
- **Corporate reputation** |
| **Partners in Food Solutions is a multi-sector partnership between the companies DSM, General Mills, Cargill, The Hershey Company, Bühler and Ardent Mills, working in partnership with USAID, TechnoServe and Root Capital to serve more than 600 small and growing food companies throughout Africa. Partners in Food Solutions realized additional growth in West Africa. DSM volunteers from Latin America, Europe and India continued to share their willingness to dedicate their technical and business expertise to improving the performance of food processors and millers in Africa.**  

- **Market-based solutions for improved nutrition**  
- **Employee engagement and development**  
- **Corporate reputation** |
| **The SUN Business Network (SBN) represents the private sector in the Scaling Up Nutrition (SUN) Movement. The Network recruits and supports companies who pledge to contribute to the improvement of global nutrition. CEO/Chairman of the Managing Board Feike Sijbesma is a member of the Lead Group of the SUN Movement and Co-Chair of the Advisory Group of the Network. Via the network, DSM supported a number of SBN projects in Zambia.**  

- **Market-based solutions for improved nutrition**  
- **Advocacy**  
- **Employee engagement and development**  
- **Corporate reputation** |

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www.dsm.com
Philanthropy and sponsorships

DSM continues to be recognized by the business world, government, civil society and the academic community as a respected thought leader in clean energy, climate change, nutrition and the circular economy. Besides striving for excellence in sustainability-oriented innovation, we also engage in classic philanthropic and sponsorship activities in support of non-governmental and civil society organizations. In 2016, DSM donated more than €2.5 million to a range of initiatives. DSM makes no political donations, as outlined in its Code of Business Conduct, the text of which is available on the company website.

The Ocean Cleanup

DSM is a partner and sponsor of The Ocean Cleanup, a non-profit foundation launched in 2013 with the aim of developing sustainable and scalable technologies to help solve societal problems, including the issue of waste plastics in the world’s seas. Founded by the young Dutch entrepreneur Boyan Slat, The Ocean Cleanup has developed a prototype floating barrier system – described by TIME magazine as “one of the world’s best inventions in 2015” – that uses the ocean’s natural currents to round up and concentrate plastic waste. Consistent with our company focus on sustainability and environmental innovation, we were pleased to lend our materials expertise to The Ocean Cleanup. We are supplying Dyneema® material to maritime rope supplier Lankhorst Ropes, and together providing the key technology for the barrier’s mooring system.

China

DSM hosted the Bright Experience Event to support the goal of ending hunger and malnutrition in 15 cities across China during 2016. These events aimed to raise awareness of, and funds for, the issue of child hunger and malnutrition. They attracted 2,500 DSM employees and their families, as well as partners at 16 sites located across 15 cities, including Shanghai and Beijing. The money collected at the events will be donated to the WFP’s School Feeding Programmes worldwide and the China Foundation for Poverty Alleviation. Through the project, we provided more than 50,000 nutritious meals containing milk and eggs to children in poor areas of western Chinese provinces.

India

DSM committed more than €76,000 to sponsoring and supporting civil society and non-governmental organizations in India in 2016. Most of these initiatives focus on the state of Maharashtra, which has over 112 million inhabitants. Most DSM activities targeted the Pune, Thane and Palghar districts. We are raising awareness of nutrition in partnership with the Indian Academy of Pediatrics. The central topics of the collaboration are eradicating malnutrition and promoting preventive healthcare in these districts. Together with the ISKCON Food Relief Foundation, we support the mid-day meal program of school children in Maharashtra in order to help eradicate hunger.

North America

The DSM North America Employee Relief Fund is a group funded and run by DSM employees to help their fellow employees who suffer severe losses as a consequence of natural disasters. In 2016, the group helped fellow employees recover from Hurricane Matthew.

DSM provided USD 44,000 to the leadership development organization Global Health Corps and the non-profit organization 1,000 Days to underwrite the cost of two Global Health Corps Fellows working at 1,000 Days to create an educational campaign about the importance of nutrition. The two Fellows are helping raise awareness of malnutrition and delivering cost-effective interventions to address micronutrient deficiencies among underprivileged families in New Jersey, USA.

Sight and Life

The Sight and Life foundation champions a world free from malnutrition and aims to improve nutrition of the world’s most vulnerable populations. Through continued support of the Sight and Life foundation, DSM furthers the advancement of research, implementation science, and leadership capacity development in nutrition.

The Sight and Life foundation engaged in an exciting public-private partnership in Ghana, known as Affordable Nutritious Foods for Women (ANF4W), working to establish a market-based solution to improve the nutritional status of women of reproductive age with fortified food products. In addition, Sight and Life joined forces with PATH, a non-profit organization charged with global health innovation, and local partners to develop a program promoting good hygiene habits and delivering a nutrient rich meal of fortified rice to 2,600 schools in India. To encourage innovation in the nutrition landscape, the Sight and Life foundation developed the Elevator Pitch Contest, a unique forum for young innovators in nutrition to make their case on why their ideas deserve funding.

With the right mix of funding, knowledge, technology, and enabling policy, Sight and Life advocates with its partners the global fight against malnutrition and micronutrient deficiencies.
External recognition

We are proud whenever our sustainability, quality and innovation efforts, either as a company in general or specific to our individual products and solutions, are recognized by the outside world. Below is a selection of some of the awards and other forms of recognition that we received from non-governmental and trade organizations, customers, suppliers and academia in 2016. Other awards and external recognition for our business groups can be found in ‘Review of business’ starting on page 62. A full list of our recognitions can be found on the company website.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Recognition</th>
</tr>
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<tbody>
<tr>
<td>Corporate Knights</td>
<td>In January, the Corporate Knights Global 100 Index 2016 of the most sustainable corporations in the world listed DSM as the highest-ranked chemical company and 23rd overall. Featured companies are considered leaders in transparency and resource productivity, as well as on a range of other social and governance indicators.</td>
</tr>
<tr>
<td>Young Global Leaders Circular Economy Taskforce</td>
<td>During the World Economic Forum’s annual meeting in January, our CEO Feike Sijbesma was jointly awarded the Fortune Award for Circular Economy Leadership in recognition of his role in spearheading DSM’s circular economy strategy and our groundbreaking research into fossil-fuel substitutes.</td>
</tr>
<tr>
<td>New York Festivals</td>
<td>In April, at the New York Festivals Best TV &amp; Films 2016 ceremony, our ‘Unsung Heroes of Science’ movie garnered Gold, Silver and Bronze World Medals in the Corporate Social Responsibility, Public Relations and Internal Film categories respectively.</td>
</tr>
<tr>
<td>European Association of Communication Directors (EACD)</td>
<td>In July, our Communications and Branding Team won the ‘Company Communications Team of the Year Award 2016’ in recognition of the success of its ‘Unsung Heroes of Science’ campaign. The award is an initiative of the EACD – the leading network of European communication professionals – to recognize communication excellence.</td>
</tr>
<tr>
<td>Fortune Change the World List</td>
<td>In August 2016, Fortune Magazine revealed that DSM was included in its second annual ‘Change the World List’ which highlights the 50 leading companies that are innovating to solve the world’s biggest challenges through core profit-making strategy and operations.</td>
</tr>
<tr>
<td>RobecoSAM</td>
<td>In September, DSM was named the worldwide leader in the Materials industry group in the Dow Jones Sustainability World Index. We have consistently been recognized for integrating sustainability into our business, having been named among the global leaders in each of the past 13 years and having held the number one position in the sector 7 times.</td>
</tr>
<tr>
<td>Ethical Corporation</td>
<td>In September, our “Science Can Change the World” campaign took first place in the Best Communication category at the Ethical Corporation Responsible Business Awards 2016. DSM was also highly commended in the Best Sustainable Company category. The Awards recognize genuine, truly innovative and meaningful approaches to making responsible business a reality.</td>
</tr>
<tr>
<td>Carbon Disclosure Project (CDP)</td>
<td>In October, we were included on the Climate A List by CDP, which identifies DSM as a global leader for our actions and strategies in response to climate change. CDP is a non-profit organization that helps companies worldwide to measure, manage, disclose and ultimately reduce their greenhouse-gas emissions.</td>
</tr>
<tr>
<td>FTSE4Good</td>
<td>DSM was again featured in the FTSE4Good Index. This international sustainability index is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance practices, DSM had a maximum score of 100.</td>
</tr>
</tbody>
</table>
People in 2016

DSM aims to foster a high-performance culture to support delivery of our targets and aspirations. We seek to attract and retain original thinkers and doers who can further our company’s capabilities while actively developing their own credentials and careers. We achieve this by providing a healthy, diverse and above all safe working environment for employees and by supporting and encouraging them in their personal development.

DSM’s international profile means that its employees represent 98 nationalities, working at more than 200 sites and offices in 46 countries worldwide. This allows us to be close to our key markets and customers as we pursue profitable business growth around the globe. Our strategy is aimed at stimulating inclusion, diversity and inspirational leadership. It is governed by means of a regional system with clear accountability for performance at Managing Board level.

Our People Strategy 2018 in support of DSM’s Strategy 2018: Driving Profitable Growth focuses on three pillars for attaining a more performance-oriented workforce: 1) agile employees, 2) skilled employees and 3) accountable employees. This strategy is aligned with our material topics and supports DSM’s commitment to the Sustainable Development Goals (SDGs). The key material topics relevant to People are:

- Health & wellness (covered by ‘Safety and Health’);
- Malnutrition (covered in ‘Stakeholder engagement’ on page 25 and ‘Review of business – Nutrition’ on page 64);
- Careers & employment (‘Leadership & people management programs’, ‘Developing and managing our talent’, and ‘Learning and development’); and
- Responsible business practices (‘Human rights’).

Our People strategy also focuses DSM’s engagement on the two most relevant SDGs for the People dimension: SDG 2 (Zero Hunger) and SDG 3 (Good Health and Well-being).

This chapter outlines DSM’s approach toward its employees, which is embodied in the company’s safety and health policies and people strategy including our Life Saving Rules. Our approach toward people affected by DSM’s operations is governed by our policies on human rights, the Brighter Living Solutions program, and our Supplier Sustainability Program.

The performance elements of our People strategy are detailed in the ‘Sustainability statements – People’ on page 127. See also ‘How DSM creates value for its stakeholders’ on page 20 and ‘Stakeholder engagement’ on page 24.
DSM’s People & Organization objectives

People indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Aspirations 2020</th>
<th>Realization 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Index of Recordable Injuries</td>
<td>0.25</td>
<td>0.33</td>
</tr>
<tr>
<td>Employee Engagement Index</td>
<td>Toward 75%</td>
<td>71%</td>
</tr>
<tr>
<td>Diversity - Female executives</td>
<td>25%</td>
<td>15%</td>
</tr>
<tr>
<td>Diversity - Executives from under-represented nationalities</td>
<td>60%</td>
<td>53%</td>
</tr>
</tbody>
</table>

Safety and health

Personal safety and process safety

Rigorous application of DSM’s Life Saving Rules has been a significant factor behind DSM remaining fatality-free for the last five years, among both our own workforce and contractor personnel. Nevertheless, with the ambition to become a completely incident- and injury-free company, the incidents that still occur, along with the severity of their consequences, are always a cause for concern and a spur to action. We consequently set targets and monitor performance regarding both personal and process safety at DSM. These are defined in the DSM Responsible Care Plan 2016-2020.

Personal safety incidents are those which affect people only. Personal safety is measured through a Frequency Index of Recordable Injuries in which Fatalities, Lost Workday Cases, Restricted Workday Cases and Medical Treatment Cases of all persons present on site are shown – employees as well as (supervised and other) contractors and visitors. In 2016, the index improved from 0.41 to 0.33. This improvement is mainly due to portfolio changes and to performance improvements in the units belonging to DSM in both years. The Frequency Index of Lost Workday Cases for DSM employees was 0.14 (2015: 0.13).

The Frequency Index of Recordable Injuries among contractors improved from 0.70 to 0.56 in 2016. This was mainly due to the portfolio changes mentioned above. The year 2016 was also the first full reporting year following the implementation of the new permit to work standard in 2015. Efforts were also made to increase awareness for the importance of a good last-minute risk assessment. Contractor safety continues to have our attention as we strive for the safest possible working environment for all.

Process safety incidents are those which affect plant or storage facilities directly. They are rare but can have a major impact, with effects on people and/or the environment both within and beyond site borders. As of 2016, process safety is measured by recording incidents that comply with the definition given by the International Council of Chemical Associations (ICCA). The change in definition led to a new target for 2020 of 0.15, which is aligned with our earlier aspirations. The PSI rate moved from 0.41 under the CEFIC definition to 0.30 under the ICCA definition per the end of 2015 mainly because releases of non-hazardous substances are not considered in the newly applied ICCA definition. The PSI rate slightly improved throughout the year 2016 to 0.28.
consequences. There were a small number of incidents of a different type, which are listed in the chapter ‘What still went wrong in 2016’ on page 122.

For a full description of the personal safety and process safety frequency indexes, see ‘Explanation of some concepts and ratios’ on page 217.

DSM’s safety planning focuses on risks, to ensure that the company’s efforts are primarily directed at the potential incidents and situations that would pose the highest risk, and that steps can be taken to avoid their occurrence. Adherence to DSM’s Life Saving Rules is also an important element in the internal auditing system, which is applied at all levels of the organization – corporate, business group and site.

Based on the incidents that have occurred in recent years, it is clear that improving risk awareness and alertness among the workforce is a crucial success factor. DSM will consequently prioritize improvements to its behavioral systems in support of this, with a key role for management in leading by example.

Further improvement will also be driven by continuing to rigorously instill and enhance SHE competences at all levels. The changes in DSM’s business portfolio in recent years have inevitably led to differences in SHE maturity across the company. Furthermore, our current operating network consists of more smaller sites around the world than in the past, and these need to be self-supporting in terms of SHE. We will deploy dedicated classroom-based and on-the-job training to close these competency gaps.

**Employee health management**

DSM recognizes that healthy working conditions make a significant contribution to employee health and well-being. They also have an important positive impact on employee engagement and productivity. Employees and company alike benefit from healthy working conditions in today’s increasingly fast-paced and competitive world. In response, we have implemented policies and initiatives to safeguard employee health by mitigating workplace risks, and to promote and support employee health and well-being.

With a view to prevention, a training program on industrial hygiene was launched in 2015 and continued in 2016. This aims to ensure that DSM has adequate competences regarding industrial hygiene at all sites, with an emphasis on ensuring that appropriate control measures are in place.

DSM fosters a culture of health among its employees through the Vitality@DSM program. This global health management program provides employees with insights into their own lifestyles and explains the consequences of unhealthy lifestyles.

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**Ocean Nutrition Canada rises to DSM’s SHE standards**

In the past four years, DSM has acquired some 30 new sites, all of which have had to adopt DSM’s strict SHE standards. Ocean Nutrition Canada (ONC), a producer of fish oil-based omega-3 with manufacturing sites in Peru, the US and Canada, is an example.

DSM acquired ONC in 2012 and immediately communicated the importance of full adoption of its SHE standards. A dedicated SHE integration manager with DSM experience was appointed to help the new organization manage this process. DSM’s SHE requirements were more demanding than those they replaced, so fulfilling these while managing all the other integration activities and strategic projects, plus keeping ONC’s business running at the same time, was a tough challenge for the ONC team.

DSM has a clear SHE integration process. We start by training management in DSM’s expectations and standards, and conducting zero assessments of all the plants. The findings of these assessments form the basis for a three-year SHE integration plan that focuses on controlling process safety risks, implementing DSM’s Life Saving Rules, and introducing DSM’s SHE management system. The new DSM employees approached the required changes with a positive attitude, quickly achieving good results. DSM’s attention to employee well-being and emphasis on training were highly appreciated, and cooperation with existing DSM sites in the Americas speeded the adoption of the new standards.

The positive impact of the SHE integration process was confirmed by audits of the three ONC manufacturing sites conducted by DSM’s Corporate Operational Audit department. The process provides a template for the SHE integration of any future acquisitions.

Dave Elder, Senior Director of Manufacturing at ONC, comments: “It’s been a very interesting transition. We’ve moved from wanting to avoid accidents on site to actively managing our SHE performance so as to prevent potential incidents.”
It also encourages them to take responsibility for changing any unhealthy habits. To maximize engagement, cultural and regional differences are taken into account. The Vitality@DSM program has been running at DSM for almost 10 years, and in 2016 more than 1,500 employees participated in it.

Employees participating in Vitality@DSM receive a general health check-up and fill in a self-assessment questionnaire to evaluate their profile across the dimensions of nutrition, recovery, exercise and mental health. A personal risk score and action plan is provided to make employees aware of their own specific health-related risks. According to the group report, compared to 2015, the cost saving from productivity gains attributable to this program reached approximately € 200,000. Results from the self-assessments employees have completed since the start of the program show that 52% have moderate to very high stress risk; 37% have moderate to very high risk of poor eating habits; 26% seldom or never exercise; and 28% are overweight or obese.

In 2016, DSM participated in the Global Corporate Challenge, a 100-day worldwide program to improve personal health and well-being. In small teams, employees went on a virtual journey around the world, keeping track of their daily walking, cycling and swimming activities. Across DSM, a total of 83 teams took part in the program. On this journey, 78% of participants met the recommended daily levels for physical effort (10,000 steps per day). The program not only raises awareness of the need to be active but also provides participants with information on good nutrition and how to obtain better sleep. In addition, advice is provided on mental health issues. The intention is to further implement this program throughout DSM in the coming years.

A total of six occupational health cases were reported in 2016 (2015: 5). This number represents reported cases, and the real figure may be higher. Cases may develop over a prolonged period of time, and causes may be present in both working and private life, with the work-related portion going unacknowledged. Privacy concerns or cultural factors also influence employees’ willingness to report and discuss personal health issues. DSM continued to increase employee awareness of occupational health issues and to increase transparency in the reporting of all occupational health cases the company encounters; for this, the Occupational Health network was revitalized in 2016.

New organizational and operating model

In 2016, DSM continued to implement its new organizational and operating model as part of its Strategy 2018. This focuses on creating a more agile and cost-effective organization. It allows DSM’s businesses to focus on growth and leverages the support functions on a global level, and aims to achieve structural cost savings of € 125-150 million against the baseline of 2014. The program aspires to deliver these savings in full by the end of 2017.

Strong progress was made on the design and implementation of new operating models for various support functions (Finance, HR, ICT, Indirect Sourcing and Communication), enabling them to deliver better service at lower cost. The creation of a common Shared Service Organization for a number of these support functions underpins this initiative. DSM also looked deeper into the shared R&D units, aiming to increase their effectiveness and obtain more yield from the same investment.

Additional efforts were made in internal communication concerning organizational change and company culture. These are aimed at creating a better understanding of the new operating model among employees. Encouraging the mindset and behavior necessary to make the new organizational set-up a success will help DSM to achieve its long-term goals.

The organizational changes will result in a headcount reduction of 900-1,100 FTEs. Close to 50% of these will be in the Netherlands, and the remaining approximately 50% will be in the other regions in which DSM operates.

DSM provides fair severance compensation and supports redundant employees in their search for new employment. We apply a clear, objective and transparent process in determining which positions and employees are, regrettably, impacted. We align with employee representation bodies where applicable concerning this process, and we actively interact with works councils.

“I am very proud of DSM’s employees. We remain focused on delivering business results while the new operating models come into effect. With their dedication and hard work, our employees have shown that it’s possible to carry out a significant reorganization and still deliver on our business growth and performance goals.”

Peter Vrijsen, DSM Executive Committee
The ONE DSM Culture Agenda aims to support the company’s strategic objectives and to equip employees to respond to the needs of an ever-changing world. The Culture Agenda focuses on four themes, and is aimed at supporting employees in:

- aligning with the realities of their operating environment;
- setting ambitious targets and delivering on these;
- encouraging active (co-)creation;
- and fostering an inclusive culture that embraces differences.

These themes create a common language across the organization, and enhance a ONE DSM culture for all our businesses and regions.

In 2016, particular emphasis was placed on the way the four themes and their related behaviors support the implementation of the new DSM organizational and operating model. The ONE DSM Culture Agenda underpinned the roll-out and communication of new operating models for DSM’s support functions (e.g. Finance and IT in 2016) as well as driving adoption of the supportive mindset and behaviors needed to help achieve DSM’s ambitious organic growth and cost-saving targets.

**Continuous improvement**

One of the ways in which we drive organizational performance is by fostering a culture of continuous improvement across our sites and operational environments. Our employees are involved in managing processes on a day-to-day basis; they experience bottlenecks and inefficiencies as they occur in practice, often before these are noticed through the application of formal improvement methodologies. The DSM Integral Continuous Improvement (DICI) journey is currently running across approximately 40% of DSM’s manufacturing operations. With DICI, we are empowering employees to be able to make continuous process improvements themselves. Sometimes these improvements can be local or relate to specific process steps, but since they can be repeated many times, small changes can add up to have a big impact.

- In Shunde (China), a productivity improvement initiative was started that links employee benefits with both business demand (high quality & low cost) and individual competency development. This resulted in more flexibility and productivity from the operators, increased production, and positively impacted their income, leading to a higher engagement with strong reduction in the turnover rate among operators.
- A group of production operators and engineers at our Kingstree site (South Carolina, USA) uncovered a hidden design flaw that allowed oil and end-product to enter the clean hexane stream (the final wash in the system). This has resulted in an annual saving of approximately USD 1,000,000 for an investment of less than USD 1,000.

**Inclusion & Diversity**

DSM has a focused Inclusion & Diversity strategy, which is aimed at better reflecting and leveraging our global profile in our workforce.

For Diversity, our immediate priority is to increase the number of women and under-represented nationalities in executive positions. Our aim for 2020 is for 25% of executives to be female and for at least 60% of executives to be from under-represented nationalities.

Over recent years, the number of female executives had increased steadily to reach 15% in 2015. In 2016, this number remained stable at 15%.

Given the relatively small number of Managing Board members, the composition of the Managing Board in 2016, with one female and three male members, came very close to the 30% prescribed by Dutch legislation in terms of gender balance. The current composition of the Supervisory Board is well balanced, in terms of both gender and nationalities, and is in line with Dutch legislation in this regard. More than one third of the members are women (of the seven Supervisory Board members, three are female and four are male). Furthermore, in the Supervisory Board of DSM Nederland B.V., a subsidiary of Royal DSM, one of the three members is female.

Gender balance will continue to require attention, and DSM’s Executive Committee has devoted considerable energy to this topic in order to further move the needle. DSM’s CEO and Chairman, Feike Sijbesma, has signed the CEO Statement of Support for the United Nations Women’s Empowerment Principles, signaling the company’s support for gender equality and for the guidance provided by these principles. DSM is taking concrete steps to implement these principles through its Inclusion & Diversity strategy. In addition to recruiting female executives, DSM also focuses on developing female executives.
from its internal talent pool, and engages in various activities that foster new ways of working and changes in behavior.

In terms of a representative balance of nationalities, DSM still has a considerable number of Dutch nationals among its executives. We aim to further diversify our executive population and aspire to have 60% of executives from under-represented nationalities in 2020. In 2016, this improved to 53% (2015: 49%). See also ‘Sustainability statements – People’ on page 127.

Going forward, DSM continues to address the geographical distribution of executives and other key functions, keeping a keen eye on gender and nationality balance, as these remain the essential diversity aspects to foster at this stage. We have set new short-term targets to speed our progress in this regard, and aspire to achieve annual incremental growth of 2% for both gender and under-represented nationalities for the executive population in 2017 and 2018. As of 2017, similar targets will also apply to positions immediately below executive level, to ensure a diverse talent pipeline.

DSM’s inclusion efforts are reflected in an improving Inclusion Index, which has continued to increase year on year, reaching 73% in 2016 (2015: 72%). The consistent improvement of this index suggests that sustained progress is being made in creating and maintaining inclusive environments across the company.

The DSM Inclusion & Diversity Council, chaired since 2015 by Managing Board member Stephan Tanda, plays a leading role in driving the achievement of the Inclusion & Diversity targets, and in supporting all DSM businesses in creating an inclusive environment in which diversity is embraced.

Workforce engagement

An engaged workforce is essential for DSM to achieve its ambitions. The DSM Employee Engagement Survey, which has been run annually since 2007, is a tool for understanding the level of engagement employees feel for DSM and their work, and the improvements required for DSM to become a high-performing company. The goal is to ensure that DSM is a place where employees feel proud to work, and where they feel they can excel.

In 2016, a total of 15,333 employees (including 264 contractors) completed the questionnaire, which was distributed to all DSM employees (online in 22 languages and on paper in 7). This represents a very high response rate of 79%. This high participation level gives us a more complete picture of what is working well, and where we need to improve further.

The prime focus of the survey is the measurement of DSM’s Employee Engagement Index, which is the percentage of employees scoring favorably on a combination of four attributes: commitment, pride, advocacy and satisfaction. The Employee Engagement Index measured in 2016 was 71% (2015: 69%).

This is slightly ahead of the overall global norm of 70%. For the highest-performing companies around the world, the benchmark number is 81%. This is the league to which DSM aspires, and we have set an intermediate target for 2020 of toward 75%.

The engagement survey also provides essential information about our employees’ views on topics such as DSM’s new strategy, working conditions, open communication, career development, sustainability, inclusion, and diversity. These insights have led to real and measurable improvements. For example, the score for “I believe DSM has a promising future” moved from 65% in 2015 to 78% in 2016. This increase clearly indicates the belief that our employees have in the overall DSM strategy going forward. This conviction is also an important engagement driver at DSM. The overall score on improving career development is a point for attention; although the percentage increased (from 58% to 61%), we aim higher. Our people managers play a pivotal role in this effort, investing time with employees to regularly review their career aspirations and identify opportunities for learning and development.

Leadership & people management programs

**DSM Leadership Model**

The DSM Leadership Model specifies the behavior DSM expects from its leaders and people managers. The model provides a common vision and language for leadership at DSM.

In 2016, we continued to embed the Leadership Model in our key processes for hiring, developing, evaluating and managing talent across the organization and for building high-performing teams. The further roll-out of the model to all senior managers continued throughout 2016 with an upgrade of program content, and with 95% of this population being trained by the end of 2016.

To encourage self-learning beyond the training program, DSM created multiple e-learning modules on each component of the Leadership Model in a digital learning platform called Bright Learning, and simplified the process and tooling for providing 360-degree feedback on the model. In addition, the range of
employees evaluated in respect of the Leadership Model in their Annual Performance Review has been expanded beyond executives to cover all employees in senior management positions in 2016.

People Manager 2018

DSM recognizes that its people managers (i.e. line managers) play a critical role in achieving Strategy 2018: Driving Profitable Growth. To support them, DSM launched a development program called DSM People Manager 2018. The program offers a monthly virtual development campaign that contains learning resources on a selected topic relevant for people managers at that time of the year. For example, the topic for January was ‘Goal Setting’, and the May campaign helped them prepare for career development conversations with their employees. People managers can make use of the digital learning resources (e.g. videos, articles and e-learnings) whenever they want. A survey among people managers showed that 66% of respondents visited the campaign sites multiple times. Of the respondents, 54% felt the campaigns were very relevant for their role as a people manager, with 41% neutral and only 5% who did not feel the campaigns were very relevant. The program will run until 2018.

DSM Lead & Grow program

With the many challenges that the global economy poses, DSM’s Strategy 2018 requires our leadership to think and act differently – to fully understand macro-economic trends, use creative and dilemma-solving techniques, and engage and develop the best talent to help the company on its chosen path.

To facilitate strategy execution company-wide, DSM has collaborated with a leading corporate education company to create the DSM Lead & Grow program. Key elements include: external orientation, creative thinking and organization & people.

Lead & Grow was run as a pilot with a group of DSM senior leaders in May 2016, and received excellent feedback regarding both effectiveness and relevance. Based on this successful pilot, Lead & Grow will be rolled out to all DSM executives by mid-2017.

Developing and managing our talent

DSM talent management approach

In 2016, DSM rolled out a new global talent management approach across the company. An analysis of the company’s talent pipeline and its fit with the new strategic growth plans was carried out. It found that DSM requires a good balance between the profound expertise which delivers value for our customers, and the broad agility which is needed to operate in an increasingly complex and volatile environment.

During the year, almost 8,000 of our employees were assessed in terms of their long-term performance and their learning agility. This helped identify individual employees’ current strengths, as well as to craft targeted development plans. Multiple reviews were carried out throughout the year within business groups, regions and global functions, to ensure maximum objectivity and consistency of assessment (the same individual would be assessed more than once from different viewpoints). New talent designations were introduced to identify employees at different organizational levels whose development could be accelerated so as to prepare them for some of the company’s future challenges.

During a three-day DSM Talent Review, the Executive Committee reviewed a global analysis of DSM’s talent pipeline, as well as a full assessment of succession strength for DSM’s key global positions. A best-in-class talent management application, Talent Suite, was introduced to support an efficient and consistent process globally.

The new talent management approach has received very good feedback from DSM’s management. In a year with changing operating models, the investments made in talent management were perceived as both necessary and effective. The global talent pipeline analysis allowed the Executive Committee to identify some clear actions for the future, including new programs that will be rolled out in 2017 and 2018, to further strengthen DSM’s long-term talent pipeline in order to meet the future challenges of the customers and markets we serve.

Accountability for performance

Accountability for performance plays an important role in achieving DSM’s Strategy 2018. To prepare for this, in 2015 DSM adjusted the goal setting and performance evaluations for its employees, and globally launched an online performance and goal evaluation tool. This tool is globally managed and is available to 13,000 employees. All other employees participate in performance evaluations on paper, or using other local systems. At the beginning of 2016, employees were invited to set ‘Fewer, Bigger, Better Goals’, to create focus on measurable, relevant and challenging targets.
To make employees’ performance reviews more powerful, DSM also introduced a self-evaluation component to the global tool so that employees can review their own achievements as well as reflect on important experiences and key learnings over the past year.

**Talent acquisition**

During 2016, much progress was made on DSM’s approach to talent acquisition. All operational recruitment at the managerial level and below has been outsourced through a partnership with an external provider in order to enhance process efficiency and flexibility. A total of 1,256 employees were hired via our newly implemented recruitment process in 2016. The global talent acquisition team also focused on building and delivering functional expertise, designing new recruitment processes, policies and guidelines, and developing a supporting system that is integrated with talent management. In an effort to increase the diversity of the candidates we attract and hire, various initiatives were piloted, including targeted online recruitment campaigns and the design of an in-depth interview training course on bias-free assessment.

**Learning and development**

Learning and development contributes to the implementation of DSM’s strategy by building the core capabilities for driving profitable growth.

DSM is creating a learning culture in which employees see learning as an opportunity to grow. We work in close cooperation with leading international business schools and global training providers such as the International Institute for Management Development in Lausanne (Switzerland) and the Rotterdam School of Management (Netherlands) to design high-quality training courses.

**Fast facts**

- In 2016, DSM offered over 150 training programs, attracting 3,000 enrolments.
- DSM employees (as registered in DSM’s global HR and training systems) received an average of 25 hours training each in 2016.
- 166 employees participated in the Bright Talent Program.
- Ninety-five percent of DSM’s leadership population has so far been trained in the DSM Leadership Model.
- In 2016, a comprehensive online learning platform was launched. Called Bright Learning, it consists of more than 2,150 learning modules.
- A new global mentoring approach is being developed, comprising an online platform to self-initiate mentoring relationships plus a supporting toolkit.

**New Bright Learning platform**

In 2016, DSM introduced a comprehensive online learning platform comprising more than 2,150 learning modules. This platform has unlimited use for the target audience and offers the opportunity to acquire new knowledge and develop skills anytime, anywhere.

Key user Vijendra Desai, Global Service Line Manager at the Global Delivery Center in Hyderabad (India), describes his experience with the platform.

“The Bright Learning platform has really helped my learning and development at DSM. I try to do a course whenever my schedule allows. The best thing about the platform is that I can explore topics closely related to the department that I work in, as well as other subjects that have a bearing on my job. The platform has helped expand my own professional knowledge. I use it to prepare for workshops and training sessions, and as a manager, I make sure to share some of my own experiences with my team. I also encourage staff to use the platform themselves.”

Alexander Schellekens, Vice President Finance, DSM Food Specialties, likewise finds the platform very useful for his job.

“I use the Bright Learning platform to select training topics based on my personal leadership development plan or the current situation of my business or department. I use the app to watch short videos about topics that seem of interest. Also when I need to generate some energy, a short learning session is great, offering new insights and ideas. Bright Learning also provides me with very practical tools and tips for dealing with our rapidly changing environment. It keeps me up to date with the latest insights. It also forces me to engage more actively in my personal development as a leader: you’re never too old or too experienced to learn.”
DSM aims to make learning more accessible so that employees can benefit from development opportunities anytime, anywhere. In addition to formal learning (such as classroom training) we are putting more emphasis on the role of learning through others (such as peer group learning) and learning through experiences (such as guided on-the-job experiences).

The DSM Training Portfolio is available to all employees. It offers a wide selection of programs to build leadership along with functional and professional skills. We are in the process of evaluating the business impact of our learning and development programs.

International Labour Organisation (ILO)

DSM applies the International Labour Standards of the ILO. DSM respects the role of works councils and collective bargaining, and in countries or business where they represent employees we work constructively with these groups. As is the case in the implementation of our new organizational and operating model, DSM develops and implements a social or severance program in the event of significant reorganizations. DSM promotes employee empowerment and human rights protection and maintains dialogues with its employees and representative bodies to enable this. See ‘New organizational and operating model’ in this chapter.

Human rights

Respecting human rights is essential in all DSM’s activities. The basic rights and freedoms to which all people are entitled should be understood, respected and promoted by companies as a cornerstone of being a socially responsible business.

