

DSM Greater China Sustainability Report 2020



NUTRITION • HEALTH • SUSTAINABLE LIVING



DSM

BRIGHT SCIENCE. BRIGHTER LIVING.

About DSM

We are a global, purpose-led, science-based company active in Nutrition, Health and Sustainable Living. Our purpose is to create brighter lives for all. With our products and solutions, we address some of the world's biggest challenges while simultaneously creating economic, environmental and societal value for all our stakeholders – customers, employees, shareholders, and society at large. We deliver innovative solutions for human nutrition, animal nutrition, personal care and aroma, medical devices, green products and applications, and new mobility and connectivity. Including our associate companies, we deliver annual net sales of about €10 billion with approximately 23,000 employees. We were founded in 1902 and are listed on Euronext Amsterdam.

Purpose-led

We are a company that strives to do well by doing good – because ultimately, we cannot be successful, nor even call ourselves successful, in a world that fails.

Active in Nutrition, Health and Sustainable Living, we address the opportunities that are driven by global mega trends and the United Nations' Sustainable Development Goals (SDGs). Our purpose aligns most closely with five of the SDGs.



Science-based

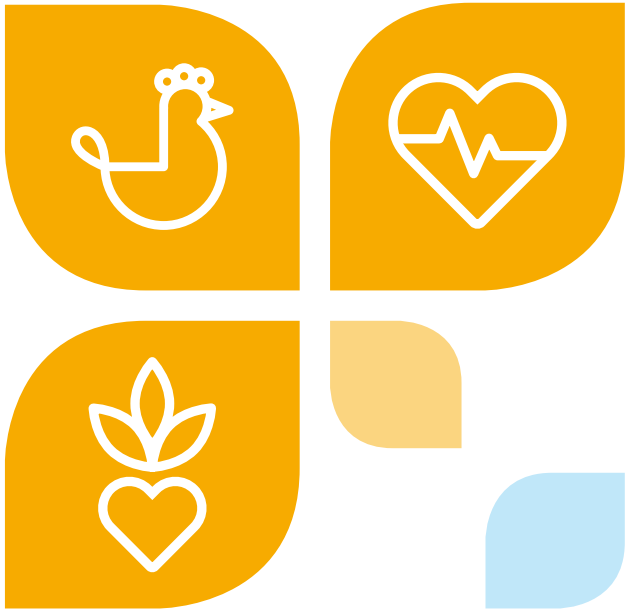
Our bright science delivers benefits across multiple dimensions, already reaching more than 2.5 billion people in the world today in our three focus domains of Nutrition & Health, Climate & Energy and Resources & Circularity. We are accelerating our innovative power and enhancing our long-term growth with breakthroughs such as:

Fermentative Stevia: for sugar reduction	Project Clean Cow: feed additives for reduced methane emissions from cattle	Veramaris®: algae-based Omega-3 for sustainable aquaculture	Akulon® RePurposed: recycle-based polymer	Bio-based Dyneema® fiber: first ever bio-based HMPE fiber

DSM at a Glance

Nutrition

Our Nutrition cluster comprises DSM Nutritional Products, DSM Food Specialties and DSM Hydrocolloids. This cluster provides solutions for animal precision nutrition and feed, food & beverages, pharmaceuticals, medical nutrition, early life nutrition, nutrition improvement, dietary supplements, personalized nutrition and personal care. We are active at all stages of the associated value chains, producing pure active ingredients, incorporating them into sophisticated forms and providing tailored premixes, forward solutions and branded consumer products. Our unique portfolio of products and services is global and highly diversified, serving customers and other stakeholders locally across an extensive range of end-markets worldwide.



Materials

Our Materials cluster comprises DSM Engineering Materials and DSM Protective Materials. The cluster comprises a high-quality portfolio of specialty materials for global end-markets including electrical components and electronics, automotive, food packaging, medical, personal protection, commercial marine, and apparel. Through our advanced and sustainable solutions, we are meeting demand for safer materials, greater efficiency and improved environmental performance.