DSM has a longstanding commitment to international declarations and instruments that safeguard human rights, including:

- the UN Universal Declaration of Human Rights;
- the UN Guiding Principles on Business and Human Rights (the Ruggie Framework);
- the ILO International Labour Standards; and
- the OECD Guidelines for Multinational Enterprises.

We have been a signatory to the UN Global Compact since 2007.

Respecting and recognizing human rights is an integral part of existing DSM policies and programs. In addition, DSM has published a human rights position paper to further underscore our commitment. A Human Rights Policy forms the basis to further embed the responsibility to respect human rights in all business functions and regions. DSM’s global whistleblower policy (DSM Alert) is in place for both employees and external stakeholders to report any perceived violations of human rights as well as violations of laws and regulations.

DSM has mapped the potential human rights impacts of the company’s business activities through a global risk assessment. The assessment has shown that the categories of human rights most relevant and applicable to DSM relates to employees’ working conditions and our supply chain. This is why we review and update the company’s HR policies and procedures on an ongoing basis. DSM has developed and implemented a global rewards/compensation strategy with the intention of ensuring consistency and fairness (fair pay) in our reward programs across business groups, employee segments and geographies. Regular reviews of policies and guidelines are carried out to make sure they are up to date and meet the standards of our global rewards/compensation strategy.

Beyond our own operations, potential labor and human rights impacts are taken care of through our Supplier Sustainability Program (SSP). The compliance part of our SSP means that we screen suppliers on potential human rights impacts via sustainability assessments and audits. Read more about our SSP and how we manage potential human rights impacts within our supply chain on page 31.

DSM statement on modern slavery

DSM values international business standards and we are committed to ensuring that there is no slavery, forced labor or human trafficking in our supply chains or in any part of our business. Our Supplier Code of Conduct (SCoC) reflects our commitment to acting ethically and with integrity in our business relationships and the commitment we expect from our suppliers to do the same. As part of our initiative to identify and mitigate risks of slavery, forced labor and human trafficking occurring in our supply chains, each of our suppliers is required to sign up to our SCoC in order to work with us and in 2016, our SCoC coverage was 96%. Our suppliers are contractually obliged to comply with its terms and DSM’s business and ethical standards. Our SCoC expressly prohibits involvement in human trafficking and the use of slavery, forced labor or child labor.

Besides monitoring compliance with the above, we are working to identify where the greatest risks of slavery, forced labor and human trafficking arise within our business and supply chains, and are reviewing our procedures and policies for combatting slavery and human trafficking, including assessing the need to revise our internal processes and enhance the due diligence we conduct on our suppliers.
You can’t solve the problem at the end, you need to start solving it from the beginning of the cycle. This is how we can make a circular economy truly work.
**Planet in 2016**

DSM’s operating network spans more than 100 commercial production facilities in over 40 countries. We report on the environmental impact of these business operations, and commit to delivering improvements, solutions and innovations that contribute to protecting the planet. We aim to improve both our own and our supply chain’s environmental footprint, and to deliver environmental benefits to customers and end-users through our Brighter Living Solutions. In our value chain, our key Planet inputs are raw materials (including renewables), energy (including renewables) and water.

This chapter describes our approach toward environmental topics relating to natural capitals that appear in DSM’s materiality matrix – Climate change & renewable energy, Resource scarcity / Circular & bio-based economy, Water security, Biodiversity – as well as other relevant topics such as waste, emissions to air, and product stewardship. Our Planet approach directly influences some of the Sustainable Development Goals, such as SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action). The topic Sustainable food systems is addressed in ‘Review of business - Nutrition’ from page 64 onwards. The Planet performance elements are detailed in ‘Sustainability statements − Planet’ on page 128. See also ‘How DSM creates value for its stakeholders’ on page 20 and ‘Stakeholder engagement’ on page 24.

**DSM Responsible Care Plan 2016-2020**

DSM’s Responsible Care Plan 2016-2020 is an integral part of the company’s Strategy 2018: Driving Profitable Growth. This plan comprises ambitions, targets and actions in the field of safety, health, environment, sustainable value chains (Product Stewardship and sustainable products) and security.

DSM’s main environmental target is a further reduction of greenhouse-gas (GHG) emissions per unit of product, in other words, improving our GHG efficiency. Building on the 20% efficiency improvement achieved from 2008-2015, we raised the bar again last year when we set our current target, which aims for at least a further 25% GHG efficiency improvement for the period 2016-2025. This will bring the anticipated total GHG efficiency gains in the period 2008-2025 to 40-45%. DSM’s GHG reductions are being driven by improving our energy efficiency by 10% by 2025 compared to 2015, purchasing at least 50% of our electricity from renewable sources by 2025, and exploiting opportunities for heat and fuel from renewable sources.

DSM operates in some regions where concerns exist about water security and air pollution levels. Consequently, we have also defined targets relating to water and emissions to air. As part of our sustainability ambitions and the transition to a circular economy, a waste recycling target has been defined.

[Greenhouse-gas emissions (in million tons CO₂eq)]

- 1.5

[Greenhouse-gas emissions, efficiency improvement]

- 4%

[Energy use (in petajoules)]

- 22.6

[Energy efficiency improvement]

- 2%

[Purchased electricity from renewables]

- 8%

[Purchased renewable raw materials]

- 16.5%

[Water consumption (in million m³)]

- 22

[Recycled waste]

- 83%

Our Planet approach engages with SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action).
The year 2016 is the first year in which the acquisitions of the Dyneema site in Mesa (Arizona, USA) and the DSM Nutritional Products site in Jiangshan (China), as well as the activities of the new DSM Engineering Plastics NHU joint venture in Zhejiang (China) have been included in the environmental reporting. The contribution of DSM Jiangshan is material to DSM’s Planet reporting. The data of these new units are included in the reported totals but cannot be included in the efficiency improvement indicators yet, since there is no prior reference year available.

The following table summarizes DSM’s Earth Day targets and the realization in 2016:

<table>
<thead>
<tr>
<th>Planet Indicators</th>
<th>Targets</th>
<th>Realization 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG efficiency improvement</td>
<td>40-45% (2008-2025)</td>
<td>23%</td>
</tr>
<tr>
<td>Energy efficiency improvement</td>
<td>&gt;1% annually (&gt;10% in 2025, reference 2015)</td>
<td>2%</td>
</tr>
<tr>
<td>Electricity purchased from renewable sources</td>
<td>50% in 2025</td>
<td>8%</td>
</tr>
<tr>
<td>Reduction of emissions to air per unit of product (VOC, NO\textsubscript{x}, SO\textsubscript{2})</td>
<td>40% in 2020 (reference 2015)</td>
<td>25%</td>
</tr>
<tr>
<td>Waste</td>
<td>80-90% recycled by 2020</td>
<td>83%</td>
</tr>
<tr>
<td>Water</td>
<td>Water risk assessments completed on 90% of selected sites by 2020</td>
<td>67%</td>
</tr>
</tbody>
</table>

**Climate change & renewable energy**

It is widely accepted that certain gases (e.g. carbon dioxide, methane, nitrous oxide) contribute significantly to climate change. These gases, which are also emitted due to a wide range of human activities, intensify the planet’s natural greenhouse effect, causing global warming. DSM is deeply committed to combat climate change by reducing the impact of our own operations and in our supply chains, by enabling our customers through providing low-carbon products and solutions, and through advocating climate action.

To encourage investments in low-carbon or carbon-free technologies, DSM includes the financial impact of GHG emissions (scope 1 and 2) through internal carbon pricing in the valuations of large investment projects from 2016 onwards. For each large investment proposal at DSM, two business cases have to be presented - one with and one without an internal carbon price of €50/t CO\textsubscript{2}eq. See ‘Stakeholder engagement’ on page 24 to read more about DSM’s activities in climate advocacy with governments, collaborative platforms and business networks on topics including renewable energy and carbon pricing.

By implementing the GHG Protocol scope 2 guidance, the scope 2 emissions from our purchased electricity are now also calculated using the so-called ‘market-based’ method, reflecting GHG emissions from electricity that DSM has purposefully chosen to contract, in addition to the ‘location-based’ method that reflects the average GHG emissions intensity of grids on which electricity consumption occurs.

“Everyone needs to act if we are going to successfully tackle climate change and transition to a low fossil-carbon economy. We made good progress in 2016 in improving DSM’s environmental efficiency on a number of key measures, as well as taking a big step in renewable energy. Our innovative, sustainable solutions also enable customers to reduce their emissions in turn.”

Feike Sijbesma, CEO/Chairman Managing Board

**Greenhouse-gas (GHG) emissions**

DSM has applied the Greenhouse Gas Protocol, developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), to report GHG emissions (scope 1, 2 and 3) since 2008. In 2016, DSM further improved its GHG reporting by implementing the latest GHG Protocol scope 2 guidance (2015), updating all of its used emission factors and including all GHG emissions related to electricity and steam generated on-site that is exported to third parties. These improvements in the GHG reporting methodology contributed to an overall increase in our reported emissions.
**GHG emissions scope 1 & 2**

In 2016, DSM emitted a total of 1.5 million tons of CO$_2$eq (location-based), which is an increase of 0.4 million tons compared to 2015. The increase is mainly caused by the inclusion of recent acquisitions in DSM’s environmental reporting (0.2 million tons CO$_2$eq), the inclusion of emissions related to electricity and steam generated on-site that is exported to third parties (0.1 million tons CO$_2$eq) and the improvements made to the reporting mentioned above. Our market-based scope 1 & 2 GHG emissions were 1.4 million tons.

GHG emissions related to on-site-generated electricity and steam exported to third parties made up 8% of total GHG emissions. The GHG emissions related to exported energy are excluded from the determination of DSM’s own GHG efficiency improvement.

In 2016, DSM’s GHG efficiency improved by 4% versus 2015 (both years location-based). A new high efficiency separation technology at DSM Nutritional Products in Dalry (UK) combined with higher production volumes, especially of products with a lower specific energy usage, contributed significantly to this improvement. Additional significant contributions came from our site in Grenzach (Germany), which had a higher utilization rate of its combined on-site heat and power plant.

**GHG emissions scope 3**

The Greenhouse Gas Protocol, Corporate Value Chain Standard defines scope 3 emissions as all indirect emissions occurring in the value chain that are not included in scope 2, including both upstream and downstream emissions. As such, the reported scope 3 emissions cover many different aspects of the value chain and are therefore largely based on global averages, estimates, extrapolations and assumptions. DSM applies the WBCSD ‘Guidance for Accounting & Reporting Corporate GHG emissions in the Chemical Sector Value Chain’ to determine the scope 3 emissions per category.

In 2016, DSM determined its scope 3 emissions bottom-up and not by extrapolation as in 2015. DSM’s scope 3 emissions in 2016 were slightly above 2015 levels. The increases in Purchased goods and services and End-of-life-treatment of sold products are mainly the result of higher production volumes. The Investments category went down due to fewer participations in 2016. Other changes are assumed to be relatively minor and within the limits of scope 3 reporting accuracy. It should be noted that DSM’s scope 3 emissions for 2015 have been restated to correct for an omission following the deconsolidation of DSM Fibre Intermediates and Composite Resins last year.

DSM strives to achieve a sustained reduction of its carbon footprint across the value chain, for example through the DSM Supplier Sustainability Program (SSP). See also ‘Stakeholder engagement – ‘Suppliers’ on page 31 to read more about our SSP strategy.
DSM is actively involved in the latest review and update of these guidelines. Their principles are applied as part of DSM’s Brighter Living Solutions program, whereby one of the drivers is to have measurably lower GHG emissions along the life cycle.Applicable DSM products and solutions for which avoided GHG emissions may be evaluated include proprietary enzymes and cultures for use within the food and beverage industry, animal feed additives, and lightweight cargo nets made from Dyneema® fiber.

A further example where DSM helps its customers avoid emissions is the application of Uralac® Ultra powder coatings for heat-sensitive substrates such as wood, which can result in a reduction of up to 80% in the carbon footprint of the applied coating when compared to conventional technologies. With DSM’s strategic focus on Brighter Living Solutions, we aim to continue increasing the number of innovations and sales in products and solutions that contribute to avoided GHG emissions.

"The longer we take to move to a low fossil-carbon economy, the higher the costs for future generations and for those already at risk today. Effective and inclusive carbon pricing can facilitate and speed up this transition. At DSM, we apply an internal price of €50 per ton CO₂eq. I am pleased to see that a rapidly growing movement of organizations, including thousands of companies, also sees climate action as both an inevitable opportunity and a moral responsibility."

Feike Sijbesma, Co-Chair Carbon Pricing Leadership Coalition

**DSM’s energy transition**

DSM’s total annual energy consumption increased from 20.9 to 22.6 petajoules in 2016. The increase is related to the inclusion of recent acquisitions in DSM’s reported figures in 2016.

Improving energy efficiency is the most cost-effective way to reduce GHG emissions in our operations. DSM’s energy roadmap prioritizes investments in energy-efficient technologies and practices that reduce emissions and costs. In 2016, DSM’s energy efficiency improved by 2% compared to 2015. A multi-year energy efficiency improvement program is in place to obtain an annual improvement of at least 1%.

In 2016, DSM implemented various energy efficiency improvement projects and initiated new studies and projects that will deliver energy reductions in the years to come. These investments in 2016 amounted to €8.7 million and when fully implemented are expected to deliver around 1.5% in structural energy efficiency improvements, as well as an annual cost saving of approximately €2.3 million. The projects include both smaller operational and maintenance improvements, as well as the replacement of less efficient process equipment. The main energy efficiency improvements were achieved at two DSM Nutritional Products sites where older cooling equipment was replaced by state-of-the-art equipment, as well as by a process improvement project to replace a single-stage unit with a two-stage distillation unit at our hydrocolloids site in China.

**Renewable energy**

DSM is committed to the responsible, efficient use of electricity. We are a signatory to the Climate Group’s RE100, which brings together the world’s leading companies committed to sourcing 100% of their electricity from renewable sources at the earliest possible opportunity.

Our intermediate target for 2025 is for 50% of DSM’s purchased electricity to be obtained from renewable resources. We do this by engaging in purchase power agreements, securing Renewable Electricity Certificates and increasing the amount of renewable electricity generated on-site. However, DSM is dependent on the availability of renewable electricity from the grid or through local electricity production. Regulations and policies on renewable energy vary from country to country, affecting our ability to scale up our procurement of electricity from renewable sources. Consequently we actively collaborate with authorities and other companies to jointly scale up the supply of electricity from renewable sources on the grid (also referred to as ‘additionality’). In 2016, 8% of purchased electricity came from renewable sources. We took a big step in the year with DSM’s participation in Windpark Krammer, see the case study on the next page.

**Water security**

**Water and waste water**

Water is essential for life. Global water demand has risen sharply during recent decades, while the availability of water resources is changing due to multiple factors. As a result, more and more regions face water stress, including regions in which DSM operates. Our water program focuses on identifying and mitigating water risks in these regions. DSM sites that are either located in areas with short- or long-term water scarcity risks or have waste water discharge levels above Best Available Techniques have to perform a water risk assessment and implement appropriate measures to mitigate adverse effects on water quality and availability. At the end of 2016, 67% of DSM’s applicable sites had a valid water risk assessment in place as well as plans to execute the measures defined.
From 2016 onwards, DSM reports water consumption in addition to water use. Our water use includes water used for ‘once-through cooling’ that is returned to the original water source after use. Water consumption is the portion of water used that is not returned to the original water source after being withdrawn and as such is a better indicator with which to manage DSM’s impact on water availability. Compared to 2015, water use was up 3% to 104 million m$^3$, the increase being almost entirely driven by a higher city water consumption due to the inclusion of new acquisitions in the reporting. DSM’s water consumption was 22 million m$^3$ in 2016.

DSM’s water pollution reduction programs aim to reduce total water pollution, mainly through reductions in Chemical Oxygen Demand. Performance on this measure improved by 4% compared to 2015, largely as a result of improvements at our sites in Sisseln (Switzerland), Delft (Netherlands) and Wilmington (Massachusetts, USA).

**Waste**
As part of our ambitions to move toward a circular economy, we aim to reduce the amount of waste produced at DSM. The waste that is produced is preferably recycled; our recycling target helps us drive this. Landfilling waste is the least preferred alternative. Our definition for waste recycled is the percentage of total waste related to normal operations that is recycled, or, if that is not possible, incinerated off site with heat recovery. In 2016, this applied to 83% of DSM’s waste, providing a good basis to reach the upper end of the targeted range by 2020.

**Other emissions to air**
Other emissions to air include VOC, NO$\text{x}$ and SO$\text{2}$. While absolute emissions increased due to the inclusion of recent acquisitions in the scope for Planet reporting as stated above, DSM further reduced its other emissions to air per unit of product in 2016, thereby improving our efficiency in this regard. This came to a 25% reduction by the end of 2016, which is firmly on track toward our target of a 40% reduction by 2020. The main contribution to this improvement came from a DSM Dyneema site in China: 2016 was the first full year in which a new emission abatement system was operational. An overview of the absolute emissions can be found in the ‘Sustainability statements – Planet’ on page 128.

**Biodiversity**
DSM identifies and monitors protected areas in the vicinity of its sites and our impact on them. Sixty percent of our sites have been identified as being located in or adjacent to areas of high biodiversity value. In all cases, production sites are operating within applicable limits, as defined by local authorities. See also ‘Stakeholder engagement’ on page 24 and DSM’s position paper on Biodiversity on the company website.
Resource scarcity / Circular & bio-based economy

The world’s growing population and expanding middle class are increasing the demand for food, materials, and energy. DSM is dedicated to securing the future availability of natural resources, and to unlocking more value from the limited resources that are available. In this regard, we support the inevitable transition the world must make toward a circular and bio-based economy, which requires a different way of thinking compared to linear value chains.

The Ellen MacArthur Foundation defines the circular economy as one which is “restorative and regenerative by design, and aims to keep products, components, and materials at their highest utility and value at all times.” It is a continuous positive development cycle that preserves and enhances natural capital, optimizes resource yields, and minimizes system risks by managing finite stocks and renewable flows.

DSM adopts a multi-faceted approach to the circular and bio-based economy. We are focused on exploring ways to:

- **Reduce** the use of critical resources
- **Enable** recycling and redesign with smart materials
- **Advocate** the circular and bio-based economy

We also consider the sharing economy as part of the circular economy. In this regard, we are looking into new business models and opportunities for our Materials businesses. The concept of increased joint ownership of products such as cars may lead to a reduced demand for such products in the future; this could present an opportunity for DSM’s high-quality, longer-lasting solutions, as well as forming a risk for parts of our current product portfolio.

In 2016, DSM continued to pursue new circular and bio-based opportunities within its businesses in the framework of its Brighter Living Solutions program, as well as in DSM Bio-based Products & Services, and new ventures such as DSM-Niaga. See also ‘Stakeholder engagement’ on page 24, ‘Review of business - Materials’ and ‘Review of business - Innovation Center’ from page 74 and page 82 onwards respectively.

Renewable raw materials

DSM views the use of renewable resources as an essential step in securing future resource availability. In addition to energy from renewable sources, DSM is looking toward opportunities in renewable raw materials. Our memberships of the Ellen MacArthur Foundation CE100 and the Low Carbon Technology Partnership, led by the WBCSD, provide insight into new ways in which DSM can incorporate renewable raw materials into its processes. These collaborations also help position the role of waste streams and low carbon-intensive fuels as viable alternatives. Our Niaga collaboration and POET-DSM partnership continue to demonstrate this.

DSM selects renewable raw material suppliers where feasible. Renewable raw materials used by DSM include waste from the agricultural industry, yeasts and enzymes, carbohydrates, and natural oils and acids. In 2016, DSM’s spend on raw materials relating to renewable raw materials rose to 16.5% (2015: 16%) due to increased demand for our nutrition and health products. See also DSM’s position paper on sustainable biomass on the company website.

Product Stewardship

DSM’s sustainability strategy is supported by Product Stewardship, whereby we provide transparency and clarity on substances and their safe production, processing, use and disposal. DSM recognizes both the impact and the benefit of a Product Stewardship strategy as part of our own responsibility in the full value chain, in line with the principles of Responsible Care.

Last year, DSM raised its ambitions in Product Stewardship to address societal and external opportunities, requirements and expectations, in line with our sustainability programs. Our vision for Product Stewardship is for it to be part of ‘our way of working’. In 2016, the following progress was made in this area:

- A global competence plan based on a SWOT analysis was prepared in order to give direction and provide context on the role of Product Stewardship.
- We initiated a continuous improvement program to control Substances of Very High Concern (SVHC) in DSM products and within the supply chain.
- A ‘Product Stewardship Network’ was established at central level, coordinating the efforts of the Product Stewardship groups within our business groups.
- Our efforts were recognized by Chemical Watch in their special report ‘Business Guide to Safer Chemicals’.

Regarding the control of SVHCs, DSM assesses all substances of which more than 1 ton per year is used in its processes so as
to identify and monitor long-term human and environmental hazards. This assessment will be completed by the end of 2020. Identified SVHCs need to be reported in a DSM Priority Substance List and their use challenged in an internal justification process involving a multidisciplinary team.

The final goal is the phase-out of toxic substances, not only from DSM’s own portfolio but from the full life cycle of its products, in line with the company’s commitment to bring more sustainable alternatives to the market. Where substitution is not currently possible, a risk assessment is performed following standard industry procedures. If safe use cannot be shown, the SVHC is prohibited from further use or production within DSM.

DSM is working to meet the 2018 deadline of the EU regulation on REACH, by registering all substances of which between 1 and 100 metric tons per year is produced. At the same time, we continuously update existing dossiers and support EU member states in evaluating an increasing number of substances. We also engage with our raw materials suppliers to guarantee sustainable business through REACH compliance along the value chain.

DSM supports the UN initiative to implement a Globally Harmonized System of classification and labeling of chemicals, for which an internal e-learning has been developed. We closely follow developments on health exposure scenarios for mixtures that need to be implemented in the industry’s product safety systems.
Profit highlights

“We posted good results for DSM in 2016, well ahead of our initial ambitions for this first year of our strategic period. While we still have much to do in the coming years, we have established a strong foundation from which to continue to grow.”

Geraldine Matchett, CFO

Our Strategy 2018 is underpinned by two mid-term headline financial targets: growth in Adjusted EBITDA and ROCE. These are based on our ability to outgrow our markets and at the same time deliver significant structural cost savings and improvement actions, underscored by disciplined capital allocation across the company.

I am pleased to say that in 2016, the first year of this period, we have posted financial results that are considerably ahead of our mid-term targets, with an Adjusted EBITDA growth of 17% and ROCE stepping up from 7.6% to 10.4%. Net sales came in at €7,920 million, representing a top-line organic growth for the company of 4%, with both our Nutrition and Materials businesses making a strong contribution. We also made good progress in terms of profitability, with robust margin development in Nutrition and especially so in Materials. The clear step-up in ROCE – the return we deliver on each euro we employ – was driven by a higher EBIT. On the basis of these results, we are pleased to propose an increased dividend of €1.75 for the year, subject to shareholder approval.

The cost-saving and improvement programs we initiated in 2015 have been a major area of focus this year. A lot has been achieved and we remain firmly on track. The organizational and operational changes being implemented go beyond cost-savings alone; the way we are organized, the things we do and the processes we follow are being reshaped for agility and growth.

We have continued to invest in our businesses and in growth through 2016, committing around 6% of our sales to carefully selected capital projects. As a science-based company, R&D and innovation remains fundamental to our ability to deliver solutions that make a real difference to our customers’ businesses, and to their customers in turn. We continued to spend in this area to stay ahead of the game, albeit with a clear focus on the optimum impact of our investments.

One of our key focus areas has been on improving our working capital as a percentage of sales. At the end of 2016, this was 18.4%, which is better than our aspiration level of below 20%. Capital efficiency is a key driver of cash generation; in 2016 we undertook a number of improvement projects in this area throughout DSM. One of these has been to take a more integrated approach to business planning, in particular in our Nutrition cluster. Holistically addressing processes instead of approaching them as a series of individual steps has resulted in clear improvements in inventory management, production and distribution efficiencies.

Again in line with Strategy 2018, we took a first step toward monetizing our key joint venture partnerships with our participation in the very successful IPO of Patheon N.V. in July 2016. This resulted in a first gain and cash in-flow for DSM in 2016 in excess of €200 million and has opened the way for further steps in future with regards to our remaining 34% stake.

During the year, we also successfully issued a €750 million ten-year bond with a coupon of 0.75%. Favorable market conditions allowed us to lock-in low interest rates taking into account the upcoming maturing of a €750 million bond in 2017.

In achieving these results, one of the things that has impressed me most has been the dedication and unwavering commitment of the thousands of DSM employees around the world. My colleagues and I on the Executive Committee are well aware that our company is undergoing a period of vital organizational transformation. This internal process could have proved a distraction for many in our company. Instead, what we have seen has been a continued clear commitment to focus on our markets and on customer relationships and customer needs. This deep-seated dedication has paid off in 2016, and underlies the valuable relations we have with our partners in the value chain.
Profit in 2016

Financial results

Within the Profit dimension of DSM’s Triple P approach, DSM delivers a sustainable financial return. This ensures business continuity and allows the company to grow, while at the same time providing a good financial return to its shareholders. This chapter reports DSM’s financial performance and provides an overview of the key financial metrics of the company. A model of How DSM creates value for its stakeholders through the financial, intellectual and manufactured capitals is given on page 20.

### Income statement

<table>
<thead>
<tr>
<th>x € million</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales(^1)</td>
<td>7,920</td>
<td>7,722</td>
</tr>
<tr>
<td>Adjusted EBITDA(^1)</td>
<td>1,262</td>
<td>1,075</td>
</tr>
<tr>
<td>EBITDA(^1)</td>
<td>1,174</td>
<td>956</td>
</tr>
<tr>
<td>Adjusted operating profit(^1)</td>
<td>791</td>
<td>573</td>
</tr>
<tr>
<td>Operating profit(^1)</td>
<td>685</td>
<td>362</td>
</tr>
<tr>
<td>Adjusted net profit(^1)</td>
<td>512</td>
<td>383</td>
</tr>
<tr>
<td>Net profit(^1)</td>
<td>649</td>
<td>184</td>
</tr>
<tr>
<td>Adjusted net profit from discontinued operations</td>
<td>-</td>
<td>33</td>
</tr>
<tr>
<td>Total APM adjustments</td>
<td>109</td>
<td>(328)</td>
</tr>
<tr>
<td>Total net profit attributable to equity holders of Koninklijke DSM N.V.</td>
<td>621</td>
<td>88</td>
</tr>
</tbody>
</table>

\(^1\) From continuing operations

In presenting and discussing DSM’s financial position, operating results and cash flows, DSM uses certain Alternative performance measures (APMs) not defined by IFRS. These APMs are used because they are an important measure of DSM’s business development and DSM’s management performance. A full reconciliation of IFRS performance measures to the APMs is given in the ‘Alternative performance measures’ on page 144.
Net sales and Adjusted EBITDA

At € 7,920 million, net sales from continuing operations in 2016 were 3% higher than in 2015 (€ 7,722 million), while organic growth was 4%. Volume development accounted for a 4% improvement, driven by both Nutrition and Materials, while price/mix was on average flat compared to 2015. Exchange rate fluctuations had a negative impact of 1%, while other effects balanced each other out.

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
<th>% change</th>
<th>2016</th>
<th>2015</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSM, continuing operations</td>
<td>7,920</td>
<td>7,722</td>
<td>3%</td>
<td>1,262</td>
<td>1,075</td>
<td>17%</td>
</tr>
<tr>
<td>Nutrition</td>
<td>5,169</td>
<td>4,963</td>
<td>4%</td>
<td>931</td>
<td>822</td>
<td>13%</td>
</tr>
<tr>
<td>Materials</td>
<td>2,513</td>
<td>2,528</td>
<td>(1%)</td>
<td>435</td>
<td>384</td>
<td>13%</td>
</tr>
<tr>
<td>Innovation Center</td>
<td>167</td>
<td>155</td>
<td>8%</td>
<td>1</td>
<td>(9)</td>
<td></td>
</tr>
<tr>
<td>Corporate Activities</td>
<td>71</td>
<td>76</td>
<td></td>
<td>(105)</td>
<td>(122)</td>
<td></td>
</tr>
</tbody>
</table>

Adjusted EBITDA (Adjusted operating profit from continuing operations before depreciation and amortization) increased by a significant 17% or € 187 million, from € 1,075 million in 2015 to € 1,262 million in 2016. Adjusted EBITDA in Nutrition was up 13% versus 2015, with all businesses contributing well to this growth. Profitability also benefited from the efficiency and cost-saving programs. In Materials, Adjusted EBITDA was also up 13%, driven by strong volume growth in higher margin specialties, the benefits of the efficiency and cost-saving programs and the support from low input costs. DSM’s overall Adjusted EBITDA margin was also up at 15.9% in 2016 (2015: 13.9%).

Adjusted operating profit from continuing operations rose from € 573 million in 2015 to € 791 million in 2016, up 38%.
Net sales by origin, continuing operations in %

- Rest of Western Europe: 7% (2016), 9% (2015)
- Eastern Europe: 3% (2016), 2% (2015)
- Latin America: 1% (2016), 1% (2015)
- China: 3% (2016), 4% (2015)
- India: 13% (2016), 14% (2015)
- Rest of Asia: 2% (2016), 3% (2015)
- Rest of the world: 4% (2016), 2% (2015)

Net sales by business segment, continuing operations in %

- Nutrition: 64% (2016), 65% (2015)
- Innovation Center: 2% (2016), 2% (2015)
- Corporate Activities: 1% (2016), 1% (2015)

Net sales by destination, continuing operations in %

- Rest of Western Europe: 25% (2016), 24% (2015)
- Eastern Europe: 12% (2016), 12% (2015)
- Latin America: 1% (2016), 1% (2015)
- China: 8% (2016), 9% (2015)
- India: 7% (2016), 6% (2015)
- Japan: 2% (2016), 1% (2015)
- Rest of Asia: 1% (2016), 1% (2015)
- Rest of the world: 6% (2016), 6% (2015)

Net sales by end-use market, continuing operations in %

- Metal/building & construction: 6% (2016), 7% (2015)
- Automotive/transport: 5% (2016), 5% (2015)
- Textiles: 3% (2016), 4% (2015)
- Electrical & electronics: 8% (2016), 7% (2015)
- Packaging: 7% (2016), 6% (2015)
- Other: 8% (2016), 8% (2015)

Net profit

Net profit attributable to equity holders of DSM increased by € 533 million to € 621 million. This increase was mainly a result of higher Adjusted EBITDA (up € 187 million) and differences in APM adjustments, see below. Expressed per ordinary share, net earnings amounted to € 3.52 in 2016 (2015: € 0.45).

Financial income and expense decreased by € 41 million compared to the previous year to € 133 million. This was mainly the consequence of more favorable hedge results and lower interest expenses.

The effective tax rate on the adjusted result from continuing operations for 2016 was 18% (2015: 23%). This substantial decrease was due among other factors to a better geographical mix and the fact that 2015 included a one-off tax settlement related to the internal transfer of a business.

Adjustments made in arriving at DSM’s Alternative performance measures (APM adjustments)

Total APM adjustments for the full year amounted to a profit of € 109 million, consisting of a profit regarding associates and joint ventures of € 212 million (mainly due to the gain of € 232 million on the IPO of Patheon N.V.), offset by € 101 million in restructuring costs related to the ongoing cost-reduction programs, € 18 million impairments and € 15 million acquisition/divestment-related and other costs, with a tax benefit of € 31 million.
### Cash flow statement

<table>
<thead>
<tr>
<th>x € million</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents at 1 January</td>
<td>665</td>
<td>669</td>
</tr>
<tr>
<td>Cash flow provided by operating activities</td>
<td>1,018</td>
<td>696</td>
</tr>
<tr>
<td>of which provided by continuing operations</td>
<td>1,018</td>
<td>800</td>
</tr>
<tr>
<td>Cash used in investing activities</td>
<td>(1,194)</td>
<td>(275)</td>
</tr>
<tr>
<td>Cash from / used in financing activities</td>
<td>113</td>
<td>(440)</td>
</tr>
<tr>
<td>Effect of exchange differences</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td><strong>Cash and cash equivalents at 31 December</strong></td>
<td>604</td>
<td>665</td>
</tr>
</tbody>
</table>

Cash flow provided by operating activities consists of the EBITDA for the year (€ 1,146 million) less various cash-out items including income tax of € 77 million and changes in working capital of € 89 million. Our focus on cash flow resulted in a strong full-year operating cash flow from continuing operations of € 1,018 million. See also ‘Consolidated financial statements’ on page 129.

The cash used in investing activities included capital expenditures (€ 476 million) and the increase of fixed-term deposits (€ 936 million, see Note 14 ‘Current investments’), partly offset by the proceeds from disposals (€ 80 million) and the dividend received from associated companies (€ 152 million), mainly relating to the IPO of Patheon N.V.

The cash from financing activities consisted mainly of the increase in long-term loans (€ 745 million), partly offset by dividend paid (€ 190 million), interest paid (€ 151 million) and repurchase of shares (€ 273 million). For the full cash flow statement, see page 139.

### Capital employed per business segment at 31 December 2016, continuing operations

<table>
<thead>
<tr>
<th>x € billion</th>
<th>Nutrition</th>
<th>Materials</th>
<th>Innovation Center</th>
<th>Corporate Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5</td>
<td>0.6</td>
<td>0.0</td>
<td>0.0</td>
<td>1.7</td>
</tr>
</tbody>
</table>

### Equity at 31 December as a % of balance sheet total

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>51</td>
<td>49</td>
<td>48</td>
<td>48</td>
</tr>
</tbody>
</table>
Balance sheet
The balance sheet total (total assets) reached € 13.0 billion at year-end (2015: € 11.7 billion). Equity increased by € 549 million compared to the position at the end of 2015. This increase was due to the fact that the net profit for the year, the net exchange differences and the proceeds from reissued shares were higher than the dividend and the repurchase of shares. Equity as a percentage of total assets remained 48%.

Compared to year-end 2015, net debt decreased by € 251 million to € 2,070 million. The gearing at year-end was 25%, a decrease of 4% compared to 2015.

Capital expenditure on intangible assets and property, plant and equipment amounted to € 485 million in 2016 (€ 475 million on a cash basis), which was around the same level as amortization and depreciation.

Total working capital amounted to € 1,481 million compared to € 1,343 million at year-end 2015, which represents 18.4% as a percentage of annualized fourth quarter 2016 sales. Total working capital at year-end 2016 included cash-related liabilities of joint ventures and associates of € 62 million, which is € 75 million lower than 2015. Excluding these liabilities, this ratio amounted to 19.1%. The operating working capital (continuing operations before reclassification to 'held for sale') was € 117 million higher than in the previous year and came to 24% of annualized net sales (2015: 24%).

Cash and cash equivalents came to € 604 million at the end of the year; including current investments, this came to € 1,588 million (2015: € 674 million). The increase was mainly attributable to the € 750 million bond issued in September 2016, which took advantage of favorable market conditions to allow DSM to lock in low interest rates taking into account the maturing of a € 750 million bond in 2017.

<table>
<thead>
<tr>
<th>Balance sheet profile</th>
<th>2016 x € million</th>
<th>in %</th>
<th>2015 x € million</th>
<th>in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangible assets</td>
<td>3,188</td>
<td>24</td>
<td>3,228</td>
<td>27</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>3,325</td>
<td>26</td>
<td>3,171</td>
<td>27</td>
</tr>
<tr>
<td>Other non-current assets</td>
<td>1,404</td>
<td>11</td>
<td>1,429</td>
<td>12</td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>604</td>
<td>5</td>
<td>665</td>
<td>6</td>
</tr>
<tr>
<td>Other current assets</td>
<td>4,437</td>
<td>34</td>
<td>3,250</td>
<td>28</td>
</tr>
<tr>
<td>Total assets</td>
<td>12,958</td>
<td>100</td>
<td>11,743</td>
<td>100</td>
</tr>
<tr>
<td>Equity</td>
<td>6,180</td>
<td>48</td>
<td>5,631</td>
<td>48</td>
</tr>
<tr>
<td>Provisions</td>
<td>182</td>
<td>1</td>
<td>139</td>
<td>1</td>
</tr>
<tr>
<td>Other non-current liabilities</td>
<td>3,478</td>
<td>27</td>
<td>3,600</td>
<td>31</td>
</tr>
<tr>
<td>Other current liabilities</td>
<td>3,118</td>
<td>24</td>
<td>2,373</td>
<td>20</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>12,958</td>
<td>100</td>
<td>11,743</td>
<td>100</td>
</tr>
</tbody>
</table>

Outlook 2017
DSM aims to deliver high single-digit percentage Adjusted EBITDA growth and high double-digit bps ROCE growth in line with the targets set out in its Strategy 2018.
In 2016, DSM’s activities were grouped into three clusters: Nutrition, Materials and Innovation Center. In addition, DSM reports separately on Corporate Activities. Results presented in this section (and elsewhere in the management report) relate to consolidated activities only (therefore non-consolidated partnerships are excluded).

### Net sales

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>5,169</td>
<td>4,963</td>
</tr>
<tr>
<td>Materials</td>
<td>2,513</td>
<td>2,528</td>
</tr>
<tr>
<td>Innovation Center</td>
<td>167</td>
<td>155</td>
</tr>
<tr>
<td>Corporate Activities</td>
<td>71</td>
<td>76</td>
</tr>
<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>7,920</strong></td>
<td><strong>7,722</strong></td>
</tr>
<tr>
<td>Discontinued operations</td>
<td>-</td>
<td>1,213</td>
</tr>
<tr>
<td><strong>Total DSM</strong></td>
<td><strong>7,920</strong></td>
<td><strong>8,935</strong></td>
</tr>
</tbody>
</table>

### Adjusted operating profit (EBIT)

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>645</td>
<td>535</td>
</tr>
<tr>
<td>Materials</td>
<td>311</td>
<td>250</td>
</tr>
<tr>
<td>Innovation Center</td>
<td>(24)</td>
<td>(43)</td>
</tr>
<tr>
<td>Corporate Activities</td>
<td>(141)</td>
<td>(169)</td>
</tr>
<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>791</strong></td>
<td><strong>573</strong></td>
</tr>
<tr>
<td>Discontinued operations</td>
<td>-</td>
<td>77</td>
</tr>
<tr>
<td><strong>Total DSM</strong></td>
<td><strong>791</strong></td>
<td><strong>650</strong></td>
</tr>
</tbody>
</table>

### Adjusted EBITDA

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>931</td>
<td>822</td>
</tr>
<tr>
<td>Materials</td>
<td>435</td>
<td>384</td>
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<tr>
<td>Innovation Center</td>
<td>1</td>
<td>(9)</td>
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<tr>
<td>Corporate Activities</td>
<td>(105)</td>
<td>(122)</td>
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<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>1,262</strong></td>
<td><strong>1,075</strong></td>
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<tr>
<td>Discontinued operations</td>
<td>-</td>
<td>95</td>
</tr>
<tr>
<td><strong>Total DSM</strong></td>
<td><strong>1,262</strong></td>
<td><strong>1,170</strong></td>
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### Capital employed at 31 December

<table>
<thead>
<tr>
<th></th>
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<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Nutrition</td>
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<td>5,309</td>
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<td>1,723</td>
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<td>560</td>
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<td>Corporate Activities</td>
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<td>(39)</td>
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<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>7,889</strong></td>
<td><strong>7,553</strong></td>
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<tr>
<td>Discontinued operations</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total DSM</strong></td>
<td><strong>7,889</strong></td>
<td><strong>7,553</strong></td>
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### Adjusted EBITDA margin

<table>
<thead>
<tr>
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<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>18.0</td>
<td>16.6</td>
</tr>
<tr>
<td>Materials</td>
<td>17.3</td>
<td>15.2</td>
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<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>15.9</strong></td>
<td><strong>13.9</strong></td>
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<tr>
<td>Discontinued operations</td>
<td>-</td>
<td>7.8</td>
</tr>
<tr>
<td><strong>Total DSM</strong></td>
<td><strong>15.9</strong></td>
<td><strong>13.1</strong></td>
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</table>

### ROCE

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>12.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Materials</td>
<td>17.6</td>
<td>14.4</td>
</tr>
<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>10.4</strong></td>
<td><strong>7.6</strong></td>
</tr>
<tr>
<td>Discontinued operations</td>
<td>-</td>
<td>19.0</td>
</tr>
<tr>
<td><strong>Total DSM</strong></td>
<td><strong>10.4</strong></td>
<td><strong>8.2</strong></td>
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</tbody>
</table>
### Capital expenditure

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>331</td>
<td>322</td>
</tr>
<tr>
<td>Materials</td>
<td>106</td>
<td>98</td>
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<tr>
<td>Innovation Center</td>
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<td>34</td>
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<tr>
<td>Corporate Activities</td>
<td>16</td>
<td>24</td>
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<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>485</strong></td>
<td><strong>478</strong></td>
</tr>
<tr>
<td>Discontinued operations</td>
<td>-</td>
<td>92</td>
</tr>
<tr>
<td><strong>Total, accounting based</strong></td>
<td><strong>485</strong></td>
<td><strong>570</strong></td>
</tr>
<tr>
<td>Non-cash items</td>
<td>(9)</td>
<td>(27)</td>
</tr>
<tr>
<td>Customer funding</td>
<td>(1)</td>
<td>(7)</td>
</tr>
<tr>
<td><strong>Total, cash based</strong></td>
<td>475</td>
<td>536</td>
</tr>
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</table>

### R&D expenditure (including associated IP expenditure)

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
<th>as % of net sales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2016</td>
<td>2015</td>
<td>2016</td>
</tr>
<tr>
<td>Nutrition</td>
<td>205</td>
<td>223</td>
<td>4.0</td>
</tr>
<tr>
<td>Materials</td>
<td>124</td>
<td>143</td>
<td>4.9</td>
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<tr>
<td>Innovation Center</td>
<td>75</td>
<td>82</td>
<td>44.9</td>
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<tr>
<td>Corporate Activities</td>
<td>22</td>
<td>16</td>
<td>31.0</td>
</tr>
<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>426</strong></td>
<td><strong>464</strong></td>
<td><strong>5.4</strong></td>
</tr>
</tbody>
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### Workforce at 31 December

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>13,260</td>
<td>12,978</td>
</tr>
<tr>
<td>Materials</td>
<td>4,460</td>
<td>4,472</td>
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<tr>
<td>Innovation Center</td>
<td>619</td>
<td>630</td>
</tr>
<tr>
<td>Corporate Activities</td>
<td>2,447</td>
<td>2,716</td>
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<tr>
<td><strong>Total continuing operations</strong></td>
<td><strong>20,786</strong></td>
<td><strong>20,796</strong></td>
</tr>
<tr>
<td>Discontinued operations</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total DSM</strong></td>
<td>20,786</td>
<td>20,796</td>
</tr>
</tbody>
</table>

1 Corrected for comparability
Nutrition highlights

“Nutrition performed well in 2016, with good growth in our Animal Nutrition & Health business, improved growth in Human Nutrition & Health, and strong demand for DSM Food Specialties’ innovative enzymes portfolio.”

Stephan Tanda, DSM Managing Board

Our commitment to deliver safe, reliable, quality ingredients and solutions that support health and well-being was underlined by a number of positive developments in 2016. We improved our manufacturing footprint further, including the opening of a new vitamin B6 plant in China, and strengthened our business leadership bench with the appointment of Jeremy Xu and David Blakemore to head up our Human Nutrition & Health and Animal Nutrition & Health businesses, respectively.

In animal nutrition the positive sales trend of 2015 continued. Our customers are looking for solutions that boost performance while reducing environmental impact and protecting their margins. In 2016, we saw a strong uptake for feed enzymes and eubiotics as producers increasingly sought alternatives to antibiotic growth promoters. Meanwhile our quest for transformational new approaches continued with our major innovation projects Clean Cow and, together with partner Evonik, Green Ocean – both designed to help meet the demand for macronutrients while substantially reducing the environmental impact of farming. With our business-to-farmer (B2F) initiative, we targeted a new customer segment with a new brand in China, which has been well received.

In human nutrition we returned to good growth, building on the work we had done in 2015. A highlight was the further development of our i-Health range of dietary supplements. A further major achievement was the launch of MEG-3® Ultra from our new facility with 3C Technology in Canada, which has the potential to reshape the omega-3 category.

We welcome the growing influence of the first 1,000 Days initiative; everybody’s future is essentially determined in the critical period from conception to two years of age. We remain as committed as ever to help deliver high-quality, cost-effective nutrition to the four billion people living at the Base of the Pyramid and are honored to be able to participate in Africa Improved Foods at the invitation of the Government of Rwanda.

Personal Care & Aroma Ingredients had a strong 2016, with organic growth across all segments, supported by product innovation and deep customer and consumer insights.

Our Food Specialties business also had a good year. The drive to reduce the levels of salt, fat, sugar, and simple carbohydrates in processed foods is creating new opportunities for DSM Food Specialties’ cultures and enzymes portfolio. The rise in demand for our innovative hydrocolloids portfolio is especially positive. Growing interest in lactose-free dairy products is also fueling growth.
Nutrition

Nutrition cluster performance

<table>
<thead>
<tr>
<th>Nutrition - net sales bridge 2016</th>
<th>€ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Volume Price/mix FX Other</td>
<td>2016</td>
</tr>
<tr>
<td>4,963</td>
<td>5,169</td>
</tr>
<tr>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>2%</td>
<td>-1%</td>
</tr>
<tr>
<td>0%</td>
<td>-1%</td>
</tr>
</tbody>
</table>

DSM’s Nutrition cluster had a strong year in 2016. Total sales amounted to €5,169 million in 2016, up 4% from €4,963 million in the previous year. Organic sales growth was 5%, driven by higher volumes and price/mix. Animal Nutrition & Health had a strong year with 8% organic sales growth, driven by strong volume growth in all regions with the exception of Latin America, due to the weak economic conditions in that region. Human Nutrition & Health delivered a significant step-up in organic growth (4%) in 2016 versus recent years. This highlights the successful implementation of the strategy to drive above-market growth through new market initiatives and innovation.

Adjusted EBITDA was up 13% versus 2015 to €931 million (2015: €822 million), with all businesses contributing well to this growth. Adjusted EBITDA also benefited from the efficiency and cost-saving programs.

Trends

The key global trends in nutrition and health continued to fuel the growth of our Nutrition business in 2016. Continued rapid population growth accompanied by accelerating urbanization is driving demand for convenience and processed foods that are safe, healthy, nutritious, affordable, and sustainable. This presents attractive growth opportunities for DSM, with our ability to deliver innovative nutrition solutions tailored to precise customer needs worldwide.

Rising standards of living and changing dietary patterns, especially in emerging economies, are stimulating demand for fish, meat, poultry and dairy products. This calls for more efficient but also more sustainable production of animal protein, respecting animal welfare, producers’ livelihoods and the environment.

Life expectancy continues to increase worldwide. Growing understanding of the role of nutrition in supporting health and
well-being throughout the lifespan is encouraging healthier food choices. Well-informed consumers are looking for products with reduced levels of sugar, salt and trans fats as they begin to explore the possibilities of personalized nutrition. At the same time, new scientific evidence arguing for differentiated nutrient intake patterns across the lifespan is creating new possibilities for DSM, which can offer innovative approaches to food fortification and dietary supplementation tailored to the needs of highly specific demographic groups. Increasingly consumers, especially in the developed world, are searching for foods that are perceived as not only nutritious but also authentic, natural, minimally processed and ‘free from’. This poses new challenges to our customers. DSM can be a key partner here in formulating solutions that meet the needs of this consumer group.

The global need to address malnutrition is undeniable – in developed as well as developing countries. The importance of good nutrition during the first 1,000 days of life – from conception to a child’s second birthday – is achieving increasing recognition worldwide, for unparalleled growth occurs during this period, and inadequate nutrition at this time leads to adverse, lifelong consequences. Women of child-bearing age, as well as pregnant and lactating mothers, need special support. Fortified foods and supplements can play a valuable role here in contexts where available diets are inadequate.

Public concerns regarding food safety, quality, animal welfare and sustainability continue to foster a stricter regulatory climate. This provides new openings for DSM, with our science-driven approach, our unrelenting focus on sustainability, and our rigorous adherence to the highest production standards. Health authorities and customers alike value our quality and safety protocols and our continuous drive to exceed our own high requirements, as well as those stipulated by third parties.

Our customers are seeking not just product safety, quality and reliability but also the transformational product innovations that offer them a competitive edge. We expect the search for customized solutions based on deeper scientific and marketing insights to continue unabated.

**Sustainability**

Even as customers look for ever higher product differentiation and consumers for ever stronger product safety assurances, the world’s focus on sustainability continues to grow. Sustainability is one of the key business drivers in DSM’s Nutrition markets. The nutritional requirements of an expanding population place vast demands on the planet’s ecosystems. Our Nutrition cluster delivers solutions that seek to meet the changing needs of the world’s population while reducing the environmental impact of our operations and those of our customers.

Nutrition is a vital precondition for achieving 8 of the 17 Sustainable Development Goals (SDGs), most directly supporting SDG 2 (Zero Hunger). We see good nutrition throughout the course of life as a prerequisite for achieving full physical, mental and economic potential as well as maintaining health and well-being. We also welcome the new scientific focus on the changing nutrient requirements that individuals experience at different stages of their lives. We regard eliminating the scourge of malnutrition as a key societal priority and a shared global responsibility in which we gladly play our part. We help deliver better nutrition to society’s most vulnerable groups, and we wholeheartedly endorse the 1,000 Days movement. Our business serving the four billion who live at the Base of the Pyramid continues to grow, helping to make safe, nutritious and affordable foods available to those with the slimmest economic means.

DSM is proud of its strategic partnership with the UN World Food Programme. Dedicated to ‘Improving Nutrition, Improving lives’, this partnership provides food aid and development assistance to the world’s hungry and also stimulates the establishment and nurturing of sustainable and self-supporting commercial nutrition business models in the developing world. Today, DSM reaches more than 28 million people per year with improved nutrition through the partnership. See ‘Nourishing the Base of the Pyramid’ on page 11 and ‘Cross-sector nutrition partnerships’ on page 36.

**Strategy**

The Nutrition cluster’s unique business model aims to capture opportunities arising from global megatrends by combining production capabilities worldwide with customized local formulations. DSM delivers a broad portfolio of high-quality, competitive active ingredients for the nutrition industry with global reach at scale. At the same time, we offer maximum differentiation through industry and segment-specific formulations. As a local solutions provider with strong market intimacy, we base our growth on delivering customer-driven solutions.

DSM has developed into one of the strongest players in the industry by addressing growth opportunities through expanding and extending its offering across the value chain. We are active in Nutrition in over 60 countries, with unparalleled customer access, a complete product portfolio, and advanced skills and capabilities. We have continued to expand our premix footprint, especially in emerging economies. In 2016, we opened a new facility in Indonesia and expanded a number of existing facilities.

Over recent years, we have further expanded our product portfolio in Nutrition, adding capabilities in cultures, textures, trace minerals and marine and microbial polyunsaturated fatty acids to complement our unrivalled position in vitamins, carotenoids, eubiotics, enzymes and yeasts. Pectin-derived hydrocolloids and fermented gellan gum, which offer texturing solutions for reduced-sugar product recipes, are a highly attractive growth market. Rapidly increasing demand for lactose-free and reduced-sugar dairy products, meanwhile, is driving strong sales of our Maxilact® enzyme.
The combination of our strong global position and integrated business model has enabled DSM to become a leader in quality and innovation, with deep regulatory, technical and sustainability expertise and a clear understanding of customer and consumer needs, as well as regular investment in quality management.

**Nutrition strategy 2018: global products and local solutions**

**Growth acceleration and sustainable innovations**
1. Expand the core
2. Add new products & solutions
3. Expand in new segments/regions
4. New business models
   - Reducing costs and increasing productivity
   - Driving cash generation
   - Increasing capital efficiency

**Aspirations 2018 underpinning Group targets**
- Above-market sales growth (at stable prices)
- High single-digit percentage annual Adjusted EBITDA growth
- Adjusted EBITDA margins: 18-20% over the period
- Annual ROCE growth: high double-digit bps increase

Going forward, we aim to drive profitable growth in Nutrition by leveraging the portfolio that has been created following a number of acquisitions in recent years. We are driving top- and bottom-line growth by:

- expanding our core capabilities and bringing them to more of the markets and territories we serve. In 2016, we opened a new, highly efficient and low eco-footprint production facility for vitamin B6 in China. Also in China, we announced the expansion of our gellan gum and pectin facilities;
- broadening and deepening our portfolio with new products and solutions, making full use of our expertise in sustainable innovation. One area is, for example, in eubiotics for antibiotic-free poultry – a trend which is gaining traction, as consumers are increasingly avoiding animal protein products produced with growth-promoting antibiotics. Another is the trend toward sugar reduction, and we continued to make good progress in the development of fermentative stevia;
- opening new segments and regions for our business – a good example being our investment in a new omega-3 concentration facility in Mulgrave (Canada); and
- developing new business models to increase market share, such as the implementation of an approach to sell directly to mid-sized swine and poultry farmers in China with a dedicated brand and distribution.

This improvement program targets cost savings versus 2015 of € 130-150 million by 2018. The Nutrition cluster is also benefiting from the DSM-wide adjustment of its organizational and operating model, allowing it to focus more on serving its customers and markets. Together with increased capital efficiency, the cluster aims to deliver improved financial returns.

DSM takes a balanced view of its Nutrition business. Our strategy strives to maximize the opportunities arising from our portfolio and the key market and societal trends in nutrition, while recognizing, anticipating and mitigating the risks that these global developments can also pose to our product-market combinations or business progress. For Nutrition, these potentially include: longer-term changes in food preferences and food systems; changes in preference for dietary supplements; commoditization of nutritional ingredients; the global or regional spread of infectious diseases in animals; our ability to develop, bring to market and exploit promising innovations; and the effects of geopolitical and macro-economic developments. For more information on how DSM manages risks, see ‘Risk management’ on page 102.

Our business strategy to accelerate organic sales growth is supported by cost savings and operational excellence measures to boost efficiency and productivity and drive cash generation. The cluster continued the implementation of a performance improvement program, which is based on the DSM manufacturing culture of continuous improvement and focuses on savings in purchasing, reduction of fixed costs, and gains in throughput and efficiency.
DSM Nutritional Products

DSM Nutritional Products has three market-facing entities: Animal Nutrition & Health, Human Nutrition & Health and Personal Care & Aroma Ingredients. DSM Nutritional Products achieved total sales of €4,633 million in 2016; in 2015 this was €4,439 million.

“DSM is uniquely positioned in the worldwide markets for nutritional ingredients and is investing heavily in innovation. This provides us with a fantastic foundation for further growth and to make a real difference to our customers and their businesses. Through them, we bring better nutrition to more people, more sustainably than ever before.”

Chris Goppelsroeder, DSM Executive Committee

Animal Nutrition & Health

Highlights 2016

- Strong organic growth
- Strong demand for specialty solutions such as feed enzymes, Hy-D and carotenoids
- Pre-marketing work started on Green Ocean and Clean Cow initiatives


RONOZYM® RumiStar™ boosts dairy farmers’ margins while reducing environmental impact

An innovative product of the DSM/Novozymes feed enzymes alliance, RONOZYM® RumiStar™ increases the utilization of starch in ruminant diets, leading to improved milk production in dairy cows.

The alpha-amylase RONOZYM® RumiStar™ was launched in the EU in 2016 following its successful market introduction in Brazil the year before. RONOZYM® RumiStar™ offers enzyme technology to the European ruminant sector for the first time, and is the only feed enzyme registered in the EU for use in dairy herd diets.

Feed is the greatest cost factor in dairy farming, so any increase in the efficiency of converting feed into milk will improve returns for dairy farmers. The use of feed enzymes to increase the uptake of nutrients in the feed has traditionally focused on poultry and swine – monogastric animals with a single stomach chamber. Ruminants have a four-chambered stomach, or rumen, and so a different enzymatic solution is required in their case.

RONOZYM® RumiStar™ increases the rate of corn starch degradation in the cow’s stomach. As a result, a greater proportion of the nutrients in the feed is turned into energy and bacterial protein. RONOZYM® RumiStar™ also supports starch digestion in the small intestine. Less starch reaches the hindgut to be excreted, reducing the environmental impact of milk production.

Years of research went into identifying an enzyme that could consistently deliver significant improvements in feed digestibility in ruminants. Dairy cows fed on diets containing RONOZYM® RumiStar™ produce 1.5 kg more milk per day with the same feed intake. A Life Cycle Analysis showed that the impact of milk production on climate change is reduced by about 5% when RONOZYM® RumiStar™ is added to a corn-based dairy diet due to the higher milk yield per kilogram of feed, compared to the same diet without enzymes.
This business addresses the global feed ingredients markets for poultry, swine, aquaculture, ruminants and pets. For all these segments, DSM is a full value chain player, providing active ingredients, delivery systems, and nutritional and premix solutions both globally and at a local level. We focus on the nutritional ingredients and additives segments of these markets.

The global animal nutrition and health market is driven by the need to improve production efficiency in response to the growing global demand for animal protein while at the same time reducing the environmental impact of farming. The efficiency drive continued unabated for all species and across regions during 2016. This led to a further rise in demand for our specialty animal nutritional solutions, with strong uptake in the enzyme category.

The need to reduce the use of antibiotics and replace antibiotic growth promoters continues to stimulate the search for innovative new alternatives to foster animal health and welfare as well as to increase feed conversion. With our extensive portfolio and profound application knowledge, we are well placed to capture the new business opportunities this generates with our enzymes and eubiotics solutions, benefiting from this development in all major markets during 2016. At the same time, we continue to invest in the quest for innovative and sustainable approaches that improve animal gut health.

The positive sales trend of 2015 continued, with strong volume growth in all regions, with the exception of Latin America, due to the weak economic conditions in that region. Growth was driven by new nutritional solutions, supported by the quality of our portfolio, our nutritional expertise, our formulation and application know-how, and our global premix footprint. This trend was assisted by highly focused customer management across regions and species, accompanied by intensified marketing of our specialty portfolio and a sharper focus on local solutions (e.g. the Victus™ poultry enzyme life cycle solutions in the US). In keeping with our strategy, we took steps to further grow our business in under-penetrated segments such as ruminants and aqua while continuing to expand our core activities across geographies.

With our business-to-farmer (B2F) initiative for swine and poultry, we targeted a new customer segment with a new brand in China, which is likewise on track. This is well supported by our world-leading research facility in the country. Further investments in our premix business, particularly in Asia, have enabled powerful regional growth and the ability to deliver even greater value to our customers in those countries.

New products such as RONOZYME®, RumiStar™ – an amylase that increases the utilization of the starch in dairy rations, leading to improved milk production in dairy cows – was successfully launched in the EU in 2016, following its market introduction in Brazil the previous year. Offering enzyme technology to the European ruminant sector for the first time, RONOZYME®

RumiStar™ is the only enzyme registered in the EU for use in dairy farming.

DSM’s innovation pipeline in animal nutrition is being increasingly strengthened via our strategic alliances in enzymes with Novozymes and in lipids with Evonik and our proximity to progressive major players and key opinion leaders.

Pre-marketing work with leading aquaculture feed producers commenced for Green Ocean – a disruptive new algae-based technology for the production of the two key omega-3 polyunsaturated fatty acids (EPA and DHA) for use in fish feed. EPA and DHA are essential nutrients for the health and development of fish such as salmon, which in itself is a key source of these nutrients in the human diet. Green Ocean responds to the growing global need for sustainable aquaculture, while offering a competitive approach to delivering these essential fatty acids for fish and human diets.

Methane is the second most important human-induced greenhouse gas after carbon dioxide, and the need to urgently tackle methane emission levels has been high on the global sustainability agenda since COP21. DSM’s innovative solution for reducing methane emissions in cows (Clean Cow) is on track, and pre-marketing work had begun by the end of 2016. Reducing emissions from cattle will bring significant environmental benefits worldwide.

Human Nutrition & Health

Highlights 2016

- Significant step-up in organic growth
- Continued strong growth of key brands of DSM i-Health dietary supplements
- Launch of MEG-3® Ultra to reshape the omega-3 category

Human Nutrition & Health reported 2016 sales of €1,823 million compared to €1,741 million in 2015.

This business provides nutritional solutions for the food and beverage, dietary supplements and early-life and clinical nutrition markets, with a parallel focus on solutions for the pharmaceutical industry for the use of vitamins, nutritional lipids (ARA/EPA/DHA) and carotenoids as Active Pharmaceutical Ingredients (APIs). Its fundamental driver is the link between nutrition and health, supported by a number of global megatrends.

Our Human Nutrition & Health business strives to make a positive impact on some of the most important health issues, such as cardiovascular, eye, cognitive and gut health, through helping to create awareness by engaging with multiple stakeholders. It also
aims to help eliminate micronutrient deficiencies at the Base of the Pyramid. For more information on our initiatives in this area, see ‘Nourishing the Base of the Pyramid’ on page 11 and ‘Stakeholder engagement’ on page 24.

This business posted good growth in EMEA and Asia during 2016. North America, although soft overall, showed improvements. Business results in Latin America reflected the weak economic conditions in the region.

Our i-Health dietary supplements consumer business again performed strongly, recording double-digit growth during the year on the back of powerful marketing & sales campaigns and continued international expansion, with a particularly strong performance in China. Culturelle® continued to grow at a double-digit rate, expanding its leadership position in the probiotic category. Estroven® and Azo™ also grew strongly in 2016, strengthening their respective number one shares in the women’s health and urinary health categories. DSM also successfully launched Azo Urinary Tract Defense™ in US food, drug, and mass channels in 2016.

We continue to observe a positive trend in leveraging the higher dosage of ingredients – such as vitamins, omega-3 and carotenoids – as APIs in pharmaceutical applications. DSM is the only company that holds CEPs (Certificate of suitability of Monographs of the European Pharmacopoeia) and the US Drug Master Files (DMF) for all 13 essential vitamins, putting us in a unique position to help pharmaceutical customers get their products to market faster.

To address the decline in the US market for non-concentrated fish oils and the growth in the concentrates dietary supplement category in that country, and also to accelerate the development of our omega-3 business in other regions, we introduced the new MEG-3® Ultra in North America and EMEA in the fourth quarter of 2016. Featuring DSM’s unique 3C technology, this radically new product helps eliminate key barriers to the consumption of omega-3 supplements, such as capsule size and aftertaste. MEG-3® Ultra allows brand owners to create health-focused products with specific DHA and EPA ratios that meet consumer needs across the lifespan. The capacity for customizing DHA and EPA ratios will also help mitigate supply-related risks.

The launch of MEG-3® Ultra was supported by a communication campaign on the theme ‘Know Your Ω™’. Reinforcing omega-3 intake recommendations to help protect patients from cardiovascular disease and other health risks, ‘Know Your Ω™’ recognizes the key role healthcare practitioners can play in addressing the currently inadequate levels of omega-3 intake among the US population.

Targeting the global number one position in dietary supplement probiotics

The global dietary supplements probiotics market is predicted by Technavio to grow at around 7% per year from 2015 to 2019, with new product innovation helping to fuel this growth. The market is highly segmented and extremely competitive, so product differentiation supported by authenticated health claims is vital for success.

DSM’s digestive health probiotic Culturelle® has a track record of driving organic growth and outperforming the probiotics marketplace and is expected to continue to outperform the market in 2017. Currently the number one-selling consumer dietary supplement probiotic brand in the US, Culturelle® is poised to become the second-ranked probiotic brand globally, according to Euromonitor.

This top-line growth has been achieved by creating consumer demand for Culturelle®. There were three steps to this process. First, DSM sought to understand and validate consumers’ health and wellness needs via attitude and usage studies such as the 2011 Women’s Health and more recent Path-to-Purchase Studies, following this up with concept tests. Second, we delivered on those needs across three growth platforms (Digestive Health, Everyday Wellness, and Kids) through a pipeline of consumer-inspired, scientifically-backed innovations based around Lactobacillus GG – the leading clinically-studied probiotic strain. Finally, we positioned Culturelle® as the proven probiotic brand in the broader health and wellness space. This was achieved by driving brand awareness among consumers and deploying initiatives with retailers and distributors, while engaging in medical marketing initiatives to reach healthcare professionals with the benefits of Culturelle®. Culturelle® is the number one Pediatrician and leading Pharmacist Recommended Brand in the US.

The new Culturelle® Pro-Well 3-in-1 probiotic plus omega-3 supplement also performed very well in 2016. With increased consumer, retailer and international demand, Culturelle® is on track to realize its vision of becoming the number one consumer dietary supplements probiotics brand worldwide.
Our sales to the food & beverage sector improved in 2016, driven by good sales volumes in Asia and Europe. Meanwhile our infant nutrition business continued to perform well, with solid volume growth.

The new vitamin B6 facility in Xinghuo (China), which was mechanically completed at the end of 2015, opened in 2016, expanding DSM’s global manufacturing footprint and supporting growth in the region.

Personal Care & Aroma Ingredients
Sales in Personal Care & Aroma Ingredients came to €337 million in 2016, up from €316 million in 2015.

Personal Care provides ingredients and innovative solutions for some of the world’s best-selling beauty products. Our extensive portfolio of key ingredients includes peptides, natural bio-actives, UV filters, hair polymers and vitamins; this is complemented by a range of additional services. The business is driven by global megatrends, local consumer beauty regime insights, and growth opportunities presented by emerging economies.

The global megatrend of health and wellness, operating in tandem with the overall aging of the world’s population, is fostering increased consumer awareness of the need for daily UV protection, and is stimulating high demand for innovative skin care products. Emerging economies, in particular, are seeing rising demand for products tailored to local consumer preferences, with the Chinese market developing fastest in terms of growth and sales.

The year 2016 was strong for DSM Personal Care & Aroma Ingredients as a whole, driven by organic growth across all segments, with powerful growth in the business unit’s carefully managed global key accounts. We accelerated our innovation drive and continued to deepen our understanding of customer and consumer needs during the year.

The business increased its innovation footprint with the launch of several new skin care and sensory modification products, including the innovative eye care solution SYN-EYETM; the award-winning active against skin dryness SYN-UPTM; the anti-aging innovation SYN-STARTM; and a new sensory modifier, VALVANCE® Touch 250. The launch of the new TILAMAR® hair care polymers, meanwhile, expanded our position in this growing global market.

The year also saw the opening of the DSM Personal Care Asia Pacific Technical & Application Center in Shanghai (China). This center will develop product applications, provide technology services, and create tailor-made solutions for cosmetic industry customers throughout the growing markets of China and Asia Pacific.

Regulatory and formulation expertise puts PARSOL® TX ahead

Titanium dioxide finds extensive applications in the personal care sector, being used as a pigment, sunscreen and thickener. Its high refractive index, strong UV light-absorbing properties and resistance to discoloration under UV light make this the fastest-growing technology segment in the UV filters market, with strong worldwide demand from applications for facial care, color cosmetics and men’s grooming. DSM offers a unique grade of titanium dioxide: PARSOL® TX, an inorganic UV filter with excellent formulation compatibility, which makes it suitable for a wide range of product applications.

DSM applies the highest safety standards to its products. We also work closely with our customers to ensure that the product safety claims that they base on our products are fully substantiated. In July 2016, the European Commission (EC) amended the Regulation on Cosmetic Products (1223/2009), which sets safety and marketing rules for cosmetics in the European Union, adding nano titanium dioxide to the list of authorized UV filters. In this revision, the EC issued a detailed list of product characteristics essential for compliance with its safety standards. Using our scientific and regulatory expertise, we worked closely with some of our largest global key accounts in sun and skin care, providing our customers with the necessary expertise in product quality, regulatory affairs and product formulation to help them fully comply with the new regulation.

PARSOL® TX became the first titanium dioxide UV filter to comply with the amended EC Regulation on Cosmetic Products. It is also fully compliant with all other relevant global regulations. Speedy compliance with the amended EC regulation offered us a significant competitive advantage, establishing PARSOL® TX as the global number one product grade in titanium dioxide technology. As a direct result of our regulatory expertise and dedicated customer support, sales of PARSOL® TX increased by 55% in 2016.
The DSM Vouvry site in Switzerland, which produces the organic ALPAFLOR® portfolio, was proud to be awarded the ‘Fair Trade’ seal of approval.

Aroma Ingredients
DSM supplies aroma ingredients to the flavor and fragrance industries which are used in many of the world’s best-known consumer brands. During the year, DSM significantly increased its specialty ingredients portfolio, while also reducing costs and improving efficiencies. The business showed a good performance in 2016.

DSM Food Specialties

In 2016, sales for DSM Food Specialties amounted to €536 million, compared to €524 million in 2015.

DSM Food Specialties is a leading global supplier of food enzymes, cultures, bio-preservation, hydrocolloids, taste and health ingredients. With over a century of experience in fermentation for the food industry, the business group helps make existing diets healthier and more sustainable, giving increasing numbers of people around the world access to affordable, quality food. Customer proximity and the ability to deliver products highly tailored to local requirements are the basis for our continually expanding portfolio of innovative fermentation-based product solutions. This was underlined by the 2016 launch of the business group’s new vision: Enabling Better Food for Everyone.

Market trends driving demand for our products center on five main topics: sugar reduction, salt reduction, bio-preservation, gut health and more efficient processing. DSM Food Specialties is fully committed to delivering innovative solutions that enable food producers to capture the opportunities presented by these trends. The business group continued to deliver valuable consumer insights to the industry in 2016, and to build thought leadership in the area of healthy and sustainable food ingredient solutions, primarily based on fermentation.

Reducing added sugar: a growing business

Sugar is increasingly seen as a key culprit for the worldwide growth of obesity, fueling the spread of type 2 diabetes and cardiovascular disease and generating ever-higher healthcare costs.

Many food & beverage producers have responded with commitments to reduce the sugar levels in their recipes. In several countries, cross-sector agreements are in place for a voluntary, stepwise reduction, while certain others are introducing a so-called ‘sugar tax’.

The sweetener market is valued at more than €70 billion per annum, with sugar representing 85% and high-fructose corn syrup another 10%. Non-artificial sweeteners like stevia make up less than 1% of this amount, but the market for sugar reduction solutions is growing at double-digit rates.

Replacing sugar in food & beverage products is complex, since sugar also influences mouthfeel, texture and shelf life. DSM research reveals that consumers expect sugar-reduced products to taste less appealing than regular versions.

Helping customers create better-tasting products, DSM Food Specialties has created a sugar-reduction development platform based on its market-leading lactase enzyme Maxilact®, the combination of cultures and enzymes, and the development of fermentative stevia glycosides.

In the reduced-sugar dairy products category, new introductions are showing rapid growth. One of our solutions is the combination of the Maxilact® LGi enzyme and Delvo® Yog FVV-122 cultures, with which producers can reduce added sugar by up to 20% in yogurt products. Maxilact® LGi converts the lactose in milk into glucose and galactose. This provides a higher relative sweetness than sugar, permitting the desired reduction in sugar content. Using the mild-tasting Delvo® Yog FVV-122 culture in addition allows producers to achieve optimal texture and mouthfeel plus excellent stability over the shelf-life of the product.

The innovativeness of our response to global concerns about sugar consumption has helped create new value for our customers in the food industry and given added impetus to our business growth.
The performance of our enzymes business in 2016 was driven by a rise in demand for lactose-free and reduced-sugar dairy products which can be created with our Maxilact® enzyme. Some capacity constraints prevented the enzymes business from fully benefitting from this strong demand in 2016; these are being addressed. Growth in enzymes was further supported by our Brewers Clarex® enzyme – appealing for its ability to create a more sustainable, lean production process and to introduce gluten-free beer products to the market. Sales of BakeZyme®, which increases the elasticity of dough, were also up in 2016.

Consumer demand for healthy, high-quality dairy products is on the rise. In particular, thick, high-protein yogurts are increasing in popularity, supporting sales for DSM’s advanced cultures. We introduced new specialty products for the dairy industry in line with the better-for-you, clear label and sustainable trends, in particular for creating better-tasting white cheese, low-fat and more sustainable continental cheese, and smoother, milder-tasting quark.

Sales in the area of bio-preservation products performed robustly in 2016, especially in Europe and North America. Delvo®Cid in particular appeals to customers for its ability to fight mold and yeast in a variety of foods. Besides recent FDA approvals for the use of Delvo®Cid in non-alcoholic beverages and yogurt in the US, approval was also received for its use in yogurt in Mexico. Sales were further supported by Delvotest® T, a broad-spectrum antibiotic test which identifies the presence of a variety of antibiotics in raw milk at EU Maximum Residue Limits.

In savory ingredients, we are adding to our portfolio ingredients that enhance flavor and mouthfeel so as to enable reductions in sugar, salt and fat while maintaining good taste. ModuMax®, launched in November 2016, is a natural taste modulator made from yeast which increases mouthfeel and masks negative off-notes in reduced-fat and reduced-salt soups, as well as in reduced-sugar beverages.

In 2016, work was completed on a new state-of-the-art biotechnology center at DSM’s site in Delft (Netherlands). The new center, which will be officially opened in the first half of 2017, provides lab space and collaborative workspaces to around 400 scientists from around the world who conduct breakthrough science in fermentation technology, integrated bio-processing, genetics, analytics and applied biochemistry for application in food & nutrition, biofuels and bio-based materials.

Further developments in 2016 included a rebalancing of our manufacturing footprint involving the disposal of the surface and ripening business for soft cheese and fermented meat products, and the implementation of upgrades to our manufacturing capabilities in China, facilitating expanded enzyme production.

Another growth platform in specialty food ingredients is hydrocolloids – thickeners and stabilizers that dissolve, disperse or swell in water to provide a broad range of critical functionalities and physical attributes, including gelling, texture, mouthfeel, viscosity, suspension and animation. These versatile polysaccharides are derived from nature via extraction or fermentation.

Demand for hydrocolloids is driven by three underlying consumer trends: the quest for affordable nutrition in the form of dairy and protein products; the trend toward clear labeling; and recognition of the benefits of probiotics and prebiotics. Our hydrocolloids are primarily delivered in the form of pectin and gellan gum. Derived from apple pomace and citrus peels, pectin is used as a gelling and stabilizing agent in a variety of foods and beverages. Gellan gum is produced by a sustainable fermentation process, using glucose or soy as a feedstock. It is likewise used as a gelling and stabilizing agent in a variety of foods and beverages. Our hydrocolloids are enjoying strong sales growth.

In 2016, work was completed on a new state-of-the-art biotechnology center at DSM’s site in Delft (Netherlands). The new center, which will be officially opened in the first half of 2017, provides lab space and collaborative workspaces to around 400 scientists from around the world who conduct breakthrough science in fermentation technology, integrated bio-processing, genetics, analytics and applied biochemistry for application in food & nutrition, biofuels and bio-based materials.

“In 2016, we continued the ‘silent’ transformation of the Materials portfolio toward higher-value specialty products. This transformation capitalizes on the growing opportunities presented by the global drive for more sustainable alternatives.”

Dimitri de Vreeze, DSM Managing Board

The search to replace existing materials with alternatives offering better performance in combination with reduced environmental footprint continues to drive our Materials businesses. This global trend provides attractive prospects for above-market growth. We took full advantage of these during 2016.

OEMs and system integrators are looking for innovative, lightweight, high-performance solutions that deliver competitive edge while meeting ever stricter regulations. The average automobile, for example, is expected to become 200kg lighter over the next 10 years. In electronics, businesses and consumers alike are seeking more advanced device mobility and connectivity. This is fueling demand for smaller, thinner, smarter products in a huge range of different applications, from datacenters to wearable digital devices. Our extensive and growing range of high-performance engineering plastics allowed us to deliver new kinds of value to automotive and electronics customers in 2016.

Meanwhile, industry changes driven by market and (environmental) legislation led to a further shift to sustainable paints and (waterborne) coatings as well as functional materials, which provided significant headroom for our Resins & Functional Materials businesses. New products such as powder technologies for wood and new customer-driven specialty solutions further fueled strong growth during the year. Dyneema® made further strides in the performance apparel segment, paving the way for innovative new fabrics and clothing applications, as well as opening a completely new segment with Dyneema® carbon composite reinforcement for applications such as airplane fuselages and racing car body shells.

Our ability to innovate is crucial to our success in Materials: our fundamental scientific expertise underpins the market-focused R&D that goes into the development of new applications. To increase our innovation capabilities, we established the Materials Science Center this year as a cross-company platform for state-of-the-art know-how in materials science.

Each business in our Materials cluster has a tailored growth strategy. We organized our resources, innovation activities and capital allocation during 2016 in strict accordance with our growth aspirations. Our businesses fall in the three strategic segments Accelerated growth, Growth, and Maximize returns. Our 2016 performance gives us both encouragement and confirmation that this approach to the ‘winning segments’ we have identified is paying off.
Materials

DSM’s Materials cluster comprises DSM Engineering Plastics, DSM Dyneema and DSM Resins & Functional Materials. DSM Engineering Plastics is a global player in specialty plastics. These materials are used in components for the electrical and electronics, automotive, flexible food packaging and consumer goods industries. DSM Dyneema is the inventor, manufacturer and marketer of Dyneema®️, the world’s strongest fiber™️. DSM Resins & Functional Materials is a global player in innovative, sustainable resins solutions for paints and industrial and optical fiber coatings. For more information on DSM’s Materials cluster and its portfolio of businesses and products as well as their value chains, please refer to DSM’s Factbook on the company website.

The Materials cluster delivered strong financial performance in 2016, which reflected the success of the differentiated approach of focusing on higher-growth specialty businesses in the Materials portfolio. While volumes were up 4% in the year, prices were considerably lower, fully reflecting low input costs, meaning that total sales for the Materials cluster were down by 1% from €2,528 million in 2015 to €2,513 million in 2016.

Total Adjusted EBITDA for the full year 2016 increased by 13% to €435 million from €384 million in 2015. This was driven by strong volume growth in higher-margin specialties, the benefits of the efficiency and cost savings programs and the support from low input costs.

Materials - net sales bridge 2016

<table>
<thead>
<tr>
<th></th>
<th>x € million</th>
<th>2016</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Net sales:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>DSM Engineering Plastics</td>
<td>1,312</td>
<td>1,378</td>
<td></td>
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<tr>
<td>DSM Dyneema</td>
<td>297</td>
<td>284</td>
<td></td>
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<tr>
<td>DSM Resins &amp; Functional Materials</td>
<td>904</td>
<td>866</td>
<td></td>
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<tr>
<td>Total</td>
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<td>2,528</td>
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<td>Organic sales growth (in %)</td>
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<td>(4)</td>
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<tr>
<td>Adjusted EBITDA</td>
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<tr>
<td>Adjusted operating profit</td>
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<tr>
<td>Capital expenditure</td>
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<tr>
<td>Capital employed at 31 December</td>
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<td>1,723</td>
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<tr>
<td>ROCE (in %)</td>
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<td>Adjusted EBITDA margin (in %)</td>
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<tr>
<td>R&amp;D expenditure</td>
<td>124</td>
<td>143</td>
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<tr>
<td>Workforce at 31 December (headcount)</td>
<td>4,460</td>
<td>4,472</td>
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</tr>
</tbody>
</table>

Trends

The key trend in the materials industry is substitution. Customers are looking to replace existing parts and materials with newer, more sustainable alternatives. Across a wide range of sectors and applications, manufacturers are seeking products and solutions that will help reduce energy consumption and harmful emissions, both within their own operations and across their value chains, and that have properties enabling further innovative applications. This trend is reinforced by legislation on the one hand and end-user expectations on the other, and so circular economy principles in product and process design are also beginning to gain traction. As legislators, customers and end-users alike demand new approaches to the use or re-use of materials, DSM creates innovative products that either meet or outperform existing product functionalities while being lighter, more versatile and more sustainable than the materials they replace. Our portfolio includes high-performance plastics; waterborne resins; functional materials; ground-breaking materials and fabrics based on Dyneema®, the world’s strongest fiber™️; and bio-based and renewable plastics and resins.

Not only product functionality but also product and process safety are high on the agenda of regulators and consumers alike. DSM Engineering Plastics and DSM Resins & Functional Materials offer products and solutions that eliminate or reduce the use of hazardous substances, including halogens and volatile organic compounds (VOC). Dyneema®️ is being used to create alternatives to heavy, dangerous and high-maintenance steel cables in offshore, marine and lifting and loading applications.

We see important growth opportunities for our Materials business as we help more and more customers to switch to sustainable manufacturing practices based on the substitution of existing materials by our portfolio of better-performing specialty alternatives. For example, in China the introduction of legislation to limit emissions is driving the uptake of lightweight engineering plastics in automotive. As markets and segments...
continue to develop across the world, the substitution effect will become increasingly important.

**Sustainability & Innovation**

Sustainable innovation is the key enabler for the substitution of existing materials by better-performing specialty alternatives. Through its innovative products and services, DSM strives to make a positive difference to people’s lives while reducing the environmental footprint of their activities.

The search for sustainable solutions that meet the rapidly changing needs of society and the planet therefore drives the growth efforts of our Materials cluster. We continue to enhance the value of our materials portfolio by introducing high-performance products that offer improved functionality in combination with reduced environmental impact. These solutions contribute to Sustainable Development Goal 12 (Responsible Consumption and Production). Examples are provided in this chapter and elsewhere in this Report.

**Strategy**

Over recent years, DSM has built an attractive portfolio with high-quality earnings within its Materials cluster. Our Materials businesses are well positioned to capitalize on the dynamics within their respective end-use markets. We apply a differentiated strategy, with tailored business approaches to serve these individual markets. We focus resources primarily on well-defined, higher-growth specialty segments, while leveraging existing assets to *Maximize returns* in PA6 Polymers and Powder Coating Resins. There is a *Growth* strategy for specialty resins, engineering plastic compounds, and solutions for life protection. We have defined an *Accelerated growth* strategy for our high-performance plastics, functional materials and high-performance fiber solutions. The Emerging Business Areas of DSM Biomedical and DSM Advanced Solar in the Innovation Center are also related to Materials and represent promising growth platforms for the longer term. This differentiated approach is driving the transformation of our solutions portfolio and allowing us to capture higher-value business for DSM.

- One example of a new, sustainable solution contributing to accelerated growth is the application of our high-performance engineering plastics Stanyl®, ForTii® and ForTii® Eco in new, ultra-thin USB type-C connectors, the new industry standard.
- We are further driving accelerated growth by entering promising new segments, for example in Dyneema® fiber solutions, which continue to grow in ultra-strong and lightweight high-performance apparel.
- In Resins & Functional Materials, we are making good progress with our sustainable, waterborne coatings business for marine containers, a segment which is growing fast in China.

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### Materials strategy 2018

**Aspirations 2018** underpinning Group targets

- Annual Adjusted EBITDA growth: high single-digit percentage increase
- Annual ROCE growth: high double-digit percentage increase bps
- Adjusted EBITDA margins: > 15% over the period
- Above-market sales growth (at stable prices)

- **High Performance Plastics**
  - PA6 Polymers
  - Powder Coating Resins
  - Dyneema® Life Protection

- **Functional Materials**
  - Dyneema® Fiber Solutions
  - Specialty Coating Resins

- **Advanced Surfaces**
  - PA6 Compounds

- **Biomedical**

- **Emerging Business Areas**

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DSM’s Materials cluster aims to complement its top-line growth with margin management and cost & capital discipline to ensure that this growth is also translated into its bottom-line results. Besides benefiting from the DSM-wide savings program in support functions and services, Materials is building upon the successful profit improvement programs it has carried out. DSM takes a balanced view of its Materials business. Our strategy strives to maximize the opportunities arising from our portfolio and the key market and societal trends in materials, while recognizing, anticipating and mitigating the risks that these global developments can also pose to our product-market combinations or business progress. For Materials, these
potentially include: input price volatility, in particular for oil and its
derivatives; commoditization of materials or market segments;
new mobility and transport options; developments in 3D printing;
disruption due to the circular and sharing economy; our ability to
develop, bring to market and exploit promising innovations; and
the effects of geopolitical and macro-economic developments.
For more information on how DSM manages risks, see ‘Risk
management’ on page 102.

DSM Engineering Plastics

Highlights 2016

- Strong volume growth in specialty portfolio
- Launched next-generation ForTii® high-temperature
  polyamides
- Inaugurated DSM NHU joint venture for manufacture of
  high-performance Xytron™ PPS compounds

DSM Engineering Plastics booked full-year sales of
€ 1,312 million in 2016 compared to € 1,378 million in 2015.

DSM Engineering Plastics is a global supplier of high-
performance engineering thermoplastic solutions. It has a
focused portfolio, with global leadership positions in many of its
products in the areas of high-performance plastics, such as
Stanyl®, Arnite® and Akulon®. DSM Engineering Plastics
addresses key markets in automotive and electronics, and
provides solutions to specialized industries including water
management, breathable textiles and flexible food packaging.

Our world becomes more mobile and connected every day – on
the road and in the home, in the office and on the street. The
markets for engineering plastics increasingly require innovative
solutions that make people’s lives safer, more convenient and
healthier, while addressing the challenge of climate change.

New standards in design, comfort and ease of use are combining
with the quest to cut energy use: together with the introduction
of circular design thinking, these trends are driving strong market
growth for engineering plastics. With our broad, high-quality
materials portfolio and in-depth technology know-how, we work
in close collaboration with customers to develop new
applications in response to the search for lighter, stronger and
more durable materials, developing solutions to keep them
ahead of the curve and enabling them to lead the market through
the use of cutting-edge technology. Our aim is to continually shift
the DSM Engineering Plastics portfolio toward higher-value,
specialty materials, introducing more advanced grades with
improved properties.

Samsung chooses Arnitel® for
Galaxy Gear straps

The wearable electronics market is poised to triple in size
between 2015 and 2020, with applications ranging from
fitness & wellness through medical & healthcare to
infotainment & industrial. The quest for improved connectivity,
greater functionality and enhanced design is driving this
growth, along with the need to reduce the environmental
impact of manufacturing and to cut levels of e-waste.

Physical comfort and the possibilities of color play a crucial
role in the design of today’s wearables. DSM’s Arnitel® offers
smart watch manufacturers real design freedom while
ensuring the extreme ease of wear demanded by consumers.

Samsung Electronics chose to use DSM’s Arnitel® TPE
copolyester elastomer for making its Galaxy Gear strap
because of this material’s excellent physical and chemical
performance. Arnitel® gives the strap the required soft touch
and feel, and is very comfortable to wear in direct contact with
the skin, causing no allergic reactions. Arnitel® is resistant to
perspiration and to the various oils and other liquids to which
watch straps are exposed when in direct contact with the skin.

Arnitel® TPE is easy to process via injection molding, and can
be used in 2K-hybrid overmolded structures in combination
with other thermoplastics such as polycarbonate, ABS, PET
and PBT, providing excellent adhesion. Being intrinsically
bright, as well as offering high UV resistance, the Arnitel®
polymer permits the production of compounds in a broad
range of colors, including ultra-white.

The biocompatibility of Arnitel® is certified according to USP
Class VI and ISO10993 standards. As a collaborative
innovator working with leading wearable device
manufacturers worldwide, DSM was quick to recognize the
critical importance of ensuring that the Arnitel® product range
was evaluated for prolonged skin contact. Arnitel® has full
regulatory compliance, which validates our customers’
confidence in their selection of these materials for skin contact
applications, and enables them to leverage the many other
high-value performance properties that these materials offer.
Our business serving the automotive sector performed solidly in 2016. The trend toward lighter vehicles, encouraged by environmental legislation worldwide, is stimulating innovation among OEMs and creating a strong pull for DSM’s specialty engineering plastics. DSM continues to innovate in this space; 2016 saw the launch of next-generation high-temperature polyamides ForTi® PA46, including the bio-based grade ForTi® Eco and the metal substitute ForTi® Ace.

The need to reduce fuel consumption and cut vehicle emissions, combined with the search for safer cars, as well as the move to electrification, creates many new opportunities for our products. So does the increase in the actual numbers of cars being manufactured globally. DSM’s specialty thermoplastics portfolio was further expanded in 2016 by the launch of the high-performance thermoplastic copolyester Arnitel® HT, which allows system suppliers to produce heat-resistant ducts in a single material, with just one process step. Arnitel® is increasingly being selected as a lighter, smarter, more sustainable alternative to conventional rubbers – reducing environmental impact and, ultimately, system costs.

The increased connectivity in the conception and design of automotive vehicles finds many counterparts in the electrical and electronics field. The convergence to universal connectivity through USB-C, accompanied by the massive increase in cloud computing requiring connectivity for server farms, is fueling demand for Stanyl® and ForTi®, both of which offer the high temperature resistance and flowability essential for these applications. In consumer electronics, the quest for ‘thinnovation’ is likewise driving demand for these products, which find applications in the production of mobile phone antennas, splitters and frames. Also in the consumer sector, the growing popularity of wearable mobile devices is creating significant demand for products such as Arnitel®, which enables the creation of very light designs with a silky look and feel. Among other things, 2016 saw the inauguration of DSM NHU, a joint venture with specialty chemicals producer Zhejiang NHU Special Materials Co., Ltd., (NHU) to produce Xytron™ polyphenylene sulfide (PPS) high-performance compounds.

In 2016, we extended our portfolio of high-performance materials for water-cooling applications in automobile engines with the introduction of a hydrolysis-resistant grade of our high-performance bio-based polyamide, EcoPaxX®. EcoPaxX® Q-HG6/7 is very well suited to applications such as expansion tanks that need to resist coolants at high temperatures. The use of EcoPaxX® Q-HG6/7 enables component weight to be cut by as much as 30% compared with Polyamide 66. A recently-developed thin-walled “T” connector for a coolant hose in this grade was approved for use by a major German car manufacturer in 2016, going into commercial production a few months later.

Our commitment to the continued development of our innovative specialty engineering plastics portfolio was underlined by two investments in 2016. In the US, the expansion of DSM Engineering Plastics’ research & technology center in Troy (Michigan, USA) strengthened our product development and application capabilities in North America. In India, a new research & technology center in Ranjangaon, Pune was opened to support new product and application development and deliver rapid, specific test data for its products. The new facilities bring us yet closer to our customers in the respective regions and enable us to cut time-to-market still further for innovative new thermoplastic solutions and applications.

**Highlights 2016**

- Strong growth in life protection (next-generation armor technology)
- New apparel solutions positively received by key brands in the sports and lifestyle segment
- Launch of Dyneema® Carbon hybrid composite

DSM Dyneema reported total sales of €297 million in 2016 compared to €284 million in 2015.

DSM’s Dyneema® business is driven by our customers’ and end-users’ needs for lightweight, sustainable solutions that offer extreme durability coupled with improved safety and ergonomics. Dyneema® products typically replace traditional materials such as steel and aramid.

Dyneema® is the world’s strongest fiber™. It is 15 times stronger than steel on a weight-for-weight basis, 40% stronger than aramid, and floats on water. This combination of extreme strength and lightness makes it suitable for a wide and expanding range of applications.

DSM Dyneema has a well-established fiber solutions business serving the high-protective textiles and commercial marine & sports segments. We are also entering and forward-integrating into new segments and applications such as performance apparel, synthetic chains and radomes.

We are well positioned to capitalize on these opportunities. We have global product leadership based on unique, IP-protected technology platforms applied in an increasing range of end-use applications, often developed in close collaboration with industry partners.

Applications with Dyneema® push the boundaries of lightweight strength, offer comfort and safety, and are inherently more sustainable than the materials they replace. Products with Dyneema® weigh less, use less material, need less energy to...
process and deploy in their final application, and have longer lifetimes than products made with alternative materials.

DSM Dyneema experienced some headwind in certain markets in 2016 – for example, offshore mooring and protective gloves, on account of the low oil price and lagging industrial markets in certain regions. This was offset by two factors: on the one hand, strong growth in the life protection market, and on the other, our growth into the performance apparel market with Dyneema® fabrics.

In the life protection market, Dyneema® Force Multiplier Technology and Dyneema® Anti Stab Technology enjoyed strong uptake in 2016. Meeting high ballistic and anti-stab performance standards, Dyneema® offers significantly lighter, more comfortable, and more ergonomic solutions than are possible with aramids, ceramics, or other materials. Dyneema® is increasingly finding favor with law enforcement agencies such as the New York City Police Department due to its exceptional performance and wearability.

DSM Dyneema launched a new technology platform in 2016 with Dyneema® Carbon hybrid composite. Carbon fiber is light and strong, but tends to shatter when hit by small, sharp objects. Mixing carbon fiber with Dyneema® fiber solves this problem, creating a solution that offers significantly better impact resistance and vibration damping.

In 2016, the market responded positively to Black Dyneema® Diamond Technology, a fiber innovation aimed at heavy-duty gloves, among other things, which offers the highest level of cut protection and uncompromised comfort in industrial applications such as for metalworkers. Black Dyneema® Diamond Technology, which was launched toward the end of 2016, uses DSM Dyneema’s unique patented process to permanently embed color directly into the fiber.

We also made positive inroads into the sports & lifestyle markets in 2016. Dyneema® is the first genuinely new material to have been introduced to these markets for a long time, and is pushing the boundaries of strong, ultra-lightweight, comfortable, durable and protective solutions. During 2016, we significantly expanded our range of brand licensing partnerships in both existing and new markets. Collaborations with leading brands in these markets are in progress, and we see considerable untapped potential in this area. At the ISPO TEXTRENDS 2016 forum, seven different Dyneema® fabrics received ISPO Awards for ‘Best Products Spring/Summer 2016’.

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**Dyneema® strengthens Cone Denim’s cutting-edge offering**

Allen Little is Director of Product Development at Cone Denim – a company renowned for being at the cutting edge of denim. Allen discusses what Dyneema® adds to Cone’s offering.

“Denim isn’t just for workwear or fashion anymore,” Allen observes. “Consumers want their jeans to do more. With Dyneema®, we’re able to offer the authentic aesthetic that Cone is known for, combined with a modern design incorporating performance features such as strength and durability. Consumers can now wear performance jeans to go rock-climbing, skateboarding and motorcycling, before directly proceeding to a nice dinner and a night on the town.”

Working closely with Cone’s spinning and development partner Patrick Yarns, Allen and his colleagues learned how to perfect the spinning process specific to the Dyneema® fiber. They then used their own manufacturing plants to refine their processes for weaving the fabrics. “It was a challenge,” recalls Allen. “We wanted to make the best fabric out there – and I think we succeeded.”

Cone uses higher percentages of Dyneema® than common with other manufacturers, so the company’s denim has an exceptionally high level of strength, durability and abrasion resistance. These attributes are combined with Cone’s authentic designs, creating the best of both worlds. “The performance features are hidden to the eye,” explains Allen, “but they’re there when you need them. We’ve also incorporated all the different deniers and fiber types that Dyneema® has offered us – depending on the end-use and targeted customer.”

“Our partnership with DSM Dyneema is special,” Allen concludes. “We always search for the right partners in technology, and DSM is one of those. Cone is proud to be one of DSM Dyneema’s Premium Manufacturing Partners, and we’ve worked very closely with them to fine-tune the products we’re currently offering. When you look at the performance numbers on this fabric, they speak for themselves.”
Dyneema® has the lowest carbon footprint per unit of strength compared with alternative materials. Three factors combine to make it ‘the greenest strength™’: continuous improvements in manufacturing, ongoing R&D to further improve the fiber’s unique properties, and collaborations with clients and industry partners to invest in initiatives that foster a circular economy. Seismic survey vessels using ropes made with Dyneema®, for example, show 15% fuel savings and a 50% reduction in the amount of material used. Denim wear made with Dyneema® offers a 30% carbon-footprint reduction across its life cycle. And heavy-duty chains made with Dyneema® use 85% less material compared to the steel they replace, making them lighter, easier to handle and less noisy.

DSM Dyneema is also using its materials expertise to sponsor The Ocean Cleanup foundation, which aims to tackle the issue of waste plastics in the world’s seas. DSM is supplying Dyneema® material to maritime ropes supplier Lankhorst Ropes, and together providing the key technology for the mooring system for the foundation’s floating barrier.

Lankhorst made Lanko®Force ropes out of Dyneema® and these helped to secure the various elements of the barrier system. Lankhorst used Dyneema® SK78 grade fiber for the ropes in the prototype system; Dyneema® Max Technology will be used in the final system.

**DSM Resins & Functional Materials**

**Highlights 2016**

- Strong volume growth driven by sustainable specialties
- High growth in unique fiber-optic coatings
- DSM-Niaga joint venture technology ready to produce 100% recyclable carpet on commercial scale

DSM Resins & Functional Materials reported sales of € 904 million in 2016 compared to € 866 million in 2015.

The shift away from solvent-based coatings that contain hazardous materials to more sustainable coating technologies continues to shape the global coatings market. End-user preferences and legislation to reduce substances such as VOCs continue to drive this substitution process, offering attractive new opportunities to the providers of innovative specialty coating solutions.

DSM is a global leader in the development and production of these innovative solutions by offering waterborne, UV and powder coating resins with clear sustainability advantages over solvent-borne coatings.

![Driving the switch to waterborne coatings in China](image)

Since the beginning of 2014, the Chinese government has been paying increasing attention to environmental protection. This includes introducing more stringent regulations on VOC emissions from solvent-based coatings.

Ninety-five percent of the world’s sea freight containers are made in China, and almost all are painted with solvent-borne coatings. There are some 20 million containers currently travelling the world. In 2015, 2.5 million twenty foot equivalent containers were built, generating some 130,000 tons of VOC emissions and constituting one of the major VOC emission sources in China. Today, only a small number of these – some 20,000 in 2015 – are coated with waterborne coatings. A new container requires 60-70kg of paint. If all new containers were painted with waterborne coatings, this would require 165,000 tons of waterborne coatings a year – a very significant growth opportunity.

To mobilize industry support for the switch to waterborne coatings in China, DSM founded the Waterborne China Platform in 2010. This represents leading coatings, resins and additive manufacturers who are in a position to influence key bodies – such as the Guangdong Coating Association, the Container Owner Association and the China Container Industry Association, as well as the Chinese central and regional Environment Protection Bureau – in the drafting of VOC and coating standards for the container industry.

As a result, the Chinese container industry decided in 2016 to sign a convention to introduce waterborne coatings in two steps. Guangdong Province made the switch in July 2016 and the rest of the country will follow by April 2017. Working with paint and coatings customers such as Valspar (now Sherwin Williams), DSM Resins & Functional Materials is already seeing considerable growth in its business as a result.

Other industries and governing bodies are following suit. The Chinese furniture industry is switching to waterborne coatings ahead of the introduction of the relevant legislation, and Shenzhen Municipality has also forbidden the use of solvent-borne coatings for external wall applications.
In functional materials, DSM is the global leader in fiber-optic coatings. In additive manufacturing – 3D printing – DSM offers highly efficient and effective prototyping technologies and supports the industry in accelerating the pace at which new products are designed and brought to market.

DSM Resins & Functional Materials delivered strong volume growth in 2016. This was based on increased market share supported by growth in more sustainable specialty products and new solutions in collaboration with customers. Meanwhile we introduced innovative new products such as powder coatings for wood (Uralac® Ultra); the bio-based Discovery® product line; and new SOMOS® additive manufacturing lines such as Element (for complex casting structures) and PerFORM (for high graphic resolution).

During 2016, we strengthened our position in core markets such as industrial coatings, fiber-optic materials, architectural coatings and printing inks. Strong key account management in North America and high acceptance of powder coatings and waterborne coatings in Europe are driving current growth, while growing environmental awareness in China is fueling demand for more sustainable resin solutions instead of solvent-borne coatings.

A highlight of 2016 was the launch of the breakthrough waterborne interior furniture coating line IRIDEA Bio by ICA Group, an Italian specialist producer of wood coatings. IRIDEA Bio is fully co-branded with DSM’s bio-based Discovery® line. Meanwhile, our haptic resins portfolio is attracting increasing attention. These soft-feel resins give a product a matt appearance and a velvet-like feeling in addition to heightened color intensity, and are ideal for the luxury packaging industry. We also further extended the Uralac® EasyCure product range of sustainable powder coating resins, which offer faster curing at lower temperatures for metal substrates.

DSM’s UV-curable materials for optical fiber are recognized as the global standard in fiber protection. They help ensure greater signal reliability and field performance within fiber-optic networks as global bandwidth demand continues to surge. We offer telecommunications network owners a broad portfolio of DeSolite® Supercoatings. This portfolio was expanded in 2016 by the addition of High Efficiency DeSolite® Coatings, which provide enhanced processing robustness with excellent on-fiber performance and durability.

In 2016, we extended our partnership with Japan Fine Coatings Ltd., acquiring a controlling interest in the company, to strengthen our market position in Asia. DSM Resins & Functional Materials has gained a robust position in the fast-growing Chinese market and is capitalizing further on the ‘fiber-to-the-home’ trend in Europe and North America.

Toward the end of the year, DSM-Niaga, a joint venture between DSM and start-up company Niaga, announced that its Niaga® technology has been made ready for commercial-scale production of recyclable carpets. All carpets made with this technology can be fully recycled and made into new carpets of the same volume and quality, again and again. In scaling up the technology, DSM partnered with LACOM GmbH to develop a commercial-scale laminating machine based on the Niaga® technology, with DSM’s engineered adhesive. The machine uses up to 95% less energy than mainstream lamination processes and reduces water use to zero. Unlike a regular carpet, a carpet made with Niaga® technology does not contain any latex, PVC or bitumen.
Innovation Center highlights

“Innovation is about creating business from knowledge. The DSM Innovation Center ensures that the company always has a robust innovation pipeline. 2016 was a positive year for us, not just in terms of scientific achievements and financial performance but also regarding the holistic way we think about innovation at DSM.”

Rob van Leen, DSM Executive Committee

The Innovation Center reached Adjusted EBITDA break-even in 2016 as planned, and sales of innovative products introduced within the past five years were in line with our aspiration, at 22% of DSM’s total for the year. These are some of the more ‘hard’ statistics that testify to the value of the innovation approach within DSM. As we inevitably withdraw established products from our portfolio over the course of time, these need to be replaced by innovative new products – solutions that address key global trends and create a better future for people, today and tomorrow. That’s what we mean by turning DSM’s ‘Bright Science’ into ‘Brighter Living’.

We have made measurable advances since embarking on our company-wide innovation drive in 2006. The DSM Innovation Center has helped DSM become a top innovator, and we have successfully commercialized this achievement. Our margins on innovation sales are typically higher than on our regular products; and our speed of innovation has doubled since 2010, significantly reducing time-to-product and time-to-market. Our focus on the market potential of new concepts has helped improve the predictability of our innovation efforts, greatly increasing the chances of success for our new product pipeline.

We help create new business, and we also help accelerate the development of products already in the pipeline, cutting time-to-market so as to offer our customers the competitive advantages that come with transformational differentiation. This calls for a mentality that understands what is required to make science happen successfully. We foster this with our Excellence in Innovation program, a multiple roadmap of the innovation efforts of each of the business groups. We also support open innovation through partnerships, alliances and such initiatives as the SunRISE TechBridge Challenge.

In 2016, we took our collaborative efforts to drive societal change through science a stage further with our Bright Minds Challenge, aimed at accelerating a step-change in the role of solar in the energy mix. Last but not least, we encourage people who have the ‘soft’ skills to make science-driven partnerships work. For the work really starts when a deal is signed. A project will only succeed if the project team understands how to work creatively together – and that’s the mindset we promote at DSM.
Innovation Center

The DSM Innovation Center has two main functions. In the first place, it serves as a center of excellence to accelerate the innovation power and speed of our core businesses. In this role it also focuses on adjacent technologies for growth through its Corporate Research Program, which is steered by the Chief Technology Officer through the DSM Science & Technology Department, as well as through the DSM Venturing & Licensing activities. In its second function, the Innovation Center has a business development role, focusing on areas outside the current scope of DSM’s business groups. It identifies and invests in new and innovative growth options, initially through the DSM Business Incubator. Moreover, the Innovation Center is responsible for developing and extracting value from the company’s Emerging Business Areas (EBAs).

The Innovation Center made good progress in its results in 2016 with 6% organic growth, driven by higher volumes in both DSM Biomedical and DSM Advanced Solar. Profitability clearly improved due to a combination of organic growth, more focused innovation and reduction of costs. Adjusted EBITDA in 2016 achieved break-even, in line with the ambition of Strategy 2018.

Enabling DSM’s Bright Science

As a science-based company, the ability to deliver innovative products and solutions is essential to DSM’s business success and positive societal impact. As a center of excellence, our Innovation Center plays a central role in guiding, enabling and accelerating innovation and R&D across the company.

R&D is instrumental to the realization of DSM’s innovation strategy. Most of our expenditure in this area is directed toward business-focused programs, underpinning our science-based, sustainable solutions.

DSM has seven essential scientific competence areas which are key to the company’s continued success. These competence areas are in analytical, biological, chemical, engineering, macromolecular, materials and nutritional sciences. One of the Science & Technology Department’s objectives is to ensure that DSM has the right combination of skills, capabilities and partners to maintain and deliver on these competence areas. The DSM science network is made up of more than 2,000 internal scientists, including 25 professors and academic associates, working around the globe. They co-operate extensively with external R&D institutions, both in specific, bi-lateral, academic collaboration efforts as well as in broader public-private partnerships, such as the Bio-based Industries Consortium. For more information on R&D and innovation partnerships in 2016, see ‘Open innovation’ on page 27.

DSM filed over 220 patents in 2016. This is somewhat below our long-term average. It reflects our changed business portfolio and further focus in innovation projects, in particular aimed at delivering business impact in specific innovation growth areas.

We initiated a program to establish a new shared Materials Sciences Center to better service the Materials businesses’ current and future science needs. Joining forces across the Materials R&D organization will boost the ability of R&D to play a crucial role in the future growth and competitive position of the Materials businesses.

DSM Venturing & Licensing

DSM Venturing invests in early-to-late stage innovative companies in areas strategically relevant to DSM’s current and future businesses. Our portfolio consists of 25 active investment companies, and each year DSM Venturing reviews well over 500 new candidates. In 2016, DSM Venturing identified and added promising new investments in several start-ups, and also appointed two highly experienced venture investment managers.
DSM Licensing consists of a group of Certified Licensing Professionals and offers professional licensing expertise across all DSM businesses for intellectual property-intensive deals, such as joint development agreements, technology acquisitions and sales, as well as in-, out- and cross-licensing deals.

Developing new business for DSM

Emerging Business Areas

DSM’s EBAs provide strong long-term growth platforms in promising end-markets that are based on the company’s core competences in health, nutrition and materials. DSM has three EBAs:

- DSM Biomedical;
- DSM Bio-based Products & Services; and
- DSM Advanced Solar.

Taken together, the EBAs delivered € 16 million in Adjusted EBITDA in 2016.

DSM Biomedical

DSM Biomedical partners with the medical industry worldwide to shape the future of biomaterials and regenerative medical devices that improve patients’ lives. With global reach backed by a leading research and distribution network with facilities in the US and the Netherlands, DSM Biomedical’s portfolio, technologies and expertise enable medical device companies to advance care across medical specialties. These products address key trends in medicine, from treating an aging population to supporting more active lifestyles – meeting the need for safer, less invasive procedures that are also more cost-effective.

Through our investment in research and our state-of-the-art capabilities, we are able to create, develop and produce innovative materials for our customers, as well as components, sub-assemblies and full medical devices. Our portfolio of high-quality biomedical materials includes biomedical polyurethanes and polyethylene (PE), resorbable polymers, ceramics, collagen, extracellular matrices, silicone hydrogels, device coatings, and drug delivery platforms. These are used in applications in some of the world’s most attractive high-growth markets, including orthopedics, sports medicine, cardiology, ophthalmology, diabetes management, and general and reconstructive surgery.

While the global market for medical devices keeps growing, the healthcare sector overall is still undergoing significant change. Increasing cost pressure on healthcare providers is continuing to drive consolidation and cost focus throughout the continuum of care. A shift is underway toward value-based care; with this comes a drive to demonstrate proven clinical results, offer solutions that speed patient recovery, and provide additional value and/or bundled pricing in combination with quality products. Traditional medical device companies are developing into overall solution providers to hospitals and are focusing less on internal R&D, preferring to buy in novel innovations from third parties. These dynamics present medical device suppliers with new prospects and opportunities to capture the emerging R&D gap.

DSM Biomedical aims to outpace market growth with focused developments in high-growth segments of the medical device market including cardiology, neurology, ophthalmics, diabetic care, and orthopedics. Primary growth drivers are PE fibers in the cardiology market, Svelte DISCREET® (the first commercially available amino acid-based polysteramide bioreorbable drug-coated stent), and the continued growth of synthetic bone graft substitute products. The year 2016 saw new product launches in coatings and PE supplements, plus solid growth in established products (bone graft substitute, PE and polymers).

The Actamax joint venture together with DuPont reported very promising results from a 12-month, long-term follow-up study on the clinical use of its novel sprayable adhesion barrier device. Actamax has been making good progress to initiate clinical testing in the US market.

Other developments in the year included reinforcing our market-leading position in biomedical UHMWPE (DyneemaPurity®), establishing a partnership with Vention to provide customers with single-source access to coated medical devices, and developing an advanced breakthrough DSM proprietary drug delivery technology for the treatment of glaucoma.

DSM Bio-based Products & Services

As the world increasingly seeks alternatives to fossil resources and progresses toward a more sustainable, bio-renewable economy, significant commercial opportunities are presenting themselves in advanced biofuels and in renewable chemical building blocks such as bio-based succinic acid. DSM Bio-based Products & Services pioneers advancements in biomass conversion and seeks to demonstrate the commercial viability of sustainable, renewable technologies in collaboration with strategic partners in the value chain. The development and supply of high-value knowledge, ingredients and expertise in the field of bio-conversion technology are critical success factors. Our strategy is to license our technology and expertise to bio-based entrepreneurs, enabling them to convert biomass in a commercially viable and sustainable way.

Cellulosic bio-ethanol

The POET-DSM Advanced Biofuels joint venture has a commercial-scale production facility for cellulosic bio-ethanol in Emmetsburg (Iowa, USA). It processes corn-crop residues through a bioconversion process using enzymatic hydrolysis.

1 DSM’s interest in the net result is reported as part of ‘Share of the profit of associates and joint ventures’.
followed by fermentation. Work in 2016 focused on bringing the plant to continuous production and toward full capacity, and progress was made during the year on addressing the pretreatment issues. This facility is the first and, to date, the only commercial-scale producer of so-called ‘2G’ (second generation) cellulosic ethanol in the US. See also Note 10 ‘Associates and joint ventures’ on page 161.

We are furthermore leveraging the expertise and products DSM has built up in 2G to create new business in making the production of all generations of bio-fuels more efficient and sustainable. We work continuously on advances in yeasts that further increase ethanol yield. In June 2016, DSM announced a joint development project with ICM, Inc. ICM has developed a way to integrate a process for converting corn fiber to cellulosic ethanol with existing ‘1G’ (first-generation) ethanol plants, for which DSM is supplying its advanced yeasts. Superior performance has been demonstrated through multiple continuous runs at the ICM pilot plant.

Bio-succinic acid

The Reverdia joint venture between DSM and Roquette operates its Biosuccinium® plant in Cassano (Italy), where it produces high-quality bio-succinic acid. Reverdia is recognized as the technology leader in this field, and was awarded the number one spot in the 2016 ‘40 Hottest Emerging Companies in the Advanced Bioeconomy’ list. This ranking is an important industry endorsement of DSM’s innovation and achievement in bio-based chemicals and materials. The recognition builds upon a successful year for Reverdia. In April, paints and coatings producer Mäder announced that it would use Biosuccinium® in its new range of bio-based alkyd paints. In October, Reverdia announced a collaboration with Dezhou Xinhuarun Technology (China) to jointly develop and promote Biosuccinium®-based microcellular polyurethane foams. These will be used in soles for footwear and in further applications. Besides this, a joint development program on bio-based polybutylene succinate compounds for injection molding was launched by Reverdia and Wageningen Food & Biobased Research. After meeting a technical milestone related to its low-pH yeast technology, Reverdia is now investing substantially in market and application development, and saw its number of customers double in 2016.

DSM Advanced Solar

DSM Advanced Solar aims to accelerate the uptake and effectiveness of solar energy by focusing on the development and commercialization of technologies and materials that increase the efficiency of solar modules, reducing the cost of energy delivered.

This business was renamed DSM Advanced Solar at the end of 2016 to better reflect its broadening portfolio of solar technologies and materials. It performed well in 2016, with top-line growth exceeding the average growth rate for the solar PV (photovoltaic) panel market.
Downstream sales efforts and intensified partnerships with leading PV glass manufacturers resulted in a significant growth in our share of the anti-reflective coatings market. Debottlenecking of the manufacturing line in Sittard-Geleen (Netherlands) and transfer of the anti-reflective coating to a high solid grade ensured that production capacity met market demand, while reducing cost and carbon footprint, both for ourselves and for our customers. Our portfolio was expanded by the addition of an innovative backsheet sourced via an exclusive distribution agreement with Suzhou Sunshine New Materials Technology Co., Ltd. (China). Meanwhile, five solar material innovations were identified and earmarked for further development during the SunRISE TechBridge Challenge (reported on below under Innovation partnerships).

Our light-trapping textured surface technology showed considerable power output gain in outdoor tests during 2016 and generated significant customer interest. We will continue to further optimize technical performance before commercializing.

**DSM Business Incubator**

The DSM Business Incubator explores business opportunities in adjacent areas and future markets for DSM with a strong link to DSM’s technologies and competence base. Platforms are created within the scope of securing food, health and energy requirements of society, in close collaboration with industry partners and existing and potential customers. DSM’s Business Incubator has been instrumental in feeding the pipeline with opportunities that address customer needs.

In 2016, the DSM Business incubator worked on a range of projects. In our energy storage project, we developed three product lines, which will be further refined in 2017. Our R&D partnership with Syngenta to develop microbial-based crop protection solutions has made an excellent start, with promising initial leads. Our Proteins for the Future project is generating interest among customers. We are building a pilot plant at our biotech site in Delft (Netherlands) so as to be able to provide prototype products at scale in 2017.

**Innovation partnerships**

DSM’s innovation partnerships provide direct and indirect business opportunities as well as helping the company build its corporate brand along with its individual product brands.

Our ongoing partnership with the Nuon Solar Team achieved a further success in 2016. The team, composed of engineering students from Delft Technical University, won the Sasol Solar Challenge on 1 October by driving 4,716.7 km across the South African desert in eight days in a vehicle powered only by the sun. A major contributory factor was the adoption of DSM’s groundbreaking light-trapping technology to create a new solar module fixed to the top of the winning Nuna8S car; the use of this innovative textured surface also improved the vehicle’s aerodynamics.

The SunRISE TechBridge Challenge proved a highly effective way of identifying promising start-ups and boosting open innovation in 2016. The initiative is a collaboration between DSM, Fraunhofer TechBridge, and Greentown Labs. Of 56 applications, five early-stage companies were announced as winners of the 2016 SunRISE TechBridge Challenge, designed to identify innovations in solar materials and technologies to reduce the cost of energy for photovoltaic systems.

In 2016, DSM and Novozymes joined the newly created DIVA Ventures as co-founders, together with members of the World Business Council for Sustainable Development and pro bono counsel Pillsbury Winthrop Shaw Pittman LLP. DIVA Ventures exists to co-develop and co-invest in early-stage impact ventures in partnership with the world’s leading corporations.

**Bright Minds Challenge**

‘Science can change the world’, DSM’s campaign to highlight science’s key role in tackling the challenges faced by societies around the globe, entered a new phase in 2016. We moved from profiling unsung heroes of science, and the often overlooked societal impact that their ideas can have, to helping new heroes put their solutions into practice with our inaugural Bright Minds Challenge.

The 2016 Challenge was initiated by DSM, together with Accenture, Greentown Labs, Skoll Center for Social Entrepreneurship, the University of Oxford, Solarcentury, SolarAid, Sungevity, CPVT and NREL. It is designed to fast-forward the transition toward 100% renewable energy by stimulating the development of innovative, scalable solutions for solar and energy storage. The consortium will provide the most promising emerging solutions with commercial, technical and mentoring support to facilitate scale-up as quickly as possible. Anyone who has a renewable energy solution that can significantly advance the potential for solar or energy storage can submit an entry.

The winners will be announced in June 2017.
Corporate Activities

Any consolidated activities that are outside the three reporting clusters are reported as Corporate Activities. These comprise operating and service activities, as well as a number of costs that cannot be allocated to the clusters. While this segment reports net sales from its service units to third parties, it normally has a negative operating result.

Corporate Activities includes various holding companies, regional holdings and corporate overheads. The most significant cost elements are corporate departments and the share-based compensation for the company.

<table>
<thead>
<tr>
<th>Corporate Activities</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>71</td>
<td>76</td>
</tr>
<tr>
<td>Adjusted EBITDA</td>
<td>(105)</td>
<td>(122)</td>
</tr>
<tr>
<td>Adjusted operating profit</td>
<td>(141)</td>
<td>(169)</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>R&amp;D operating expenditure</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>Workforce at 31 December</td>
<td>2,447</td>
<td>2,716</td>
</tr>
</tbody>
</table>

**DSM Insurances**
The company retains a limited part of its material damage and business interruption and product liability risks via DSM’s captive insurance company. In 2016, the total retained damages were € 2.2 million.

**Corporate Research**
The Corporate Research Program (CRP) is aimed at developing key Science & Technology competences. The CRP, which falls under the responsibility of the Chief Technology Officer, typically funds competence development programs with a longer time horizon than those run by the business groups, and focus on competences that have a broader relevance for DSM. The CRP also supports Science & Technology programs that are carried out with external parties and programs covering relevant new trends.

**Share-based payments**
Under the DSM Stock Incentive Plan, performance-based and non-performance-based stock options are granted to senior management, and non-performance-based stock options are granted to certain employees in the Netherlands. The costs of these share-based payments amount to € 24 million (2015: € 23 million) and are reported under Corporate Activities. For detailed information, see Note 27 of the ‘Consolidated financial statements’ on page 188.
Partnerships

As part of DSM’s strategic transformation and move away from more commoditized and cyclical areas, we have established joint ventures for the pharma activities (DSM Sinochem Pharmaceuticals for anti-infectives in 2011 and Patheon for contract development and manufacturing services in 2014) and for the bulk chemical businesses in Polymer Intermediates and Composite Resins (ChemicaInvest in 2015).

The results of these joint ventures are reported under Share of the profit of associates and joint ventures and Other results related to associates and joint ventures in the ‘Consolidated income statement’ on page 135. See also ‘Associates and joint ventures’ on page 161.

These joint ventures have been created with the intention of ultimately exiting these businesses. We expect to extract significant value from monetizing these partnerships in the coming years.

DSM Sinochem Pharmaceuticals

<table>
<thead>
<tr>
<th>x € million (100%)</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>431</td>
<td>418</td>
</tr>
<tr>
<td>Adjusted EBITDA</td>
<td>62</td>
<td>57</td>
</tr>
<tr>
<td>Adjusted operating profit</td>
<td>34</td>
<td>28</td>
</tr>
<tr>
<td>Capital employed at 31 December</td>
<td>223</td>
<td>313</td>
</tr>
</tbody>
</table>

DSM Sinochem Pharmaceuticals (DSP) was formed in 2011 as a 50/50 joint venture between DSM and Sinochem Group, a Fortune 500 company. DSP is the global leader in sustainable antibiotics, next-generation statins and anti-fungals. DSP develops, produces and sells intermediates, active pharmaceutical ingredients (APIs) and drug products. It is at the forefront of technological and process developments for anti-infectives and cholesterol-lowering molecules, using environmentally-friendly technologies such as fermentation and enzymatic conversions to replace harmful chemical processes.

Headquartered in Singapore, the group has manufacturing sites and sales offices in China, India, Egypt, the Netherlands, Spain, the US and Mexico.

DSP is a market leader in enzymatic beta-lactam and statin APIs, with nearly 350 patented innovations in this field. Full backward integration gives a high level of control over its supply chain and the advantage of using its own high-quality APIs for its finished dosage formulations.

Sustainable antibiotics

All DSP’s high-quality PureActives® APIs are manufactured using enzymes, which allow the production of APIs with a much lower CO₂ footprint versus comparable chemically manufactured products. DSP also takes a lead role in promoting sustainable antibiotics and the fight against antimicrobial resistance (AMR). DSP works with partners in the entire value chain to buy, use and sell responsibly made antibiotics.

DSP has implemented the basic requirements for clean and sustainable antibiotics production globally: it operates dedicated waste water treatment plants at all manufacturing sites in combination with antimicrobial activity testing. In 2016, DSP became a signatory company to the UN Industry Roadmap on combating AMR and also joined the Pharmaceutical Supply Chain Initiative, which brings together the pharmaceutical industry to formalize, implement and champion responsible supply chain practices.

DSP’s leadership role in AMR was recognized by CEFIC, the European Chemical Industry Council, with the 2016 Responsible Care Award for Product Stewardship.

Patheon

<table>
<thead>
<tr>
<th>x € million (100%)</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>1,786</td>
<td>1,621</td>
</tr>
<tr>
<td>Adjusted EBITDA</td>
<td>364</td>
<td>366</td>
</tr>
<tr>
<td>Adjusted operating profit</td>
<td>247</td>
<td>191</td>
</tr>
<tr>
<td>Capital employed at 31 December</td>
<td>2,636</td>
<td>2,391</td>
</tr>
</tbody>
</table>

1 Book year 1 November until 31 October

Patheon was formed in 2014 as part of a USD 2.6 billion transaction between JLL Partners and DSM, which combined the businesses of DSM Pharmaceutical Products and Patheon, Inc. The company is a leading global provider of outsourced pharmaceutical development and manufacturing services ranging from formulation development to clinical and commercial-scale manufacturing, packaging, and life cycle management. The company is positioned to add scale, new value chain capabilities and technologies, as well as to expand its end-to-end service offerings as a comprehensive solution to support above-market growth and enhanced profitability.

On 26 July 2016, the company completed an initial public offering (IPO) of 34,226,191 ordinary shares at the price of USD 21.00 per share. As part of the IPO, DSM sold approximately 4.8 million shares. These led to a gain of
€232 million in the third quarter of 2016. DSM currently has a shareholding of approximately 34% in Patheon.

Patheon has continued to transform itself, having completed and successfully integrated five accretive acquisitions in the past five years. To further its growth, the company announced on 28 November 2016 that it will acquire a state-of-the-art API manufacturing facility in Florence (South Carolina, USA) from Roche Holdings. With the addition of this site, Patheon expands its capacity for manufacturing highly potent compounds, and adds capabilities to support solid-state chemistry, micronization, and eventually, commercial spray-drying.

### ChemicalInvest

<table>
<thead>
<tr>
<th>x € million (100%)</th>
<th>2016</th>
<th>2015¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>1,802</td>
<td>756</td>
</tr>
<tr>
<td>Adjusted EBITDA</td>
<td>107</td>
<td>(3)</td>
</tr>
<tr>
<td>Adjusted operating profit</td>
<td>(36)</td>
<td>(32)</td>
</tr>
<tr>
<td>Capital employed at 31 December</td>
<td>556</td>
<td>566</td>
</tr>
</tbody>
</table>

¹ Started 31 July 2015

ChemicalInvest is a global leader in the production and supply of caprolactam and a leading European supplier of acrylonitrile and composite resins. DSM has a 35% shareholding in the company.

### Caprolactam

Caprolactam is the raw material for polyamide 6 (PA6), also known as nylon 6. PA6 is used in diverse applications, ranging from carpets and textiles to car parts, electrical devices and packaging film. The caprolactam business operates under the Fibrant name. On 30 June 2016, Fibrant LLC announced the wind-down of its caprolactam production facility in Augusta (Georgia, USA), with caprolactam production at the site ceasing early November. The drawing rights contract in North America has been continued through another sourcing set-up via Fibrant.

### Acrylonitrile

ChemicalInvest is also a leading supplier in the European merchant acrylonitrile market. Acrylonitrile is a raw material for acrylic fibers, plastics, rubber, water treatment chemicals and a wide range of specialty products. This business operates under the name AnQore.

### Composite Resins

Composite Resins is a leading supplier in the European market and also has a production site in China. It provides resins solutions for lightweight composites used in trucks and trains, bridges, building facades, wind-turbine blades and trenchless pipe renovation. The Composite Resins business is branded Aliancys.
Financial policy

As a basis for and contribution to effective risk management and to ensure that the company is able to pursue its strategies, even during periods of economic downturn, DSM aims to retain a strong balance sheet and limit its financial risks.

DSM's Strategy 2018: Driving Profitable Growth has ambitious strategic and financial targets that are outlined on page 14. Within the context of this strategy, DSM aims to maintain a strong investment grade long-term credit rating.

Most of DSM’s external funding needs are financed through long-term debt. Debt covenants are not included in the terms and conditions of outstanding bonds and financing arrangements. DSM aims to spread the maturity profile of outstanding bonds in order to have adequate financial flexibility.

An important element of the company's financial policy is the allocation of cash flow. DSM primarily allocates cash flow to investments aimed at strengthening its business positions and securing the dividend payments to its shareholders. Remaining cash flow is further used for acquisitions and partnerships that strengthen DSM's competences and market positions in health, nutrition and materials.

DSM aims to provide a stable, and preferably rising, dividend. Dividends are paid out in cash or in the form of ordinary shares at the option of the shareholders, with a maximum of 40% of the total dividend amount available for stock dividend.

In order to cover its commitments under the dividend policy and under management and employee option plans, DSM buys back shares insofar as this is necessary and feasible. In the year, 5,200,000 shares were repurchased to meet these obligations (2015: 2,300,000 shares).

It is company policy to hedge 100% of the currency risks resulting from sales and purchases at the moment of recognition of trade receivables and payables. Additionally, operating companies may – under strict conditions – opt to hedge currency risks from firm commitments and forecasted transactions. The currencies giving rise to these risks are primarily USD, CHF, JPY and GBP. The risks arising from currency exposures are regularly reviewed when appropriate.

A business or partner that is targeted for acquisition should add value to DSM in terms of technological or market competences. Acquired companies are in principle required to contribute to DSM’s cash earnings per share from the very beginning and to earnings per share from the second year. In addition, they are required to meet the company’s profitability, sustainability and growth requirements. However, such requirements may not be appropriate in the case of small, innovative growth acquisitions, although the sustainability requirement will be upheld at all times.
Reporting policy

Reporting policy and justification of choices made
In this Report, DSM reports for the calendar year 2016. The company reports on its People, Planet and Profit information in such a Report on an annual basis. The previous DSM Integrated Annual Report was published on 1 March 2016.

In the Report by the Managing Board, DSM explains its vision and policy with respect to sustainability practices and reports on its activities in this field during 2016. In addition to disclosing data and developments in the categories of People, Planet and Profit, DSM also reports on the global societal megatrends that drive its strategy, its sustainability strategy, its sustainability governance framework, stakeholder engagement activities, and management approach on material topics. DSM proactively seeks out the views of its key stakeholders on issues of material importance to the company.

UN Global Compact
DSM has been a signatory to the UN Global Compact since 2007 and commits to annually report on progress in implementing the UN Global Compact’s 10 Principles in the areas of human rights, labor, the environment and anti-corruption. This Report is DSM’s Communication on Progress 2016, submitted to the UN Global Compact Office. DSM’s Code of Business Conduct, its Sustainability, Human Resources, and Safety, Health and Environment (SHE) policies, and its Supplier Sustainability Program are the foundations on which DSM applies the standards of the Global Compact.

DSM has also aligned its sustainability strategy with the Sustainable Development Goals (SDGs). DSM is familiar with the opportunities and responsibilities that the SDGs represent for DSM’s business, and while our mapping shows that we contribute to all of them, we have chosen to focus on the goals which most closely align with our strategic ambitions. In this report, we have started to build the SDGs into our reporting process, for example by mapping SDG reporting priorities in our value creation model, and our material topics.

Principles of the UN Global Compact

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Principle 3</td>
<td>Observance of the right to freedom of association page 47, page 98</td>
</tr>
<tr>
<td>Principle 4</td>
<td>Abolition of all forms of forced labor page 47, page 98</td>
</tr>
<tr>
<td>Principle 5</td>
<td>Abolition of child labor page 47, page 98</td>
</tr>
<tr>
<td>Principle 7</td>
<td>Precautionary environmental protection page 12, page 49 to page 55</td>
</tr>
<tr>
<td>Principle 8</td>
<td>Specific commitment to environmental protection page 25 to page 26, page 49 to page 55</td>
</tr>
<tr>
<td>Principle 10</td>
<td>Measures to fight corruption page 28, page 98 to page 100, page 103 to page 106</td>
</tr>
</tbody>
</table>

1 In 2016, DSM once again renewed its commitment to the UN Global Compact’s CEO Water Mandate; see ‘Stakeholder engagement’ on page 26

Global Reporting Initiative
DSM bases its sustainability reporting on international non-financial reporting guidelines. For this Report, the company used the Global Reporting Initiative (GRI) Standards. DSM is constantly (re-)assessing to what extent sustainability aspects become material to DSM and its stakeholders. In case specific indicators become relevant to the company’s sustainability performance, appropriate actions are taken that allow the necessary data to be collected so as to be able to disclose progress in the future. A detailed overview of how DSM reports according to the GRI Standards comprehensive indicators, including a reference to relevant sections in this Report, is provided on the company’s Integrated Annual Report website.

Integrated Reporting Framework
DSM aligns with the recommendations of the International Integrated Reporting Council (<IR>) Framework where possible. The intention of the <IR> Framework is to provide additional guiding principles and content elements for an integrated report. Aligning with the framework allows DSM to better identify and communicate how it creates value for DSM’s stakeholders in People, Planet and Profit, as well as the interconnection between these three dimensions.

Selection of topics
The topics covered in this Report were selected on the basis of input from internal and external stakeholders and the related materiality analysis, which assessed the relevance and impact of selected topics for DSM and its various stakeholders. On the
basis of the principle of materiality (using the GRI Standards),
DSM distinguishes between topics whose importance warrants
publication in this Report (relevant to both DSM and its
stakeholders), and topics whose importance warrants
publication on the company website only (topics important to
either DSM or its stakeholders). DSM reports on a selection of
its external recognition in the chapters ‘Stakeholder
engagement’ on page 24 and ‘Review of business in 2016’ on
page 62. Other examples of external recognition can be found
on the company website.

Scope
The People, Planet and Brighter Living Solutions data in this
Report cover all entities that belong to the scope of the
Consolidated financial statements, provided that DSM also has
operational control. As such, three small units have been
excluded from the scope. Planet reporting covers manufacturing
units where commercial production by DSM occurs.

Acquisitions and divestments
The HR data (People) for newly acquired companies are reported
from the first full month after the acquisition date. The Safety,
Health (People), Environment (Planet) and Brighter Living
Solutions data for newly acquired companies are reported at the
latest in the year following the first full year after acquisition,
because these companies’ reporting procedures first have to be
aligned with those of DSM. In the case of divestments, safety
data are consolidated until the moment of divestment and planet
data are reported to the last full year at DSM.

Planet methodology
The progress on the key environmental performance indicators
is evaluated and established on a yearly basis. Data on these
indicators are collected bi-annually for DSM’s large and medium-
sized sites. Small sites report annually. The data for the DSM
sites are based on these sites’ own measurements and
calculations, which are based on definitions, methods and
procedures established at corporate level. The site managers of
reporting units are responsible for the quality of the data. Data
are collected based on measurements and calculations in the
production processes, information from external parties (e.g. on
waste and external energy) and estimates based on expert
knowledge.

Reporting units have direct insight into their performance
compared to previous years and are required to provide
justifications for deviations above the threshold. For most
parameters, the threshold is set at 10%. The year-on-year
comparability of the data can be affected by changes in the
portfolio as well as by improvements made in the measurement
and recording systems at the various sites. Whenever impact is
relevant, it is stated in the Report. Details for the individual sites
as well as the methodology and calculations are published on
the company website, together with an explanation of the
definitions used.

People methodology
People and HR data are collected per business group and
consolidated at corporate level.

Brighter Living Solutions
In 2016, DSM changed the reporting of its sustainability as a
growth driver KPI from ECO+ to Brighter Living Solutions to
include People+, reflecting the company’s steering on the
impact of both Planet and People. For a definition of Brighter
Living Solutions, see ‘Brighter Living Solutions’ on page 22. DSM
reports twice yearly the percentage of Brighter Living Solutions
within its running business portfolio.

The sustainability assessments to support the qualification for
Brighter Living Solutions (ECO+ and People+ consolidated) are
made by internal Life Cycle Assessment (LCA) experts and
reviewed using the four-eyes principles with at least one internal,
independent senior LCA consultant. The financial data are
validated with the Corporate Sustainability department and
consolidated as DSM Brighter Living Solutions KPI performance
and reviewed by Group Control & Accounting.
Corporate governance and risk management

Introduction

Koninklijke DSM N.V. (Royal DSM) is a company limited by shares listed on Euronext Amsterdam, managed by a Managing Board together with an Executive Committee and with an independent Supervisory Board. Members of the Managing Board and the Supervisory Board are appointed (and, if necessary, dismissed) by the General Meeting of Shareholders.

The company is governed by Dutch law and by its Articles of Association, which can be consulted on the company website. The General Meeting of Shareholders decides on an amendment to the Articles of Association by an absolute majority of the votes cast. A decision to amend the Articles of Association may only be taken at the proposal of the Managing Board, subject to approval of the Supervisory Board.

DSM fully informs its stakeholders about its corporate objectives, the way the company is managed and the company’s performance. Its aim in doing so is to pursue an open dialogue with its shareholders and other stakeholders.

DSM has a decentralized organizational structure built around business groups that are empowered to carry out all short-term and long-term business functions. In 2015, DSM announced a number of adjustments to its organizational structure related in particular to its support and corporate functions as well as its regional organizations. The new organizational and operating model has created more clarity between businesses, regions and support and corporate functions. At the operational level, the business groups remain the cornerstones of the organization.

Managing Board & Executive Committee

Since 2015, DSM’s management structure has been strengthened by the establishment of an Executive Committee. The Executive Committee enables faster strategic alignment and operational execution by increasing focus on the development of the business, innovation and people. The members of the Executive Committee are the Managing Board members as well as four senior managers appointed by the Chairman of the Managing Board after consultation with the Supervisory Board. The Executive Committee focuses on topics such as the overall strategy and direction, review of business results, functional and regional strategies, budget setting, and people and organization.

The statutory responsibilities of the Managing Board have remained unchanged. The Managing Board is ultimately responsible for the company’s strategy, its portfolio management, the deployment of human and capital resources, the company’s risk management system, the company’s financial performance and its performance in the area of sustainability.

The Managing Board consists of three or more members, to be determined by the Supervisory Board. The current composition of the Managing Board can be found in the chapter ‘Supervisory Board and Managing Board Royal DSM’ on page 120. Since 2005, members of the Managing Board have been appointed for a period of four years.

The members of the Managing Board are collectively responsible for the management of the company. Notwithstanding their collective responsibility within the Managing Board, certain tasks and responsibilities for business clusters and functional areas as well as regional responsibilities have been assigned to individual members. This distribution of tasks is published on the company website.

The remuneration of the members of the Managing Board is determined by the Supervisory Board based on the remuneration policy approved by the General Meeting of Shareholders. The remuneration policy for the Managing Board can be found in the ‘Report by the Supervisory Board’ under ‘Remuneration policy for the Managing Board’ on page 114.

The functioning of and decision making within the Managing Board and Executive Committee are governed by the Regulations of the Managing Board, which are in accordance with the Dutch corporate governance code and can be found on the company website.

In 2016, the Managing Board had 18 formal meetings and 35 Executive Committee meetings, some of them by teleconference. No Managing Board members had to be excused from meetings during the year. In 10 Executive Committee meetings, a member was excused due to other commitments. In all cases, members who were unable to attend provided any input they had to the meeting in advance in writing or via other members.

Supervisory Board

The Supervisory Board consists of at least five members. The current composition of the Supervisory Board can be found in the chapter ‘Supervisory Board and Managing Board Royal DSM’ on page 120. Members of the Supervisory Board are appointed for a period of four years with a current maximum of three four-year terms.

All current members of the Supervisory Board are independent in accordance with the Dutch corporate governance code. The remuneration of the members of the Supervisory Board is determined by the General Meeting of Shareholders. The
The main powers of the General Meeting of Shareholders relate to:

- the appointment, suspension and dismissal of members of the Managing Board and the Supervisory Board;
- approval of the remuneration policy of the Managing Board;
- approval of the remuneration of the Supervisory Board;
- the adoption of the annual financial statements and declaration of dividends;
- release from liability of the members of the Managing Board and the Supervisory Board;
- issuance of shares or rights to shares, restriction or exclusion of pre-emptive rights of shareholders and repurchase or cancellation of shares;
- amendments to the Articles of Association; and
- decisions of the Managing Board that would entail a significant change in the identity or character of DSM or its business.

The Annual General Meeting of Shareholders is held within six months of the end of the financial year in order to discuss and, if applicable, approve the annual report, the annual accounts, any appointments of members of the Managing Board and the Supervisory Board, and any of the other topics mentioned above.

The Annual General Meeting of Shareholders was held on 29 April 2016. The agenda was to a large extent similar to that of previous years. Additional topics were the appointment of Pradeep Pant and the reappointments of Eileen Kennedy and Victoria Haynes as members of the Supervisory Board. One agenda item relating to an amendment of the Articles of Association was withdrawn prior to the meeting. Further details can be found on the company website.

Dutch corporate governance code

DSM supports the Dutch corporate governance code adopted in 2003 and amended in 2008, which can be found on www.commissiecorporategovernance.nl. DSM confirms that it applies all of the 113 Best Practices contained therein.

In 2016, the Monitoring Committee worked on an update to the Dutch corporate governance code, which was published on 8 December 2016 and will be applicable as of financial year 2017. DSM will ensure its continued compliance with the Dutch corporate governance code.

With respect to the appointment of members of the Managing Board for a period of at most four years (Best Practice II.1.1), it should be noted that DSM has adhered to this Best Practice since the introduction of the corporate governance code in 2004.
Since DSM respects agreements made before the introduction of said code, the current Chairman of the Managing Board will remain appointed for an indefinite period.

Any substantial change in the corporate governance structure of the company and in the company’s compliance with the code shall be submitted to the General Meeting of Shareholders for discussion under a separate agenda item.

All documents related to the implementation of the Dutch corporate governance code at DSM can be found in the ‘Corporate Governance’ section of the company website.

Governance framework

Organizational & operating model

Business groups are the main building blocks of DSM’s organization; they have integral long-term and short-term business responsibility and have at their disposal all functions that are crucial to their business success. As the primary organizational and entrepreneurial building blocks, they focus on four primary business functions: Innovation and R&D, Direct Sourcing, Manufacturing & Operations and Marketing & Sales. Intra-company product supplies are contracted by the business groups on an arm’s length basis.

The business groups are grouped into clusters, thus ensuring coherence of operations and the leveraging of resources within the cluster. The clusters are the main organizational entities for external strategic and financial reporting. This structure ensures a flexible, efficient and fast response to market changes. In order to ensure sufficient independence with regard to financial management, the Chief Financial Officer (CFO) has no business groups reporting to her.

DSM’s business groups receive services from global support functions and functional excellence departments and are supported by the regional organizations. This set-up enables DSM to create a global high-performing organization focused on meeting its targets and ambitions. The support functions and functional excellence departments are paid for the services they supply by the users, which are for the largest part the business groups and to a lesser extent other DSM units. Corporate departments are paid from a corporate budget.

Support functions provide those services that can be delivered more efficiently (in terms of total cost of ownership for DSM) by leveraging them across the company, thus capturing scale-benefits and delivering higher quality at lower cost, rather than having them arranged in each business group separately. Within support functions, centers of expertise provide specialist support, while shared service centers provide standard transactional support. Business partnering is the concept that acts as the interface between the business groups and the support functions. Business partners consequently have a second reporting line in the business. In order to ensure that the functional policies sufficiently reflect regional requirements, the support functions work closely with the regional organizations and integrate their advice. Each support function reports to a Managing Board member. There are support functions in the areas of Finance, People & Organization, Legal, Indirect Sourcing, Communications and IT. In the new operating model, corporate functions (small, high-level groups) supporting the Managing Board and Executive Committee are also seen as support functions. Corporate departments are Corporate Strategy & Acquisitions, Corporate Operational Audit, Corporate Risk Management, Corporate Sustainability, Corporate Investor Relations and Corporate Affairs.

Functional excellence departments are mandated by the Managing Board to help the businesses to achieve excellence. They cover the areas of Operations & Responsible Care, Marketing & Sales and Science & Technology. Functional excellence departments support businesses in improving their performance and provide guidance in setting aspiration levels and targets.

Governance framework

The following figure depicts DSM’s overall governance framework and the most important governance elements and regulations at each level.

For the sake of clarity, a short summary of the main aspects of the framework at Managing Board/corporate level and operational level is given here:

- The Managing Board and Executive Committee adhere to the Regulations of the Managing Board.
- The Managing Board and Executive Committee work according to the Management Framework for the corporate
level. This implies among other things that they adhere to the DSM Code of Business Conduct and applicable corporate policies and requirements. The Management Framework for the corporate level further provides a description of the most important (decision making) processes, responsibilities and ‘rules of the game’ at the Managing Board and Executive Committee, functional and regional levels and includes the governance relations with the next-higher levels (Supervisory Board and shareholders) and the operational units.

The company’s strategic direction and objectives are set in a Corporate Strategy Dialogue. The outcome of the most recent Corporate Strategy Dialogue was presented in November 2015 and is described in detail in DSM’s Integrated Annual Report 2015 and on the company website.

The operational units conduct their business within the parameters of the Management Framework for operational units. This implies among other things that they:

- comply with the DSM Code of Business Conduct, Corporate Requirements and Directives;
- establish the strategy, objectives and operational targets of their business according to the Business Strategy Dialogue, aligned with the Corporate Strategy Dialogue, and in which various scenarios and related risk profiles are investigated, and report on the achievement thereof;
- implement risk management actions according to an Annual Risk Management Plan and in line with corporate policies;
- execute DSM-wide standards for support functions (systems, processes, vendors, etc.); and
- execute the annual functional improvement plans, and monitor the effectiveness of the risk management and internal control system and regularly discuss the findings with the Managing Board and Executive Committee.

The frequency of auditing the operational units is based on the risk profile of the respective unit; on average this happens once every three to four years and is conducted by the Corporate Operational Audit (COA) department. The director of COA reports to the CFO and has access to the Chairman of the Managing Board, the external auditor and the Chairman of the Audit Committee of the Supervisory Board. Furthermore, the director of COA acts as the compliance officer with regard to inside information and is the secretary of the Disclosure Committee, as well as being chairman of the DSM Alert Committee, which is responsible for the DSM whistleblower policy, systems and processes. Chaired by the CFO, the Disclosure Committee ensures the timely and accurate disclosure of share price sensitive information related to the Company and is responsible among other things for the implementation of the DSM rules on the holding and execution of transactions in DSM financial instruments. In the Fraud Committee, relevant corporate functions participate under the chairmanship of the CFO. The objective of the committee is to ensure structural follow-up of fraud cases with the aim of reducing fraud risks.

Sustainability Governance Framework

Managing Board

Sustainability falls under the responsibility of the Managing Board. While CEO/Chairman of the Managing Board Feike Sijbesma is the primary point of contact, other members also chair sustainability topics and initiatives. In 2016:

- Feike Sijbesma oversaw sustainability as a key responsibility and company value as well as a business growth driver. He also oversaw DSM’s engagement with organizations including the United Nations and the World Bank, and the strategic partnership with the World Economic Forum;
- Stephan Tanda was responsible for Safety, Health and Environment (SHE), and chaired the Inclusion & Diversity Council. He was the primary contact for DSM’s partnership with the UN World Food Programme and other nutrition-related initiatives;
- Geraldine Matchett took care of integrating sustainability into financial decision making and represented DSM in the Accounting for Sustainability (A4S) CFO Leadership Network; and
- Dimitri de Vreeze oversaw DSM’s Supplier Sustainability Program and the sourcing of electricity from renewable sources in his responsibility for the Sourcing function.

Supervisory Board

DSM’s Supervisory Board has appointed its own Sustainability Committee to oversee progress against targets and report on the embedding of sustainability across the organization. For more details see ‘Supervisory Board report’ on page 108.

External Sustainability Advisory Board

Comprising a diverse international group of thought leaders, DSM’s Sustainability Advisory Board acts as a sparing partner for the Managing Board and senior executives, to help sharpen their focus on strategic issues, deepen their understanding of external stakeholder needs, conduct advocacy and handle dilemmas. This board met twice in 2016 together with the Managing Board and a number of senior executives. Subjects discussed included DSM’s corporate sustainability strategy, new business opportunities, sustainability and finance, sustainable animal proteins, and social innovation in Africa. The outcomes from such discussions led to recommendations and potential changes to DSM’s approach to its strategy and management of topics. This board also took the opportunity to host, together with members of the Managing Board, a round table with a number of DSM’s young professionals to discuss the topic: “The world with a climate deal: what has changed and what not?” They also joined DSM staff to celebrate being once again named worldwide sustainability leader in the Materials industry group in the Dow Jones Sustainability World Index. During the year, DSM welcomed new members Ndidi Nwuneli and Jessica Fanzo to this board; a further member, Robin
Chase, joined in January 2017. Sadly, Sustainability Advisory Board member Pamela Hartigan passed away in August. Pamela brought clear and insightful perspectives on social entrepreneurship and social innovation, and will be dearly missed.

### Sustainability Advisory Board

<table>
<thead>
<tr>
<th>Member</th>
<th>Background</th>
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<tbody>
<tr>
<td>Robin Chase (f)</td>
<td>Co-founder and former CEO of Zipcar, co-founder and board member of Veniam, board member of the World Resources Institute, and Tucows, and serves as an advisor to the French National Digital Agency and the USDOT’s Advisory Committee on Automated Transportation. Nationality: American.</td>
</tr>
<tr>
<td>Jessica Fanzo (f)</td>
<td>Bloomberg Distinguished Associate Professor of Ethics and Global Food &amp; Agriculture at the Johns Hopkins Berman Institute of Bioethics, the School of Advanced International Studies (SAIS), and the Bloomberg School of Public Health, Department of International Health, and Director of the Global Food Ethics and Policy Program (all based in the US). She has previously held positions in nutrition advisory, advocacy and research organizations in the US, Italy and Kenya. Nationality: American.</td>
</tr>
<tr>
<td>Paul Gilding (m)</td>
<td>Independent writer and corporate advisor on sustainability. Fellow at University of Cambridge Institute for Sustainability Leadership (UK). In 2011 he published his book “The Great Disruption”. In the 1990s, he was executive director of Greenpeace International. Nationality: Australian.</td>
</tr>
<tr>
<td>Ndidi Nwuneli (f)</td>
<td>Social entrepreneur and Founder of LEAP Africa and co-founder of AACE Food Processing &amp; Distribution Ltd. (AACE Foods), an indigenous agro-processing company in Lagos (Nigeria). She is also a partner at Sahel Capital, an advisory and private equity firm focused on the agribusiness and manufacturing sectors in West Africa. Nationality: Nigerian.</td>
</tr>
<tr>
<td>Ye Qi (m)</td>
<td>Cheung Kong professor of Environmental Policy and director of Brooking-Tsinghua Center for Public Policy at Tsinghua University in Beijing (China). Before he joined Tsinghua, he taught at Beijing Normal University, and the University of California at Berkeley (California, USA). Nationality: American.</td>
</tr>
</tbody>
</table>

1 Joined January 2017

### Global network

At a corporate level, sustainability is steered by the Sustainability Leadership Team, a group of senior executives representing the business groups and contributing corporate functions, which is chaired by the Vice President Sustainability. He leads the Corporate Sustainability department and reports directly to CEO Feike Sijbesma. The aim of the Corporate Sustainability staff is to be a business-oriented center of excellence and partner on sustainability, internally and externally.

The Sustainability Leadership Team meets quarterly to monitor the progress of sustainability across the company, with particular emphasis on steering the company’s business and innovation portfolio on key drivers. Regional operational sustainability networks are in place in China, India, Latin America, and North America.

The DSM Operations & Responsible Care department is responsible for all corporate issues related to SHE. The Senior Vice President DSM Operations & Responsible Care reports directly to the Managing Board. SHE managers provide support at business group level. The DSM SHE Council, which includes all business group SHE managers, is instrumental in sharing experiences and developing practices and communications on SHE issues.
DSM Code of Business Conduct

Business principles

The DSM Code of Business Conduct (‘the Code’), as introduced and rolled out from 2010, contains the company’s business principles across the three dimensions of People (11 principles), Planet (5 principles) and Profit (15 principles). These principles translate DSM’s mission and core value – sustainability – into daily practice across its business operations. All DSM employees are expected to act in accordance with the Code, and the Managing Board holds DSM’s unit management accountable for compliance. The Code is now available to employees in 19 languages and the full text of the Code can be found on the company website. An update to the Code and the corresponding training is foreseen in the course of 2017. This update will make the Code more concise and strengthen the business principles of the Planet dimension.

Umbrella function

The Code serves as an umbrella for several other DSM regulations and together they form the basis for the company’s ethical business behavior. These regulations are often supported by e-learning programs to train employees. Depending on the subject, this concerns either all employees or selected employees with a specific role in the organization. Integration and compliance plans, comprising among other things risk management and training on values, are rolled out whenever DSM acquires a business. DSM regulations cover the three dimensions of People, Planet and Profit, of which the most important are listed below:

People: To support DSM’s ambition to create an incident-free and injury-free workplace, the Life Saving Rules specify the 12 most important rules that must be followed by all employees to prevent serious or fatal incidents. An overarching Human Rights position paper bringing together existing human rights-related policies and procedures has been published on the company website. For more information, see ‘Human rights’ on page 47.

Planet: The Basic Course Responsible Care addresses the elements of the Responsible Care Program: Safety, Health and Environment; Product Stewardship; Security and Sustainability. Because of the importance of the Responsible Care principles for all functions and roles within the company, this course is mandatory for all DSM employees, as well as for selected contractor employees.

Profit: The Code of Business Conduct is comprised of 31 principles along the dimensions of People, Planet and Profit. Specific target audiences and the relevant e-learning programs are mentioned below.

Certification via e-learning for:
- All employees
- Specific target audiences
To come ‘alive’ via dilemma discussions
- Life Saving Rules
- Key Security Behaviors
- Competition Law
- Global Trade Controls
- Anti-Bribery & Corruption
- Unlawful Harassment Prevention
- Privacy

Dilemma Workshops (e.g. using UN Global Compact Dilemma Game)
**Profit:** DSM has e-learnings for Global Competition Law Principles and Practices and Global Trade Controls. Compliance with these subjects is structurally embedded in DSM’s systems and processes. As part of the global trade controls compliance process, DSM master data is screened to check customers and suppliers against embargoes and lists of sanctioned parties.

The DSM Anti-Bribery and Corruption (ABC) Policy and Compliance Manual has been communicated to targeted employees in commercial and business roles since 2014. Supporting classroom training and a refresher of the ABC e-learning was further rolled out in 2016. Special attention has been given to DSM’s employees and businesses in China, including the provision of a Chinese translation of the DSM ABC Policy and Compliance Manual, an easy-to-use ABC checklist for business people, and ABC classroom trainings in addition to the Competition Law classroom program. During the year a new ABC due diligence program was introduced with regard to agents and distributors. Relevant information on all these parties will be collected by questionnaire; independent audits of these parties may be conducted depending on the possible risks involved.

The Security e-learning covers all key security topics relevant to DSM’s business, including DSM’s seven Key Security Behaviors. To complete the e-learning, participants are required to read and sign off on the DSM Code of Conduct for Information Security. A classroom version of the training is available for locations without access to e-learning facilities.

DSM also has rules in place on the holding of and execution of transactions in DSM financial instruments and certain other financial instruments related to trading in DSM shares, and if applicable, shares and related financial instruments in other companies. These apply to all relevant DSM employees, including the members of the Managing Board and the Supervisory Board.

**Value chain**

The business principles most relevant for the supply chain are brought together in the Supplier Code of Conduct and structured along the three sustainability dimensions of People, Planet and Profit. The Supplier Code of Conduct (available on the company website in eight languages) is signed off by suppliers in framework contracts, whereby they confirm their commitment to sustainability among other things. For distributors’ and agents’ contracts, the ABC Policy is being translated into terms and conditions to ensure ethical business conduct when these third parties are acting on behalf of DSM or dealing with DSM’s products further down the value chain.

**Training and awareness**

DSM employees must refresh their training on the Code every two years. The implementation of this training program continues to progress well. At year-end, over 95% of all DSM employees had completed (or refreshed) their training, excluding employees of some businesses acquired recently. Parts of the training program are offered by the business units to selected contractor employees as well as to employees in DSM’s joint ventures.

A Code Review Team, chaired by the Vice President Corporate Risk Management, monitors implementation of the values training program as well as internal and external developments concerning corporate ethics to promote and safeguard the company’s values and reputation. Global monitoring and reporting is in place for all of the values trainings in DSM’s learning management system.

**People:** At the end of 2016, well over 95% of all DSM employees had completed the Life Saving Rules training, underlining the importance of safety within DSM. The Unlawful Harassment Prevention training also has a very good implementation level among relevant employees (98%). The target audience for the Data Privacy Knowledge course was broadened and further rolled out in 2016 and 90% of the targeted employees have already completed this training.

**Planet:** The Basic Course Responsible Care has now been successfully followed by over 95% of the employee population.

**Profit:** The first refresher to the ABC e-learning has been rolled out in 2016; taken over the year, this has been followed by more than 90% of all employees within the ABC target group. The training for Global Trade Controls and Security has been in place for longer and implementation levels remain good at 92% and 97% respectively. Additional training on Trade Controls Compliance has been given to zoom in on various business-specific aspects of this topic.

Those employees for whom competition laws are most relevant must complete an annual statement to confirm their compliance with the rules set forth in the DSM Competition Law Compliance Manual. In this statement they confirm that they are not aware of any violation of competition laws by DSM. Sign-off levels are excellent. Alleged breaches are reported to and discussed with Group Legal Affairs. In 2016, no breaches were reported and DSM was not subject to any investigation by competition authorities related to potential anti-competitive behavior.

**Dilemmas**

Living the Code can sometimes result in dilemmas that do not have a quick or clear answer. Dilemma workshops can be requested by the company’s units to prepare for these cases using the UN Global Compact Dilemma Game as a tool. The workshops build on DSM’s company culture, which is based on openness, fairness and trust. The aim is to create an open-minded atmosphere in which dilemmas can be discussed. These discussions are used to calibrate ‘what is right’ and ‘what is
Wrong’ in order to continuously improve business integrity in daily operations.

**Letter of Representation**

At the end of each year, the management of all 32 operational units directly reporting to the Managing Board (business groups, regions, others) sign off on a Letter of Representation. With this they confirm the compliance of the unit and its employees with applicable laws and regulations, the Code and related values trainings as well as corporate policies and requirements.

**Consequence management**

DSM applies zero-tolerance consequence management to violations of the Code. Under our whistleblower procedure (DSM Alert), most Code incidents are reported to, and dealt with by, local line management. In cases where reporting to line management is not considered appropriate, complaints are made directly to the DSM Alert Officer. In all cases, consequence management practices are in place (e.g. official warning, temporary suspension, dismissal) to support compliance with the Code. The DSM Alert Officer reports to the Managing Board and reports independently to the Audit Committee of the Supervisory Board twice a year. People who are not DSM employees but wish to raise a concern regarding a violation of the Code can also contact the DSM Alert Officer via the company website.

In 2016, 24 reports of a potential violation were received via the Alert channel, 3 of which were reported by an external person or party. While this is an increase compared to 2015 (16, of which 1 external report), it is broadly in line with the average of 22 alerts over the last 5 years. There were no bribery or corruption cases.

The table on the following page gives an overview of all reported Code violations, with a breakdown per Triple P dimension and per region. Proven serious violations of the Code can result in dismissal or other forms of consequence management. In line with this policy, 32 employees were dismissed in 2016 as a result of breaches of the Code or other legal or local company regulations. In addition, 76 cases were reported that have led to other kinds of consequence management (official warning or suspension). Overall this is at approximately the same level as 2015.

**People:** Most of the cases in the People dimension are related to violations of the Life Saving Rules or inappropriate behavior. Safety and health in the workplace has a priority for the company and incident-reporting channels are well known.

**Planet:** There were a few violations of the Code reported in the Planet dimension in 2016 due to seriously negligent or irresponsible behavior by employees. None of these violations led to serious environmental incidents.

**Profit:** Half of the cases that were reported in the Profit dimension were related to the incorrect registration of working hours. There were also a number of conflict of interest and fraud cases.
### Code of Business Conduct

<table>
<thead>
<tr>
<th>Training and awareness e-learning:</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of targeted employees trained</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Code of Business Conduct</td>
<td>97%</td>
<td>96%</td>
</tr>
<tr>
<td><strong>People</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Life Saving Rules</td>
<td>99%</td>
<td>96%</td>
</tr>
<tr>
<td>- Unlawful Harassment Prevention</td>
<td>98%</td>
<td>-1</td>
</tr>
<tr>
<td>- Data Privacy Knowledge</td>
<td>90%</td>
<td>-1</td>
</tr>
<tr>
<td><strong>Planet</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Basic Course Responsible Care</td>
<td>98%</td>
<td>93%</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Global Trade Controls</td>
<td>92%</td>
<td>90%</td>
</tr>
<tr>
<td>- Anti-Bribery and Corruption</td>
<td>93%(^1)</td>
<td>94%</td>
</tr>
<tr>
<td>- Security</td>
<td>97%</td>
<td>93%</td>
</tr>
</tbody>
</table>

### DSM Competition Law:

<table>
<thead>
<tr>
<th>% of targeted employees signed off</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>- DSM Competition Law compliance annual statement</td>
<td>99%</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Violations of the Code:

#### Number of dismissals/other consequence management

<table>
<thead>
<tr>
<th>Triple P breakdown</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>20/58</td>
<td>26/45</td>
</tr>
<tr>
<td>Planet</td>
<td>3/5</td>
<td>0/0</td>
</tr>
<tr>
<td>Profit</td>
<td>9/13</td>
<td>12/6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional breakdown</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe &amp; Africa</td>
<td>13/31</td>
<td>5/19</td>
</tr>
<tr>
<td>Americas</td>
<td>14/37</td>
<td>27/30</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>5/8</td>
<td>6/2</td>
</tr>
<tr>
<td>Total</td>
<td>32/76</td>
<td>38/51</td>
</tr>
</tbody>
</table>

### Alert cases (whistleblower procedure):

#### Number substantiated/not substantiated/under investigation

<table>
<thead>
<tr>
<th>Triple P breakdown</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>11/7/3</td>
<td>3/10/0</td>
</tr>
<tr>
<td>Planet</td>
<td>0/0/0</td>
<td>0/0/0</td>
</tr>
<tr>
<td>Profit</td>
<td>2/1/0</td>
<td>3/0/0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional breakdown</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe &amp; Africa</td>
<td>2/2/0</td>
<td>2/1/0</td>
</tr>
<tr>
<td>Americas</td>
<td>7/6/3</td>
<td>4/6/0</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>4/0/0</td>
<td>0/3/0</td>
</tr>
<tr>
<td>Total</td>
<td>13/8/3</td>
<td>6/10/0</td>
</tr>
</tbody>
</table>

\(^1\) No overall global data available for this period
\(^2\) Average of 4 quarters
Risk management

The Managing Board is responsible for risk management within DSM. With the support of the Corporate Risk Management department, which reports directly to the CFO, the Managing Board has designed and implemented a well-embedded risk management system and organization in all company units. Risk management at DSM is based upon the COSO-ERM framework, as depicted in the figure below, and this section is structured accordingly.

A full description of DSM’s risk management system and process together with a description of the identified risks is available on the company website. These descriptions are to be considered an integral part of this Report.

Mission / Internal environment

Values and business principles are a key element of the internal environment for risk management and form the starting point for the risk management cycle. DSM’s core value is sustainability, which is directly related to its mission to create brighter lives for people today and generations to come. All DSM employees receive regular training regarding values and business principles, covering generic and specific elements as required. This starts with an overarching training in the DSM Code of Business Conduct (CoBC) (see the company website) and is then further developed along the Triple P principles, whereby either all or else selected target groups of DSM employees are required to follow mandatory e-courses for risks related to People, Planet and Profit. See ‘DSM Code of Business Conduct’ on page 98.

- In 2016, the average implementation score across DSM for the values-related courses mentioned above further increased to more than 95%. This figure includes a new e-learning on Data Privacy Knowledge. Data protection is an area of increasing importance and societal interest. This course was introduced to increase awareness and further safeguard the data DSM holds on, for instance, employees, customers, suppliers and other partners in line with applicable legal requirements.

Strategy / Objective setting

- A corporate risk management plan has been developed to support the delivery of the strategic targets of DSM’s Strategy 2018: Driving Profitable Growth. This plan also forms the basis for the individual units to define their risk management year plans at either business group, (support) function or regional level. This plan was updated and incorporated in the incentive system applicable to certain (senior) managers in 2016.

- An important precursor to risk assessments is the company’s overall risk appetite, which is defined by the Managing Board. In 2016, DSM extended and updated its risk categories. This was followed by an update of the company’s risk appetite by the Executive Committee. The risk appetite depiction has been updated to show a somewhat more ‘hungry’ position on Generic/strategic risks in 2016; this is acknowledged as being a better reflection of DSM’s appetite, in particular with regard to innovation and talent management.
DSM’s Risk appetite

<table>
<thead>
<tr>
<th>Category</th>
<th>Averse</th>
<th>Minimalist</th>
<th>Cautious</th>
<th>Open</th>
<th>Hungry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic/strategic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g.: Innovation, People/organization/culture, Intellectual property, Raw materials/energy, Price/availability, Acquisitions and partnerships, Divestments, Brand)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g.: Reputation, Customer, Project management, Production process, Information-) Security, Business continuity, Product liability, Safety, Health and Environment)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial and reporting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g.: Liquidity and market, Reporting integrity, Pensions, Financial risks (e.g. credit, tax))</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal and compliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e.g.: Legal non-compliance, Non-compliance with DSM Requirements)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Risk assessment and response

- Risk assessments and corresponding mitigation plans are carried out at various levels in the organization. The Managing Board is responsible for the Corporate Risk Assessment (CRA). The full Executive Committee reaches consensus about the top risks DSM is facing and how to mitigate these, as well as how to respond to other important risks. The Corporate Risks are discussed on a regular basis by the Executive Committee and owners are assigned for the various risk mitigation plans. Several risks were reduced during 2016, for instance through the roll-out of SAP-GRC access controls for continuous control monitoring, which has nearly been finalized. Meanwhile some new risk elements emerged as indicated below, especially in the top risks section. The Executive Committee also defined monitoring actions for a slightly higher number of emerging risks that DSM might face in the longer term (details below).

- Various opportunities have been defined to further strengthen how risks are being assessed and mitigated across the various units. DSM intends to further improve the quality of risk management facilitation, challenge, and the definition and monitoring of mitigation actions, both in its running businesses as well as in projects. Potential risk correlations were also discussed to prevent – as far as possible – a scenario with a potential ‘domino effect’ of risks; see ‘Top risks’ in this section.

Monitoring and reporting

Various means of monitoring and reporting are in place, including risk committees and ICT tools. These provide a robust and continuous overview of the functioning of the common controls and the mitigation of common risks. The following points should also be noted:

- The Letter of Representation (LoR), which all reporting units are required to sign, also confirms their reporting integrity and provides an additional platform to report material risks and incidents including possible reputational risks. In 2016, we further strengthened the LoR procedure by requesting the units to also report potential deviations from laws and regulations and/or the Corporate Requirements that may occur for a given period due to specific circumstances; for instance, it takes time to train the employees at a newly acquired unit in all of DSM’s safety and ethical requirements. Another improvement in 2016 was the use of high-level risk findings, such as from the CRA and/or outside-in risk examples, to further complete and improve the quality of the LoR.

- Besides numerous external audits, DSM’s risk managers also support internal audits to check the effectiveness of the internal controls and risk and incident mitigations. Independent audits, including unannounced audits, were executed by the Corporate Operational Audit (COA) department in a program that was agreed with the Executive Committee and the Audit Committee of the Supervisory Board.

- Building on a new COA approach to executing end-to-end process audits, DSM has concluded that it should further strengthen end-to-end operational risk management. DSM also believes that in case incidents do occur, more in-depth root cause analysis will ensure that learnings can be better extracted and shared to prevent recurrence in the future.

- The consolidated overview of all aforementioned risks, incidents, audits and mitigating actions is the basis for this risk section and the statements of the Managing Board in accordance with the Dutch Financial Markets Supervision Act at the end of this section. It is additionally provided in the risk management section of the half-year figures.

Control activities

Control activities are carried out by the appointed unit risk managers and related unit risk committees, who regularly review:
DSM continued to implement new advanced ICT tools such as SAP-GRC covering access control, user provisioning and privileged user management for the majority of the company’s units. After some delay due to the development of the new target operating model for the Finance function, the Financial Shared Service Center started work on a pilot for the further implementation of financial process controls.

Information and Communication

Continuous efforts are made to inform employees about the DSM risk management system and train them in its use. In addition to the many initiatives from 2015 listed on the company website, the main 2016 deliverable was the further roll-out of updated and intensive risk management training programs in the US, China, Switzerland and the Netherlands.

In 2016, DSM received external recognition for its risk management approach, being named best in class in this respect in the Dow Jones Sustainability World Index, while the Dutch AFM (Autoriteit Financiële Markten) highlighted DSM’s reporting on Risk appetite and Top risks as good practices.

The company’s top and emerging risks

The preliminary outcome of the CRA was reported to and discussed with the Audit Committee of the Supervisory Board in the meeting of 6 December 2016. This ‘top-down’ outcome corresponded very well with the ‘bottom-up’ risks and incidents as reported by all the individual units in their LoR, as well as with the findings from the internal and external audits. This final risk profile was reported to and discussed with the Audit Committee on 13 February 2017 and forms the basis for the main risks and responses as reported on the next page.

Top risks

The table on the next page shows the four most important risks to DSM not achieving its targets as defined in Strategy 2018: Driving Profitable Growth as well as the remedial actions to mitigate them. Top risks have a potential impact on DSM’s EBITDA of approximately €30 million and over.

The top risks as defined in 2016 relate to the same topics as those identified in 2015. Besides a further sharpening of the definitions used to reflect both internal and external developments during the year, the main changes versus 2015 are:

- compliance aspects such as the implementation of training on values, segregation of duties, and follow-up of audits from various stakeholders;
- the execution, follow-up and quality of the relevant set of risk assessments; and
- best practices from internal and external sources to further strengthen DSM’s risk management cycle as well as to ensure appropriate risk management training for all employees at DSM.

- ‘Geopolitical, global financial and economic developments’ have become the number two top risk for our company (2015: number three) as geopolitical risks have increased, while at the same time oil prices have become very uncertain and more volatile.
- ‘People, organization and culture’ dropped to the number three position as a result of the implementation of the new talent management model, as well as the on-going roll-out of the new target operating model for the company.

Other important risks

Besides the top strategic risks reported on the right, the CRA has identified a number of other important (sometimes more operational) risks with a potential EBITDA impact of approximately €5 million and over; these include business continuity, product liability, cyber security, ICT complexity, intellectual property and raw material prices. Some of these risks, such as tax risks, are managed at corporate level, while others are managed at unit level through rigorous application of the DSM risk management cycle and its risk management practices as explained above. Some risks with the potential to emerge in the mid- and longer-term have been identified and discussed by the Managing Board and are reported in the following paragraph. The company’s risk management and internal control system has been designed to monitor and respond to these developments in a timely manner, however complete prevention or mitigation can never be achieved. A combined corporate and unit effort is ongoing to reduce potential ICT, cyber security and internal control-related risks.

Emerging & mid-term risks

The following three emerging and mid-term risks have been reported by the Managing Board (the first two of which were identified in 2015, with the third a new addition following the 2016 CRA) and are being carefully monitored so as to be able to mitigate them or use them as new opportunities in a timely manner:

- Slower development pace of some longer-term DSM Innovation projects such as Clean Cow, new natural sweeteners, etc. To secure these key projects as early as possible, DSM must ensure strict project governance, staffing, and adequate R&D and innovation budgets, as well as customer alliances.
- DSM’s Nutrition and Materials markets may be disrupted by longer-term changes in food preferences/food systems, such as the potential impact of climate change and health trends on animal protein consumption, and/or by innovations such as 3D printing, new systems replacing fossil fuels by energy from renewable sources, new mobility and transport options, and the circular and sharing economy. At the same time, these changes might also offer new opportunities in the value chains DSM serves.
- New: DSM may not be able to develop new business models fast enough to take advantage of digital transformation trends in all its market segments.
### Top risks and related mitigating actions

<table>
<thead>
<tr>
<th>Description of risks</th>
<th>Mitigating actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market environment</strong></td>
<td>DSM leverages its innovation power to differentiate in the value chain and secure growth. Furthermore, DSM is broadening its offering in terms of products, applications and customer base. Improved marketing and sales management programs should contribute to enabling DSM to increase/protect the value it captures, while the company plans timely capacity expansions and/or external sourcing to manage growth. This is strictly monitored by the Executive Committee.</td>
</tr>
<tr>
<td><strong>Geopolitical, global financial and economic developments</strong></td>
<td>The same mitigating actions apply to macro-economic developments as for risks related to the market environment. Furthermore, DSM continues to match cost and revenue currencies wherever possible, while the transactional exchange rate risk has been reduced by, among other things, the continued development of DSM’s acquired businesses in China and Latin America, which provide a measure of natural hedge with ‘local for local’ production. Improved scenario planning is being developed to secure continued delivery in line with targets even should the oil price deviate significantly from original assumptions.</td>
</tr>
<tr>
<td><strong>People, organization and culture</strong></td>
<td>DSM is adjusting its operating model and has strengthened its top leadership structure precisely to manage performance and drive the achievement of its objectives. A culture change program is on-going focused on a results-driven trust/support/can-do mindset. Moreover, DSM will speed up/be more progressive in rolling out its talent management approach. DSM will improve its existing capabilities by training and attracting additional competences if required.</td>
</tr>
<tr>
<td><strong>Program and project management</strong></td>
<td>DSM’s new way of working with its focus on Accountability (delivering the results) and Collaboration (increased speed) in combination with a new operating model and a new, strengthened, top structure should enable faster and better execution of the strategic cost and productivity improvement programs. Moreover, DSM continues to invest in change management and ongoing monitoring, which includes taking corrective actions where needed. So far these major programs are well on track.</td>
</tr>
</tbody>
</table>

In 2015, DSM finalized key transformation steps, completing the creation of a streamlined and simplified business portfolio and a good platform for growth, as 2016’s results have shown. Nonetheless the risk of facing increased competition for some product-market combinations remains, while DSM actively needs to manage capacity expansions for selected products.

DSM’s Strategy 2018 assumed no major economic downturn with a global GDP growth-rate of 3.2%, although economic headwinds might occur. Events such as major changes in the political landscape and/or an increase in oil price (volatility) may impact the Materials business in particular.

DSM assumed exchange rates versus the euro of approximately USD 1.10 and CHF 1.08, while future currency volatilities could have a significant impact on the achievement of DSM’s targets.

DSM has significantly altered its organizational structure and operating model, potentially temporarily affecting DSM’s capabilities in certain disciplines. The way DSM manages talent may also not be fully at the desired level to execute its plans for above-market growth or its cost and productivity improvement programs.

Besides achieving above-market growth in the period 2016-2018, EBITDA improvements have to be generated via cost savings to be derived from globally leveraging DSM’s support functions and a Nutrition-specific cost and productivity improvement program. Although DSM’s well-identified initiatives with targeted overall savings of €250-300 million in Adjusted EBITDA by the end of 2018 (versus the 2014 baseline) are on track at the end of 2016, the final delivery of the programs will continue to require strong program and project management.
Risk correlation

In terms of possible risk correlations, the potential geopolitical and economic headwinds mentioned in the top risk ‘Geopolitical, global financial and economic developments’ might also impact the top risk of ‘Market environment’; a domino or compounding effect could occur. This kind of potential risk correlation is visualized for the top four risks in the chart below. Correlated risks could either strengthen or partly mitigate one another.

![Risk correlation chart]

Broadly the same mitigating actions apply for these potentially correlated top risks. As a further mitigating action, DSM is strengthening its commercial capabilities as well as its innovation and sourcing strategies to secure insofar as possible the top-line growth and margins it targets.

Enhancement of the risk management system

A number of improvements to the risk management system were developed and implemented during the year, some of which have been mentioned above. The key improvements were:

- Compliance: DSM further strengthened the implementation score of the nine values-related trainings (which now include Privacy) to an average of above 95%. A program to improve the effectiveness and execution of the DSM Corporate requirements and related internal controls by simplifying them is underway. Improved learning from incidents and better operational end-to-end risk management are on the agenda for 2017 and onward.

- Risk assessments: improvements include updating and extending the list of risk definitions, while additional Executive Committee attention to the topic clearly strengthened the tracking of actions from the CRA. Potential risk correlations were also discussed to prevent – insofar as possible – situations with a potential ‘compounding effect’ of risks. Nonetheless, there is more work required to further enhance the quality of the risk assessments in terms of preparation, facilitation, challenging and defining mitigating actions.

- Risk solutions: an updated risk management training program was delivered to DSM’s largest regions. The inclusion of more outside-in views and the sharing of internal and external best practices contributed to risk management maturity.

- The Audit Committee of the Supervisory Board was given in-depth insight into the 2016 improvements to the DSM risk management system, including those areas recognized externally as best in class, as well as the areas for future efforts as mentioned above. This ensured that they remained fully involved and aware of the developments in enterprise risk management and how these risk management improvements (could) contribute to the achievement of DSM’s strategic objectives.
Statements of the Managing Board

On the basis of the above and in accordance with best practice II.1.5 of the Dutch corporate governance code of December 2008, and Article 5:25c of the Financial Markets Supervision Act, the Managing Board confirms that internal controls over financial reporting provide a reasonable level of assurance that the financial reporting does not contain any material inaccuracies, and confirms that these controls functioned properly in the year under review and that there are no indications that they will not continue to do so. The financial statements fairly represent the company’s financial condition and the results of the company’s operations, and provide the required disclosures.

It should be noted that the above does not imply that these systems and procedures provide absolute assurance as to the realization of operational and strategic business objectives, or that they can prevent all misstatements, inaccuracies, errors, fraud and non-compliances with legislation, rules and regulations.

In view of all of the above, the Managing Board confirms that, to the best of its knowledge, the financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the company, and the management report includes a fair review of the position at the balance sheet date and the development and performance of the business during the financial year, together with a description of the principal risks and uncertainties that the company faces.

Heerlen, 2 March 2017

The Managing Board

Feike Sijbesma, CEO/Chairman Managing Board
Geraldine Matchett, CFO
Dimitri de Vreeze
“My colleagues and I were keen to assess how well our company is using Strategy 2018 to drive the profitable growth for which we are so well positioned. It was pleasing to see the clear focus on delivery throughout the organization in 2016.”

Rob Routs, Chairman Supervisory Board

The past year brought our company an important step closer to its growth aspirations. Going into 2016, my colleagues and I on the Supervisory Board were keen to assess how well DSM is using Strategy 2018 to drive the profitable growth for which our company is so well positioned. We were pleased by the clear sense of direction that we witnessed on all sides, and by the strong focus on delivery throughout the organization.

During the year, the Supervisory Board dedicated two working sessions to assessing the execution of Strategy 2018. We were gratified to see that DSM as a whole is really in ‘delivery’ mode. The improvement programs are firmly on track and the business is growing. At the same time, the investments in talent development – the third key aim of Strategy 2018 alongside Adjusted EBITDA and ROCE growth – are bearing fruit.

A highlight of 2016 was our site visit to DSM Nutritional Products in Switzerland and Germany. This was an informative and also a very energizing trip. It gave the Supervisory Board a welcome chance to deepen our understanding of the various global industrial sectors that this business group serves. More than this, it provided valuable insights into DSM Nutritional Products’ growth opportunities, innovation platforms and philosophy of continuous improvement. We also very much welcomed the opportunity to meet some of our managers and employees in Switzerland and Germany, whose enthusiasm and commitment were inspirational.

Besides growth, we are also raising our sustainability aspirations as part of Strategy 2018. The Supervisory Board is very proud of our company’s achievements in this field in 2016. In the light of the substantial role he played in supporting the COP21 agreement, Feike Sijbesma was invited to co-chair the Carbon Pricing Leadership Coalition together with Minister Ségolène Royal of France – a great honor, and thoroughly deserved. Our CEO and Chairman also received a so-called ‘duurzaam lintje’ in the Netherlands, a decoration that recognizes his personal commitment to sustainability, which is our company’s core value.

Likewise very impressive was the professionalism with which DSM as a whole tackled the necessary improvement programs during 2016, which affected many of our colleagues. The year 2016 was a demanding one in many ways, but one in which we took a big step toward achieving our ambitions. On behalf of my colleagues on the Supervisory Board, I would like to thank our employees and Executive Committee for all their hard work and commitment in the past year, as well as thanking all the other stakeholders who continue to place their trust in our company. All in all, 2016 was a good year for DSM and we are on track for an even brighter future.
This Report provides further information on the way the Supervisory Board performed its duties in 2016. These concern supervising the policy pursued by the Managing Board, the Managing Board’s performance of its managerial duties and the general course of affairs within DSM and its businesses, as well as in assisting the Managing Board with advice, either upon request or proactively. Finally, these duties also include assessing the Managing Board’s performance and ensuring that their remuneration is both in line with that performance and provides the appropriate incentives.

Composition of the Supervisory Board

The composition of the DSM Supervisory Board is diverse in gender (four men, three women), nationality (three Dutch, one Swiss, two American and one Singaporean), background, knowledge and experience. The Board’s current members are Rob Routs (Chair), Tom de Swaan (Deputy Chair), Victoria Haynes, Pierre Hochuli, Eileen Kennedy, Pauline van der Meer Mohr, and Pradeep Pant. For detailed information on their background, see ‘Corporate Governance’ on the company website and page 120 of this Report.

The targeted profile of the Supervisory Board is reflected in its regulations, which are published on the company website under ‘Corporate Governance’. The Supervisory Board has four committees to cover key areas in greater detail: auditing, nominations (of the Supervisory Board and Managing Board), remuneration (of the Supervisory Board and Managing Board) and sustainability. Information on these committees is given elsewhere in this chapter. The charters of the committees are published on the company website under ‘Corporate Governance’.

Information

The Managing Board is the most important source of information for the Supervisory Board. Information is mainly submitted for Supervisory Board meetings but also provided around those meetings and in bilateral contacts between Supervisory Board and Managing Board members. At the start of each Supervisory Board meeting, the Managing Board shares news as well as highlights and lowlights since the previous meeting. This not only keeps the Supervisory Board informed, but also enables them to indicate any topics on which they would like to receive more information or have a discussion. Whenever the Supervisory Board as a whole or an individual member feels the need to be informed on a specific topic, this is requested; follow-up is provided by the Managing Board. In 2016, for example, following a continuous education session on cyber security, the Supervisory Board asked for an update of DSM’s IT strategy and on how DSM was viewing, grasping and, where applicable, pursuing opportunities and mitigating risks following developments in the digital arena.

The Supervisory Board furthermore regularly receives information on relevant topics from senior leaders and experts within DSM during committee meetings, full Supervisory Board meetings, annual site visits, and as part of their ongoing professional education. In 2016, this was the case with respect to the revision of the Dutch corporate governance code; economic and political developments in Latin America; the progress of the POET-DSM joint venture; talent development; and IT and cyber security. During its annual site visit, the Supervisory Board has and actively takes the opportunity to interact with employees at different levels within the company, from the shop-, lab- and work-floor to senior leadership, thus collecting information from different sources within DSM.

Relationship and stakeholder management

In performing its duties, the Supervisory Board acts in accordance with the interests of the company and the business connected with it, taking into consideration the interests of the company’s stakeholders. The Chairman of the Supervisory Board is in close contact with the CEO/Chairman of the Managing Board, as is the Chairman of the Audit Committee with the CFO. The Supervisory Board interacts with DSM employees on various occasions and in various settings. In general, bilateral contacts between Supervisory Board members and Managing Board members follow naturally from topics discussed in the Supervisory Board meetings and match the respective fields of expertise. In view of that expertise, Managing Board members also seek the advice of Supervisory Board members on specific matters. The same goes for bilateral contacts with other employees. Examples are a visit by the Chairman of the Supervisory Board to the POET-DSM plant in Emmetsburg (Iowa, USA) to gain a better understanding of the pretreatment issues at the plant and contribute his experience to solving these. Another member of the Supervisory Board met with DSM’s Senior Vice President Group Taxation to obtain a more in-depth understanding of DSM’s taxation policy. The members of the Sustainability Committee held an informal meeting to discuss how to get the most out of the Sustainability Committee meetings, as a result of which the concept of deep dives into specific topics was introduced. Our new member Pradeep Pant had numerous bilateral meetings and visited several sites as part of his introduction program. The Chairman of the Supervisory Board also met a group of senior DSM managers taking part in DSM’s executive leadership program to share his views on leadership with them. The Supervisory Board is informed of the position of other DSM stakeholders by the Managing Board. In addition, the Supervisory Board collects such information through its own network. The Supervisory Board has an active interest in maintaining a good understanding of shareholders’ perceptions.

Supervision and advice

The Supervisory Board performs its duties of supervising and advising the Managing Board both with respect to recurring
standard agenda items for Supervisory Board meetings as well as to specific topics that become relevant at a given point in time.

The most prominent regular agenda item is an update on business, financials and treasury topics. As part of this agenda item, the Supervisory Board tracks the financial performance of the company, approves the annual Finance Plan and deliberates on any additional treasury topics as applicable. The Supervisory Board thus discussed and approved the share buy-back program to cover the company’s commitments under existing management and employee option plans and to implement its stock dividend policy; the issue of bonds; and the hedging policy. Furthermore, the treatment of DSM’s cumulative preference shares A was discussed several times with the Supervisory Board.

In 2015, the Supervisory Board’s involvement in the development of Strategy 2018 went beyond supervision and approval. Part of the Supervisory Board meetings were used by the Managing Board for working sessions to ensure that the Supervisory Board’s expertise could be utilized to the full. In the spirit of these working sessions and in order for the Supervisory Board to track the execution of Strategy 2018, working sessions were again organized in 2016, one focusing on materials, and another on health and nutrition. During these sessions, the Supervisory Board was provided with a performance update as well as a growth outlook for the respective businesses. Breakout group discussions subsequently focused on whether enough was being done to execute the current strategy and the extent to which all relevant trends had been identified, either in terms of risks or opportunities. The Supervisory Board started the year assessing past acquisitions, investments and divestments to identify lessons learned going forward.

Site visit to DSM Nutritional Products (Switzerland and Germany)

Each year the Supervisory Board takes a number of days to visit DSM sites in a particular region. This year’s visit was fully dedicated to DSM Nutritional Products. The site visits offer an opportunity to interact with employees across the company as well as providing the Supervisory Board members with continuing education opportunities. The visit deepened the Supervisory Board’s understanding of DSM’s Nutrition activities, with the Board members gaining additional insights into the technologies used, DSM’s positioning in the value chains, and the business models applied.

The site visit began with a general overview of DSM’s largest business group, its organizational principles, people and financials. DSM Nutritional Products combines global production capabilities with customized local formulations. The site visit was designed in such a way that the Supervisory Board followed the manufacturing chain, starting with the manufacturing of base products, which was witnessed at the Lalden (Switzerland) site. These products are subsequently used to produce DSM’s final products in Animal Nutrition & Health, Human Nutrition & Health and Personal Care & Aroma Ingredients at locations around the world. Moving along the value chain, the Supervisory Board also visited the site in Grenzach (Germany), which produces vitamins B1, B2 and D3. Presentations on the different business units as well as on DSM’s current nutritional products innovation platforms completed the visit. Given the importance the Supervisory Board always attaches to customer intimacy and understanding, the program included a visit to the Nestlé Research Centre in Lausanne (Switzerland), Nestlé being one of DSM Nutritional Product’s major customers.

Town hall meeting with the DSM Supervisory Board in Switzerland
During the site visit, time was also spent to enable employees and the Supervisory Board to get to know each other. For the first time, the Supervisory Board held a ‘town hall’ meeting with employees, which met with overwhelmingly positive feedback.

An evening was spent with local executives discussing the execution of the strategy, culture and talent development, and the future of Nutrition. Finally, time was taken for reflection meetings in which the Supervisory Board shared its impressions with the Executive Committee members who participated. During these meetings, the Supervisory Board members shared any specific advice they had pertaining to the business models applied and technologies used, as well as to talent development.

**Supervisory Board meetings and performance evaluation**

In 2016, the Supervisory Board had six meetings in the presence of the Managing Board. On two occasions, a member was excused on health grounds and on two other occasions a member was excused due to conflicting commitments. The Supervisory Board held one additional conference call to assess the subsequent event procedure performed between the publication of DSM’s full year results 2015 and the publication of its 2015 financial statements.

The Supervisory Board also convenes in the absence of the Managing Board, which happens either before or after each meeting.

A Supervisory Board evaluation is performed once every three years by an external advisor; this was again the case in 2016. The evaluation was carried out on the basis of a short written questionnaire, followed by more in-depth one-on-one interviews between the external advisor and individual Supervisory Board members. In completing his assessment, the external advisor also interviewed the members of the Managing Board, the Executive Vice President Group People & Organization, and DSM’s Company Secretary. As part of the evaluation, the collective performance of the Board and its Committees and the performance of the Chairman were assessed.

The overall feedback from the evaluation is that the Board has made good progress in its development as a team: it has a balanced composition and works well together in a very open atmosphere, also in the discussions with the Managing Board. Interactions are both supportive and respectful as well as challenging; there is a constructive and collegial meeting culture. The advice going forward was to maintain or perhaps even increase the amount of time spent on strategy, including insights into DSM’s competitive environment, customer focus, developments in the markets in which DSM operates, and the impact of digitization. This outcome was presented to and discussed with the Supervisory Board in December, in the absence of the Managing Board.

The Board established that all of its members are committed to allocating sufficient time and attention to the Board’s duties of supervising and advising the Managing Board. Given some of the conflicting commitments that arose during the year, it was agreed to come to an additional planning effort to avoid such conflicts in the future.

**Committees**

The Supervisory Board has four committees to cover key areas in greater detail: nominations, remuneration, sustainability and auditing, which are described in more detail below.

**Board nominations**

Members of the Nomination Committee are Rob Routs (Chair), Eileen Kennedy and Pauline van der Meer Mohr. Feike Sijbesma and Peter Vrijzen, Executive Vice President Group People & Organization, were also involved in the discussions of the Committee. The Committee met five times in 2016, once via conference call. The recommendations and minutes of all Nomination Committee meetings were shared with the entire Supervisory Board. This feedback included advice and recommendations regarding topics to be approved by the full Supervisory Board.

In 2016, nomination discussions were focused on succession planning for both the Managing Board and the Supervisory Board. With respect to the Managing Board, the discussions were focused on the talent pipeline available for succession of Managing Board members. The Nomination Committee also discussed the proposed nomination for reappointment of Dimitri de Vreeze, whose first term as Managing Board member will end in 2017. At the end of the year, discussions also covered the arrangements around the departure of Stephan Tanda. The responsibilities of Stephan Tanda have been re-arranged among the Managing Board and Executive Committee members.

The Supervisory Board assessed the composition of the Managing Board following Stephan Tanda’s departure. It concluded that the Managing Board is still diverse in nationality (two Dutch and one member being a Swiss, British and French citizen), gender (two men, one woman), background, knowledge and experience, and provides a good foundation to support all clusters and business groups in achieving their targets and thus contributing to the company strategy aimed at driving profitable growth. For detailed background information on all Managing Board members, see the company website under ‘Corporate Governance’ and page 120 of this Report.

Taking into account the Supervisory Board profile as laid down in the Supervisory Board regulations, the Nomination Committee continued discussions on the overall composition of the Supervisory Board and discussed the succession planning for the Supervisory Board. Both Pierre Hochuli and Tom de Swaan are approaching the maximum tenure as members of the Supervisory Board (as per the 2017 and 2018 Annual General Meetings of Shareholders respectively). The Nomination Committee consequently spent a reasonable amount of time on
the profiles of new Supervisory Board members to be attracted in the coming years, and searches for new Board members were initiated in the year.

Board remuneration
The Remuneration Committee had five meetings and two conference calls in 2016. Pauline van der Meer Mohr (Chair), Victoria Haynes, Rob Routs and Tom de Swaan are members of this committee. Recommendations and minutes of the Remuneration Committee meetings were shared with the full Supervisory Board and used to determine the final remuneration of the members of the Managing Board.

Discussions were focused on the performance and the related remuneration of the members of the Managing Board, both in respect of company and individual performance in 2016, as well as as the way the current remuneration policy should be applied given the targets set as part of Strategy 2018: Driving Profitable Growth. Felike Sijbesma and Peter Vrijen were also partly involved in these discussions.

Sustainability
The Sustainability Committee prepares the Supervisory Board’s discussions on sustainability topics. The Sustainability Committee met three times in 2016. One member had to excuse himself once for health reasons. The members of this Committee are Eileen Kennedy (Chair), Pierre Hochuli and Pradeep Pant. The Chair of the Supervisory Board has a standing invitation and participated in all meetings. The recommendations and minutes of these meetings were shared and discussed with the entire Supervisory Board during its meetings with the Managing Board. This feedback included advice and recommendations regarding topics to be approved by the full Supervisory Board, in particular the sustainability reporting in this Report. With the ‘Independent assurance report on the sustainability information’ by KPMG on page 211 of this Report taken into consideration, the full Supervisory Board approved the reporting in these sections in its meeting of 2 March 2017. The Sustainability Information is in compliance with the Standards of the Global Reporting Initiative and the internal reporting criteria of DSM, which are included in this Report, and is also aligned with the International Integrated Reporting Council <IR> Framework where possible.

During the year, a recurring topic has been DSM’s performance on its People and Planet aspirations with a focus on Brighter Living Solutions, Responsible Care and Inclusion & Diversity. Through these discussions, the Sustainability Committee followed up on the progress made with the implementation of the sustainability and safety aspirations set by the company as part of its Strategy 2018. Deep dives were made into Planet (DSM’s road to reducing greenhouse-gas emissions) and People (DSM’s Personal Care product Alpafloc® Edelweiss was discussed as an example of the People+ assessment for Brighter Living Solutions). The Committee was also briefed on the newly introduced Product Category Sustainability Report, which identifies environmental and social impact differentiators for each of DSM’s product categories and confirms minimum compliance levels. Furthermore the Committee was updated on DSM’s performance in the Dow Jones Sustainability World Index (DJSI). The Committee’s view that DSM is doing well when it comes to sustainability is supported by the fact that in 2016 DSM was named the leader in its industry in the DJSI and has thereby maintained its position in the so-called Gold Class.

Financials and auditing
The activities of the Supervisory Board in the area of financials and auditing are prepared by the Audit Committee. The Audit Committee met six times in 2016, of which three times via conference call. Tom de Swaan (Chair), Victoria Haynes, Pierre Hochuli and Pradeep Pant are members of the Audit Committee. All Supervisory Board members have a standing invitation to attend Audit Committee meetings; they do so most often for the regular conference calls in which financial developments and interim results are discussed. The Chair of the Supervisory Board participated in all meetings and calls. Whenever relevant, managers responsible for corporate control, internal audit, risk management, and operational audit and compliance were invited to explain developments in their areas to the Audit Committee. DSM’s external auditor KPMG, the CFO and occasionally the CEO also participated in the Audit Committee’s meetings and calls. At least once a year, the Audit Committee meets with the external auditor without the Managing Board being present. Two such meetings took place in 2016. The highlights and the minutes of all Audit Committee meetings were shared with the full Supervisory Board. This feedback included advice and recommendations regarding topics to be approved by the full Supervisory Board.

The Committee had in-depth discussions on the company’s financials; financing and guarantee plan; capital expenditure plan; dividend proposals; financial statements; accounting policy changes; internal risk management and control systems; potential risks (including Safety, Health and Environment (SHE) and security risks); compliance with recommendations and observations made by internal and external auditors, and on the role and functioning of the Operational Audit department, including the endorsement of its proposed audit plan. As part of the Corporate Risk Assessment, the company’s main risks and their mitigation were discussed. The Committee also discussed and evaluated cases submitted under DSM’s whistleblower policy (DSM Alert), and mitigating actions to prevent recurrence. Discussions were held with KPMG about the Management Letter and financial statements for 2016. As part of the planning process, key audit matters dealing with, among other topics, impairment triggers, on-going litigation and the accounting of the results of ChemicalInvest were explained and shared with the Audit Committee.

Financial statements 2016
The Report by the Managing Board and the financial statements for 2016 were submitted by the Managing Board to the
Supervisory Board, in accordance with the provisions of Article 30 of the Articles of Association, and subsequently approved by the Supervisory Board on 2 March 2017. The financial statements were audited by KPMG, who issued an unqualified opinion (see the ‘Independent auditor’s report’ on page 206). The Supervisory Board established that the external auditor was independent of DSM.

The Supervisory Board will submit the 2016 financial statements to the 2017 Annual General Meeting of Shareholders, and will propose that the shareholders adopt them and release the Managing Board from all liability in respect of its managerial activities and release the Supervisory Board from all liability in respect of its supervision of the Managing Board. The profit appropriation as proposed by the Managing Board and approved by the Supervisory Board is presented in the Profit section of the 2016 Integrated Annual Report.
Remuneration policy for the Managing Board

This chapter outlines the remuneration policy as approved by the Annual General Meeting of Shareholders. Details of the actual remuneration in 2016 as prepared by the Remuneration Committee and approved by the Supervisory Board can be found in Note 12 of the ‘Parent company financial statements’ on page 199.

Remuneration policy

The objective of DSM’s remuneration policy is to attract, reward, motivate, incentivize and retain qualified and expert individuals that the company needs in order to achieve its strategic and operational objectives, while acknowledging the societal context around remuneration and recognizing the interests of DSM’s stakeholders. The following elements are taken into consideration:

- The remuneration policy reflects a balance between the interests of DSM’s main stakeholders as well as a balance between the company’s short-term and long-term strategy. As a result, the structure of the remuneration package for the Managing Board is designed to balance short-term operational performance with the medium- and long-term objective of creating sustainable value within the company, while taking into account the interests of its stakeholders. DSM strives for a high performance in the field of sustainability and aims to maintain a good balance between economic gain, respect for people and concern for the environment in line with the DSM values and business principles as reflected in the DSM Code of Business Conduct.
- To ensure that highly skilled and qualified senior executives can be attracted, motivated and retained, DSM aims for a total remuneration level that is comparable to levels provided by other (Dutch and European) multinational companies that are similar to DSM in terms of size and complexity.
- The remuneration policies for the members of the Managing Board and for other Executive Committee members as well as other senior executives of DSM are aligned.
- In designing and setting the levels of remuneration for the Managing Board, the Supervisory Board also takes into account the relevant statutory provisions and provisions of the Dutch corporate governance code, societal and market trends and the interests of stakeholders.
- DSM’s policy is to offer the Managing Board a total direct compensation approaching the median of the labor-market peer group.

No adjustments to the remuneration policy for the Managing Board in 2016

There were no adjustments to DSM’s remuneration policy in 2016. The policy was last adjusted in 2013.

The approved adjustments at that time did not change the overall remuneration model for the Managing Board. This model is based on providing fair compensation approaching the median, and consists of a base salary and a well-balanced mix of Short-Term and Long-Term Incentives. Both the Short-Term Incentive (STI) and the Long-Term Incentive (LTI) consist of two equal parts, one of which is linked to financial targets and the other to sustainability and in addition – for STI only – individual targets.

Labor-market peer group

In order to be able to recruit the right caliber of people for the Managing Board and to secure long-term retention of the current Board members, DSM takes external reference data into account in determining adequate remuneration levels. For this purpose, a specific labor-market peer group has been defined which consists of a number of Dutch and European companies that are more or less comparable to DSM in terms of size, international scope and complexity in business portfolio. The Supervisory Board regularly reviews the peer group to ensure that its composition is still appropriate.

The labor-market peer group for 2016 consisted of the following 16 companies (eight of which are peers on the Amsterdam stock exchange, the other eight being European industry peers):

<table>
<thead>
<tr>
<th>Labor-market peer group</th>
<th>DSM Remuneration Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>AkzoNobel</td>
<td>KPN</td>
</tr>
<tr>
<td>ASML</td>
<td>LANXESS</td>
</tr>
<tr>
<td>Clariant</td>
<td>Lonza</td>
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<tr>
<td>Covestro</td>
<td>Philips (Health Tech)</td>
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<tr>
<td>Evonik</td>
<td>Randstad</td>
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<tr>
<td>Givaudan</td>
<td>Reiz (Reed Elsevier)</td>
</tr>
<tr>
<td>Heineken</td>
<td>Solvay</td>
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<tr>
<td>Johnson Matthey</td>
<td>Wolters Kluwer</td>
</tr>
</tbody>
</table>

As part of its remuneration policy DSM will benchmark its remuneration package against the packages offered by the labor-market peer group once every three years, potentially leading to adjustments. In addition, the company may apply a yearly increase to the base salary based on the ‘general increase’ (market movement) for DSM executives in the Netherlands.

The remuneration policy was benchmarked against the peer group in Q4 2016. DSM aims to offer the Managing Board members a total direct compensation approaching the median of the labor-market peer group. The Supervisory Board of DSM has determined that the remuneration level of the CEO during the past years was clearly lower than the median of the pre-determined peer group (lowest quartile). This is due to the conservative approach of the CEO regarding his own remuneration. The remuneration of the other members of the Managing Board is at median level. The DSM remuneration policy is to pay the Managing Board at a level approaching the median of the peer group. For the CEO this resulted in a...
substantial gap in total rewards (base salary and related pension entitlement, STI and LTI) versus peers. In order not to increase the total remuneration gap further the Supervisory Board decided to grant a one-time amount allocated as a pension contribution.

**Total Direct Compensation (TDC)**
The total direct compensation of the Managing Board consists of the following components:

(I) Base salary
(II) Variable income
   - Performance-related STI (Deferral and Share Matching Plan)
   - Performance-related LTI (Restricted Share Plan)

In addition to this total direct compensation, the members of the Managing Board participate in the Dutch pension scheme for DSM employees in the Netherlands and are entitled to other benefits, such as a company car and representation allowance.

Value as percentage of Total Direct Compensation (on target):

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<table>
<thead>
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<tbody>
<tr>
<td>A: Base salary</td>
<td>50%</td>
</tr>
<tr>
<td>B: Variable income (STI + LTI)</td>
<td>50%</td>
</tr>
<tr>
<td>Total Direct Compensation (TDC)</td>
<td>100%</td>
</tr>
</tbody>
</table>

1. LTI at discounted fair value

**Base salary**
On joining the Board, the Managing Board members receive a base salary that is comparable with the median of the labor-market peer group. Base salary levels are reviewed based on a three-year remuneration benchmark. In addition, the company will, when appropriate, apply a yearly increase to the base salary based on the ‘general increase’ (market movement) for DSM executives in the Netherlands, taking into account the general movements of the labor-market peer group as well. Adjustment of the base salary is at the discretion of the Supervisory Board.

**Variable income**
The variable income part of remuneration consists of the Short-Term and Long-Term Incentives. The distribution between Short-Term and Long-Term Incentives for (on target) performance aims to achieve a proper balance between short-term result and long-term value creation. The parameters relating to the various elements of the variable income part of the remuneration are established and where necessary adjusted by, and at the discretion of, the Supervisory Board, taking into account the general rules and principles of the remuneration policy itself.

**Distribution of variable income (on target):**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Short-Term Incentive (STI)</td>
<td>(50% base salary)</td>
</tr>
<tr>
<td>B: Long-Term Incentive (LTI)</td>
<td>(50% base salary)</td>
</tr>
<tr>
<td>Total variable income as % of base salary</td>
<td>100%</td>
</tr>
</tbody>
</table>

1. LTI at discounted fair value

**Short-Term Incentive (STI)**
Managing Board members are eligible to participate in an STI scheme. The scheme is designed to reward short-term operational performance with the long-term objective of creating sustainable value, taking into account the interests of all stakeholders.

The STI opportunity amounts to 50% of the annual base salary for on-target performance (100% in the case of excellent over-performance). Half of the STI opportunity (i.e. 25% of base salary at on-target performance) is related to financial targets, the other half to sustainability and individual targets.

**STI linked to financial targets**
The part of the STI that is linked to shared financial targets (25% of base salary at on-target) consists of elements related to the company’s focus on delivering the financial targets of its Strategy 2018: Driving Profitable Growth. These are: Adjusted EBITDA, which represents an opportunity at target performance of 12.5%; gross free cash flow, with an opportunity of 10%; and organic net sales growth, with a 2.5% opportunity.
**Target areas**

<table>
<thead>
<tr>
<th>Financial targets</th>
<th>On-target pay-out (% of base salary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted EBITDA</td>
<td>12.5</td>
</tr>
<tr>
<td>Gross free cash flow</td>
<td>10.0</td>
</tr>
<tr>
<td>Organic net sales growth</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*Total 25.0*

1 Excluding currency fluctuations, acquisitions and divestments

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**STI linked to sustainability and individual targets**

The part of the STI that is linked to non-financial targets (25% of base salary at on-target) relates to shared sustainability as well as to individual targets. Further refinement/adaptations of performance measures in the area of sustainability and their relative weight may take place following proper evaluation.

The following shared measures linked to sustainability are applicable for the STI:

- Brighter Living Solutions (BLS): percentage of running business that meets ECO+ and People+ criteria
- Employee Engagement Index: related to the High Performance Norm in industry
- Safety Performance: defined as Frequency Index for Recordable Injuries.

Definitions of these elements can be found in ‘Brighter Living Solutions’ on page 22 and ‘People in 2016’ on page 39.

In addition to shared sustainability targets (15%), a limited number of individual non-financial targets (10%) will apply.

**Target areas**

<table>
<thead>
<tr>
<th>Non-financial targets</th>
<th>On-target pay-out (% of base salary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability (3 targets with an equal weight of 5% each; BLS, Employee Engagement and Safety)</td>
<td>15</td>
</tr>
<tr>
<td>Individual</td>
<td>10</td>
</tr>
</tbody>
</table>

*Total 25*

The targets are determined each year by the Supervisory Board, based on historical performance, the operational and strategic outlook of the company in the short term and expectations of the company’s management and stakeholders, among other things. The targets contribute to the realization of the objective of long-term value creation.

The company does not disclose the actual targets, as they qualify as commercially sensitive information. However, full transparency will be given on target areas and definitions. The external auditors performed agreed-upon mandate procedures on target-setting and realization. For detailed information see Note 12 of the ‘Parent company financial statements’ on page 199.

**Mandatory and voluntary deferral of STI**

A mandatory (25%) and a voluntary proportion (up to a total maximum of 50% of the total gross STI) of the STI amount earned in a year is deferred into DSM shares with a three-year holding period. This is linked to a one-for-one matching award on the total deferred amount under the condition that predefined performance targets and measures are met at the end of the three-year vesting period. The performance measures are equivalent to the measures under the Long-Term Incentive Plan. The Deferral and Share Matching Plan thus provides an additional link between Managing Board remuneration and long-term sustainable value creation.

**Long-Term Incentives (LTI)**

The Managing Board members are eligible to receive performance-related shares. Under the performance share plan, shares will conditionally be granted to Managing Board members. Vesting of these shares is conditional on the achievement of certain predetermined performance targets at the end of a three-year period.

The following four performance measures are applicable in equal measure for the calculation of the vesting of LTI performance shares:

- Relative Total Shareholder Return (TSR) performance versus a peer group
- Return on Capital Employed (ROCE) growth
- Energy Efficiency Improvement (EEI)

The LTI performance targets can be defined as follows:

- **Relative Total Shareholder Return (TSR)**
  This is used to compare the performance of different companies’ stocks and shares over time. It combines share price appreciation and dividends paid to show the total return to shareholders. The relative TSR position reflects the market perception of overall performance relative to a reference group.

- **Return on Capital Employed (ROCE) growth**
  This is the operating profit as a percentage of weighted average capital employed. In line with DSM’s updated strategic targets, as of 2016 the LTI target on ROCE relates to ROCE growth as opposed to the absolute ROCE percentage used up until the end of the 2015 performance period.
- **Energy Efficiency Improvement (EEI)**
  
  This is the reduction of the amount of energy that is used per unit of product (known as energy efficiency) on a three-year rolling average basis.

- **Greenhouse-gas Emissions (GHGE) Efficiency Improvement**
  
  This is the reduction of the amount of greenhouse-gas emissions per unit of product. The definition of greenhouse gases (GHG) according to the Kyoto Protocol includes carbon dioxide (CO\(_2\)), methane, nitrous oxide (N\(_2\)O), sulfur hexafluoride, hydrofluorocarbons and perfluorocarbons. The scope for calculation of GHGE reduction is as follows:

  (I) DSM’s direct emissions (on-site or from DSM assets) mainly comprise CO\(_2\) (scope 1).

  (II) DSM’s indirect emissions (emissions created on behalf of DSM in the generation of electricity or the delivery of energy via hot water or steam) relate to electricity from the grid. DSM relies on local suppliers (scope 2).

In determining the number of shares to be conditionally granted, the Supervisory Board takes into account the face value of the DSM share instead of the discounted fair value. This is in line with best practice and provides total transparency to shareholders.

- **ROCE growth as a performance measure**
  
  ROCE growth counts for the vesting of 25% of the performance shares.

- **EEI as a performance measure**
  
  EEI counts for the vesting of 25% of the performance shares.

- **GHGE Efficiency Improvement as a performance measure**
  
  GHGE Efficiency Improvement in percentage points (over a three-year period) is used as a basis for the vesting of 25% of the performance shares.

- **Performance incentive zones**
  
  The following vesting scheme has been established to reflect DSM’s sharpened, challenging targets for the strategy period 2016-2018:

<table>
<thead>
<tr>
<th>TSR vesting scheme</th>
<th>GHGE vesting scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of shares that vest</td>
<td>DSM GHGE reduction over volume-related revenue in % points (3-year average improvement)</td>
</tr>
<tr>
<td>1</td>
<td>≥ 8.25</td>
</tr>
<tr>
<td>2</td>
<td>7.75 - &lt; 8.25</td>
</tr>
<tr>
<td>3</td>
<td>7.25 - &lt; 7.75</td>
</tr>
<tr>
<td>4</td>
<td>6.75 - &lt; 7.25</td>
</tr>
<tr>
<td>5</td>
<td>6.25 - &lt; 6.75</td>
</tr>
<tr>
<td>6</td>
<td>5.75 - &lt; 6.25</td>
</tr>
<tr>
<td>7</td>
<td>&lt; 5.75</td>
</tr>
<tr>
<td>8</td>
<td>50</td>
</tr>
<tr>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td>10-15</td>
<td>0</td>
</tr>
</tbody>
</table>

ROCE and EEI targets and vesting schemes are not being disclosed given their business-sensitive nature.

Up to and including the 2014 grant (i.e. shares vesting up to and including 2017 depending on the fulfilment of performance criteria), the vesting scheme for the part of the grant related to GHGE performance was based on DSM’s reduction of GHGE over volume-related revenue as set out in the tables in the DSM Integrated Annual Report over 2013 and 2014.
The retention period for performance shares expires five years after the three-year vesting period or at termination of employment if this occurs earlier. The final TSR performance of DSM versus its peers will be determined and validated by a bank and agreed-upon mandate procedures are performed by the external auditor at the end of the vesting period.

Pensions
The members of the Managing Board participate in the Dutch pension fund Stichting Pensioenfonds DSM Nederland (PDN). This pension scheme for the Managing Board is equal to the pension scheme for the employees of DSM Executive Services B.V. and DSM employees in the Netherlands. The Supervisory Board decided to grant a contribution to the pension of the CEO, also in view of the fact that the CEO’s total compensation is clearly below targeted policy level as mentioned on page 114.

Contractual arrangements

Term of employment
Managing Board members who joined DSM prior to 1 January 2013 are engaged on the basis of an individual employment agreement for an indefinite period of time. Managing Board members joining the company after 1 January 2013 are engaged on the basis of a Management Services Agreement with a four-year term, to be renewed at reappointment.

Term of appointment
Members of the Managing Board appointed before 1 January 2005 are appointed for an indefinite period of time. Managing Board members appointed after 1 January 2005 are appointed for a period of four years, after which they are eligible for reappointment by the Annual General Meeting of Shareholders.

Notice period
Resignation by a member of the Managing Board is subject to three months’ notice (six months in case of a Management Services Agreement). A notice period of six months applies in the event of termination by the company.

Severance arrangement
There are no specific contractual exit arrangements for members of the Managing Board appointed before 1 January 2005. Should a situation arise in which a severance payment is appropriate for such a Board member, the Remuneration Committee will recommend the terms and conditions. The Supervisory Board will decide upon this, taking into account usual practices for these types of situations, as well as applicable laws and corporate governance requirements.

Members of the Managing Board appointed after 1 January 2005 are covered by a severance provision in accordance with the Dutch corporate governance code, which is set at a maximum of one annual base salary.

Claw-back / change-of-control
Legislation entered into force regarding the revision and claw-back of bonuses and profit-sharing arrangements of board members of Dutch listed companies as of January 2014. Part of this legislation was already covered in comparable rules of the Dutch corporate governance code and consequently already included in the employment contracts of the members of the Managing Board. This regards in particular the possibility (1) to revise an incentive prior to payment, if unaltered payment of the bonus/incentive would be unreasonable and unfair, and (2) to claw back an incentive, if payment took place on the basis of incorrect information on the fulfilment of the incentive targets or the conditions for payment of the incentive. In addition, it is enacted that in the case of a change-of-control event, a related increase in value of the securities that have been granted to a board member as part of his/her remuneration will be deducted from the remuneration to be paid to the board member at the time of selling these securities or when his/her board membership ends.

Share ownership
The Supervisory Board encourages the Managing Board to hold shares in the company to emphasize its confidence in the strategy and performance of the company.

Minimum shareholding guidelines for the members of the Managing Board are applicable, equivalent to three times the base salary in the case of the CEO and one time the base salary for the other Managing Board members. These shareholdings can be built up over five years. For more information, see the position paper ‘Royal DSM’s position on Board Member shareholdings in the company’ on the company website.

Loans
DSM does not provide any loans to members of the Managing Board.

Scenario analysis
The Dutch corporate governance code requires that the Supervisory Board ‘shall analyze possible outcomes of the variable income components and the effect on Managing Board remuneration’. Within DSM this analysis is conducted at least every three years.

Heerlen, 2 March 2017

The Supervisory Board
Rob Routs, Chairman
Tom de Swaan, Deputy Chairman
Victoria Haynes
Pierre Hochuli
Eileen Kennedy
Pauline van der Meer Mohr
Pradeep Pant
Rob Routs (1946, m), Chairman
Nationality: Dutch. Nomination Committee (Chairman), Remuneration Committee (member). Last executive position held: Executive Director Downstream and member of the Board of Royal Dutch Shell plc. Supervisory directorships/other positions: Chairman Supervisory Board of Aegon N.V.; member Board of Directors of AECOM; ATCO Group Ltd. and A.P. Moeller-Maersk Group.

Tom de Swaan (1946, m), Deputy Chairman
First appointed: 2006. End of current term: 2018. Nationality: Dutch. Audit Committee (Chairman), Remuneration Committee (member). Last executive position held: member Managing Board and CFO/CRO ABN AMRO. Supervisory directorships/other positions: Chairman Zurich Insurance Group; Chairman Board of Trustees of Netherlands Cancer Institute-Antoni van Leeuwenhoek Hospital; Chairman of the Board of Trustees of The Van Leer Jerusalem Institute; member of the IF Board of Directors, member of the European Financial Services Round Table and member of the advisory board of China Banking Regulatory Commission in Beijing.

Victoria Haynes (1947, f)

Pierre Hochuli (1947, m)

Eileen Kennedy (1947, f)

Pauline van der Meer Mohr (1960, f)
First appointed: 2011. End of current term: 2019. Nationality: Dutch. Remuneration Committee (Chair), Nomination Committee (member). Last executive position held: President Executive Board of Erasmus University Rotterdam. Supervisory directorships/other positions: independent non-executive Director HSBC; member Supervisory Board of ASML, N.V.; Chair Supervisory Board of EY Netherlands; director Hollandse Maatschappij van Wetenschappen; member Board Concertgebeuwen Fonds; Chair Supervisory Board Nederlands Danstheater.

Pradeep Pant (1953, m)
First appointed: 2016. End of current term: 2020. Nationality: Singaporean. Audit Committee (member), Sustainability Committee (member). Last executive position held: EVP and President APAC and EMEA of Mondelez International. Supervisory directorships and other positions: member of the Honorary Council of Food Industry Asia; member of the Advisory Board of the Lee Kong Chian School of Business at Singapore Management University; independent non-executive Director of Max BUPA Health Insurance Co Ltd. (India), Antara Senior Living Ltd. (India) and Antara Purukul Senior Living Ltd. (India); President of Pant Consulting Pte. Ltd.
Managing Board

Feike Sijbesma (1959, m), CEO/Chairman
Nationality: Dutch.
Supervisory directorships/other positions held:
- member Supervisory Board De Nederlandsche Bank N.V. (Dutch Central Bank);
- member Supervisory Board (Non-Executive Director) Unilever N.V. and PLC;
- member Global CEO Council Chinese Association for Friendship with Foreign Countries;
- Co-Chair of the High Assembly of the Carbon Pricing Leadership Coalition.
e-mail: feike.sijbesma@dsm.com

Geraldine Matchett (1972, f), CFO
Nationality: British, French, Swiss.
Supervisory directorships/other positions held: none.
e-mail: geraldine.matchett@dsm.com

Stephan Tanda (1965, m)
Nationality: Austrian.
Supervisory directorships/other positions held:
- board member DSM Sinochem Pharmaceuticals;
- board member Patheon;
- Chairman Industrial Biotech Section, EuroPharmaBio (European Biotechnology Industry Association);
- board member BIO (US Biotechnology Innovation Organization);
- board member FoodDrinkEurope (European Food and Drink Industry Association);
- member of the Supervisory Board of Semperit AG.

Dimitri de Vreeze (1967, m)
Nationality: Dutch.
Supervisory directorships/other positions held:
- Chairman Supervisory Board DSM Netherlands;
- board member CEFIC (European Chemical Industry Council);
- board member "Fonds voor de topsport" (NOC*NSF; Dutch Olympic Committee Fund for top sport);
- member Supervisory Board Sanquin;
- member Advisory Board ECP (Electronic Commerce Platform Netherlands);
- board member Young Captain Foundation.
e-mail: dimitri.vreeze-de@dsm.com
What still went wrong in 2016

Introduction

Although we continuously strive to improve our performance in all areas of DSM’s activities, sometimes things can still go wrong.

This chapter summarizes the most significant incidents in 2016, across the three dimensions of People, Planet and Profit. We endeavor to remedy the outcome of incidents and prevent these from recurring, as well as to identify and learn from business developments that have not progressed as planned. To this end, we investigate the root cause of any serious occurrence and take steps to close the loop to eliminate the cause and start the improvement cycle. Measures are identified and communicated as appropriate, including applying stricter requirements or operating procedures if called for.

In 2016, DSM took steps to raise awareness about mindful behavior among its workforce. In many cases, our own actions are a major contributory factor to the cause of injuries. Rushing, frustration, fatigue and complacency; being in or moving into the ‘line of fire’; losing balance, traction or grip – all these things can lead to unintentional risky behavior and injuries. Several sites provided courses to support participants in increasing their awareness and promoting a mindful way of working, thus reducing injuries — at work, at home and on the road.

People

- At DSM Engineering Plastics in Genk (Belgium), liquid material spilled over the edge of a container onto an operator’s forearm. Some of the hot material ran into his glove, causing second degree burns to the back of the right hand. In a separate incident at this site, an operator was scalded when hot water splashed onto his right forearm while removing a piece of melted material.
- At DSM Nutritional Products in Jiangshan (China), a contractor suffered a fractured toe when he was hit by a reversing forklift, whose driver had failed to notice him.
- At DSM Food Specialties in Seclin (France), an operator was caught by a sudden release of condensate from an open pipeline, causing burns to both of his legs.
- At DSM Nutritional Products in Mszczonów (Poland), an operator put his right hand on a conveyor and kicked the closing mechanism. The conveyor started to close, nipping the operator’s hand in the process. He was taken to hospital and needed four stitches.
- At DSM Engineering Plastics in Emmen (Netherlands), an operator put his hand into the vacuum dome of an extruder to clean it, unaware that the extruder screw was still slowly turning. His glove and fingers were caught by the screw, resulting in the (partial) loss of three fingers on his right hand. In a separate incident at the site, a hot mixture of lactam and water flowed into an operator’s shoe during a draining operation. The operator was sent to a specialized hospital where he had to undergo a skin graft.
- At DSM Nutritional Products in Schenectady (New York, USA), an operator’s hand was outside the forklift he was driving when it became caught between the forklift and a wall, injuring his hand.
- At DSM Nutritional Products in Grenzach (Germany), a hose came loose during a standard restart procedure, spraying a calcium hydroxide solution, some of which got into an operator’s eyes. The operator was treated on site then taken to hospital. A light but reversible erosion of the cornea of the right eye was diagnosed.
- At DSM Hydrocolloids in Tongxiang (China), a cabinet was being moved on a pallet by trolley when it toppled over, catching a contractor as it fell. This resulted in hairline fractures to the pelvis and an open wound to the right leg.
- At DSM Nutritional Products in Mairinque (Brazil), a truck exploded during unloading. It transpired that it was pressurized at the time. Fortunately nobody was hurt. The on-site learnings following this incident focused on more specific and additional contractual requirements for haulage companies as well as the institution of an audit program to ensure that the equipment these suppliers use is fit for purpose. This prompted several other sites to also run checks with their suppliers.
- During implementation of a new online tool for employee performance management, a data security flaw was discovered which potentially could have led to a privacy
incident. Immediate response actions were taken and the flaw was repaired before an incident could occur. Awareness training has been instigated around new and stricter privacy laws.

- In the US, DSM Biomedical was informed by a supplier that there may be a risk of contamination by glass particles in two of its products. After an initial investigation, we could not exclude the possibility that DSM’s products may have been contaminated with glass fragments in turn, with potential risks to patient health. The products were recalled as a precaution and undelivered stock quarantined. This rapid response prevented any further consequences.

- In São Paulo (Brazil), an employee was tragically killed when commuting home on his motorcycle after working a night shift. Despite the fact that the company provides private transportation as a benefit to all employees in Brazil, the number of employees opting for the flexibility of their own means of transport is increasing. Besides offering transport, DSM offers alert driving e-courses to raise awareness around safe driving.

Planet

- In 2016, DSM again experienced a number of more minor incidents that led to a loss of primary containment (LOPC) from our installations. For example at one of our sites around 11m$^3$ of ethanol was lost due to a leaking flange connection, and in another site 200 liters of hexane was lost in the tank bund when the hexane tank was overfilled. In both situations an immediate cleanup prevented any impact to the environment. The resulting waste was properly disposed of. DSM is committed to continue to reduce these incidents. A clear reduction was achieved in 2016 compared with 2015, which is reflected in the number of Process Safety Incidents recorded. For more information on this KPI, see ‘Safety and health’ on page 40.

Profit

- At DSM Nutritional Products in Heanor (United Kingdom), a section of the roof of a production tower was damaged in a fire following an explosion caused by a self-heating reaction resulting from cross-contamination of certain raw materials. Changes have been implemented in cleaning frequency and raw material dosing to prevent this from happening in future.

- Cybercrime attempts have become a fact of life for organizations large and small; DSM is no exception. There were various incidents of attempted cybercrime during 2016, including once again online fraudsters posing as DSM’s CEO or someone close to him, appearing to send email instructions relating to financial or privileged information to employees (Brazil, Japan, the Netherlands and Turkey). Thanks to the watchfulness of the employees involved, no monies were transferred. In addition to regular reminders to employees, one of the ways we raise awareness about cybersecurity is by executing ‘phishing’ mail tests.

- Theft of material from a warehouse was discovered by a customer who notified us that the product was being offered online. The incident was investigated, the product was removed from eBay and inventory procedures tightened to prevent theft.

- On arrival at a customer premises, a shipment of a DSM product was discovered to have been tampered with; 20% of the product had been stolen and replaced by sand. Although this was an isolated incident, improved quality checks on the original sealing have since been made part of the standard logistics process.

- At one of DSM’s shared financial service centers, an employee transferred money into a private bank account, defrauding the company. Appropriate consequence management was applied. Procedures were investigated in detail and safeguards including segregation of duties were re-enforced.

- Two cases of fraudulent expense report claims were discovered in the US, whereby hotel invoices were changed to show a longer stay than was actually the case. The employees concerned received sanctions and additional controls on expense claim checks were implemented.

- Some production restrictions at DSM Food Specialties in Seclin (France) prevented the enzyme business from fully benefiting from continued strong customer demand.
Shares and listings
Ordinary shares in Koninklijke DSM N.V. are listed on the Euronext stock exchange in Amsterdam (Netherlands) (Stock code 00982, ISIN code NL0000009827). Options on ordinary DSM shares are traded on the European Option Exchange in Amsterdam (Euronext.liffe). In the US, a sponsored unitized American Depositary Receipts (ADR) program is offered by Deutsche Bank Trust Co. Americas (Cusip 780249108), with four ADRs representing the value of one ordinary DSM share.

Besides the ordinary shares, 44.04 million cumulative preference shares A (cumprefs A) are in issue, which are not listed on the stock exchange; these have been placed with institutional investors. The cumprefs A have the same voting rights as ordinary shares, as their nominal value of € 1.50 per share is equal to the nominal value of the ordinary shares. Transfer of the cumprefs A requires the approval of the Managing Board, unless the shareholder is obliged by law to transfer his shares to a previous shareholder.

The average number of ordinary shares outstanding in 2016 was 175,099,827. All shares in issue are fully paid. On 31 December 2016 the company had 175,001,666 ordinary shares outstanding.

Issue of shares
The issue of shares takes place by a decision of the Managing Board. The decision is subject to the approval of the Supervisory Board. The scope of this power of the Managing Board shall be determined by a resolution of the General Meeting of Shareholders and shall relate to at most all unissued shares of the authorized capital, as applicable now or at any time in the future. In the Annual General Meeting of Shareholders of 29 April 2016 this power was extended up to and including 29 October 2017, on the understanding that this authorization of the Managing Board is limited to a number of ordinary shares with a nominal value amounting to 10% of the issued capital at the time of issue, and to an additional 10% of the issued capital at the time of issue if the issue takes place within the context of a merger or acquisition within the scope of DSM’s strategy as published on the company website. The issue price will be determined by the Managing Board and shall as much as possible be calculated on the basis of the trading prices of ordinary shares on the Euronext Amsterdam Stock Exchange.

Distribution of shares
Under the Dutch Financial Markets Supervision Act, shareholdings of 3% or more in any Dutch company must be disclosed to the Netherlands Authority for the Financial Markets (AFM). According to the register kept by the AFM, the following shareholders had disclosed that they have a direct or indirect (potential) interest between 3% and 10% in DSM’s total share capital on 31 December 2016:

- ASR Nederland B.V.
- Rabobank Nederland Participatie B.V.
- Delta Lloyd N.V.
- Capital Research and Management Company and Capital Group International
- BlackRock, Inc.

Repurchase of own shares
The company may acquire paid-up own shares by virtue of a decision of the Managing Board, provided that the par value of the acquired shares in its capital amounts to no more than one tenth of the issued capital. Such a decision is subject to the approval of the Supervisory Board. In the Annual General Meeting of Shareholders of 29 April 2016 the Managing Board was authorized to acquire own shares for a period of 18 months from said date (i.e. up to and including 29 October 2017), up to a maximum of 10% of the issued capital, provided that the company will hold no more shares in stock than at maximum 10% of the issued capital.

DSM repurchased a number of its own shares during 2016 for the purpose of covering the company’s commitments under existing management and employee option plans and stock dividend. Two programs were run for this purpose during the year, the first from 22 February to 21 July 2016 and the second from 4 November to 8 December 2016. In total DSM repurchased 5,200,000 of its own shares for a combined consideration of € 272.8 million.
Development of the number of ordinary DSM shares

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Issued</td>
<td>Repurchased</td>
</tr>
<tr>
<td>Balance at 1 January</td>
<td>181,425,000</td>
<td>6,501,973</td>
</tr>
<tr>
<td>Changes:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reissue of shares in connection with exercise of option rights</td>
<td>-</td>
<td>(3,243,102)</td>
</tr>
<tr>
<td>Repurchase of shares</td>
<td>-</td>
<td>5,200,000</td>
</tr>
<tr>
<td>Dividend in the form of ordinary shares</td>
<td>-</td>
<td>(2,035,537)</td>
</tr>
<tr>
<td>Balance at 31 December</td>
<td>181,425,000</td>
<td>6,423,334</td>
</tr>
</tbody>
</table>

DSM share prices on Euronext Amsterdam (€ per ordinary share):

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest closing price</td>
<td>64.18</td>
<td>55.11</td>
</tr>
<tr>
<td>Lowest closing price</td>
<td>41.40</td>
<td>39.62</td>
</tr>
<tr>
<td>At 31 December</td>
<td>56.96</td>
<td>46.28</td>
</tr>
</tbody>
</table>

Market capitalization at 31 December (€ million)\(^1\)

\(^1\) Source: Bloomberg

Geographical spread of DSM shares outstanding

<table>
<thead>
<tr>
<th>Geographical area</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>39</td>
<td>34</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>Netherlands</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>France</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Switzerland</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Germany</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other countries</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

DSM share price development versus AEX and Dow Jones Euro StoXX Chemical Index, 2016

(Rebased versus DSM share price)
Article 10 of Directive 2004/25
With regard to the information referred to in the Resolution of article 10 of the EC Directive pertaining to a takeover bid which is required to be provided according to Dutch law, the following can be reported:

- Information on major shareholdings can be found above (Distribution of shares).
- There are no special statutory rights attached to the shares of the company.
- There are no restrictions on the voting rights of the company’s shares. When convening a General Meeting of Shareholders, the Managing Board is entitled to determine a registration date in accordance with the relevant provisions of the Dutch Civil Code.
- The applicable provisions regarding the appointment and dismissal of members of the Managing Board and the Supervisory Board and amendments to the Articles of Association can be found in the chapter ‘Corporate Governance’ on page 93.
- The powers of the Managing Board regarding the issue and repurchase of shares in the company can be found in the sections issue of shares and Repurchase of own shares above.
- Other information can be found in the ‘Notes to the consolidated financial statements’ (16 ‘Equity’, 19 ‘Borrowings’, 27 ‘Share-based compensation’).

Dividend
DSM’s dividend policy is to provide a stable and preferably rising dividend. DSM proposes to increase the dividend to € 1.75 per ordinary share for 2016. This will be proposed to the Annual General Meeting of Shareholders to be held on 3 May 2017. An interim dividend of € 0.55 per ordinary share having been paid in August 2016, the final dividend would then amount to € 1.20 per ordinary share. Dividend in cash will be paid after deduction of 15% Dutch dividend withholding tax. The ex-dividend date is 5 May 2017.
## Sustainability statements – People

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total workforce</strong></td>
<td>20,786</td>
<td>20,796</td>
<td>21,351</td>
<td>23,485</td>
<td>23,498</td>
</tr>
<tr>
<td><strong>Female / male ratio</strong></td>
<td>27/73</td>
<td>28/72</td>
<td>27/73</td>
<td>26/74</td>
<td>26/74</td>
</tr>
<tr>
<td><strong>% by age category</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;26 years</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>26-35 years</td>
<td>25</td>
<td>26</td>
<td>25</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>36-45 years</td>
<td>28</td>
<td>30</td>
<td>29</td>
<td>30</td>
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<tr>
<td>46-55 years</td>
<td>27</td>
<td>27</td>
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<tr>
<td>&gt;55</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td><strong>% non-Dutch</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executives</td>
<td>53</td>
<td>49</td>
<td>51</td>
<td>50</td>
<td>47</td>
</tr>
<tr>
<td>Management</td>
<td>67</td>
<td>68</td>
<td>64</td>
<td>65</td>
<td>63</td>
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<tr>
<td>Other</td>
<td>81</td>
<td>82</td>
<td>77</td>
<td>78</td>
<td>76</td>
</tr>
<tr>
<td><strong>% female</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Executives</td>
<td>15</td>
<td>15</td>
<td>12</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Management</td>
<td>26</td>
<td>27</td>
<td>24</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Other</td>
<td>29</td>
<td>29</td>
<td>28</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td><strong>% executive hires</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Dutch</td>
<td>88</td>
<td>79</td>
<td>88</td>
<td>75</td>
<td>58</td>
</tr>
<tr>
<td>Female</td>
<td>13</td>
<td>38</td>
<td>25</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td><strong>% new hires by region</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Netherlands</td>
<td>5</td>
<td>11</td>
<td>11</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>23</td>
<td>22</td>
<td>19</td>
<td>23</td>
<td>21</td>
</tr>
<tr>
<td>North America</td>
<td>27</td>
<td>16</td>
<td>26</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>China</td>
<td>20</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>Rest of Asia-Pacific</td>
<td>8</td>
<td>13</td>
<td>18</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>Rest of the world</td>
<td>17</td>
<td>22</td>
<td>8</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total number new hires (excluding acquisitions)</strong></td>
<td>1,730</td>
<td>2,171</td>
<td>1,997</td>
<td>1,834</td>
<td>2,073</td>
</tr>
</tbody>
</table>

### Outflow of employees

<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Voluntary resignations</td>
<td>585</td>
<td>1,153</td>
<td>1,011</td>
<td>1,043</td>
<td>1,094</td>
</tr>
<tr>
<td>Dismissed</td>
<td>781</td>
<td>647</td>
<td>411</td>
<td>224</td>
<td>507</td>
</tr>
<tr>
<td>Reorganization</td>
<td>208</td>
<td>230</td>
<td>221</td>
<td>408</td>
<td>323</td>
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<tr>
<td>Retirements</td>
<td>143</td>
<td>170</td>
<td>167</td>
<td>259</td>
<td>225</td>
</tr>
<tr>
<td>Deceased</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>34</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total outflow (excluding divestments)</strong></td>
<td>1,729</td>
<td>2,212</td>
<td>1,821</td>
<td>1,968</td>
<td>2,171</td>
</tr>
<tr>
<td>Divestments</td>
<td>57</td>
<td>2,324</td>
<td>2,479</td>
<td>78</td>
<td>18</td>
</tr>
<tr>
<td>Voluntary resignations (% total workforce)</td>
<td>2.8%</td>
<td>5.5%</td>
<td>4.7%</td>
<td>4.4%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Total resignations (% total workforce)</td>
<td>8.3%</td>
<td>10.6%</td>
<td>8.5%</td>
<td>8.4%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>

### Training in hours per employee

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25</td>
<td>29</td>
<td>25</td>
<td>25</td>
<td>24</td>
</tr>
</tbody>
</table>

### Net sales per employee (x € 1,000)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>386</td>
<td>374</td>
<td>409</td>
<td>401</td>
<td>399</td>
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</tbody>
</table>

### Safety

<table>
<thead>
<tr>
<th>Frequency Index of Recordable Injuries (per 100 DSM employees and contractor employees)</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.44</td>
<td>0.38</td>
<td>0.47</td>
<td>0.41</td>
<td>0.33</td>
</tr>
</tbody>
</table>
### Sustainability statements – Brighter Living Solutions

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brighter Living Solutions sales as % of net sales</td>
<td>63</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
</tbody>
</table>

1. 2016 was the first year of reporting; consequently, there are no comparative figures for the previous years.

### Sustainability statements – Planet

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy and greenhouse gases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy use (in petajoules)</td>
<td>22.6</td>
<td>20.9</td>
<td>39.1</td>
<td>41.1</td>
<td>40.6</td>
</tr>
<tr>
<td>Energy efficiency improvement (in %)</td>
<td>2²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenhouse-gas emissions (in CO₂ equivalents x million tons)</td>
<td>1.5</td>
<td>1.1</td>
<td>4.2</td>
<td>4.2</td>
<td>4.3</td>
</tr>
<tr>
<td>Emissions to air</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatile Organic Compounds (x 1,000 tons)</td>
<td>8.9</td>
<td>3.1</td>
<td>4.2</td>
<td>4.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Nitrogen oxide (NOₓ) (x 1,000 tons)</td>
<td>0.8</td>
<td>0.4</td>
<td>1.5</td>
<td>1.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Sulfur dioxide (SO₂) (x 1,000 tons)</td>
<td>0.33</td>
<td>0.04</td>
<td>0.08</td>
<td>0.07</td>
<td>0.13</td>
</tr>
<tr>
<td>Discharges to water and landfill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Oxygen Demand discharges to surface waters (x 1,000 tons)</td>
<td>2.4</td>
<td>2.1</td>
<td>3.9</td>
<td>4.8</td>
<td>5.5</td>
</tr>
<tr>
<td>Waste recycled (in %)</td>
<td>83³</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(Landfilling) Non-hazardous waste (x 1,000 tons)</td>
<td>17.5</td>
<td>12.9</td>
<td>18.2</td>
<td>22.7</td>
<td>29.9</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water consumption (x million m³)</td>
<td>22¹</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Water use (x million m³)</td>
<td>104</td>
<td>101</td>
<td>118</td>
<td>150</td>
<td>149</td>
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<tr>
<td>Raw materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewable raw materials (in %)</td>
<td>16.5</td>
<td>16</td>
<td>10.8</td>
<td>9.9</td>
<td>8.7</td>
</tr>
<tr>
<td>Biodiversity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sites in or adjacent to protected areas (in %)</td>
<td>60</td>
<td>58</td>
<td>52</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Fines (in €)</td>
<td>27,900</td>
<td>35,600</td>
<td>62,500</td>
<td>62,300</td>
<td>45,100</td>
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<tr>
<td>Non-monetary sanctions</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Environmental incidents</td>
<td>109¹</td>
<td>257</td>
<td>297</td>
<td>261</td>
<td>316</td>
</tr>
<tr>
<td>Environmental complaints</td>
<td>21</td>
<td>31</td>
<td>56</td>
<td>42</td>
<td>34</td>
</tr>
</tbody>
</table>

¹. 2016 was the first year of reporting; consequently, there are no comparative figures for the previous years.

². Compared to 2015

³. As of 2016, the Loss of Primary Containment of non-hazardous substances is no longer included in this number

DSM bases its sustainability reporting on best practice standards and international guidelines. Most important are the Standards of the Global Reporting Initiative (GRI). A detailed overview of how DSM reports according to the GRI Standards comprehensive indicators, including a reference to relevant sections in this report, is provided on the company website. DSM aligns with the recommendations of the International Integrated Reporting Council (IIRC) Framework where possible.
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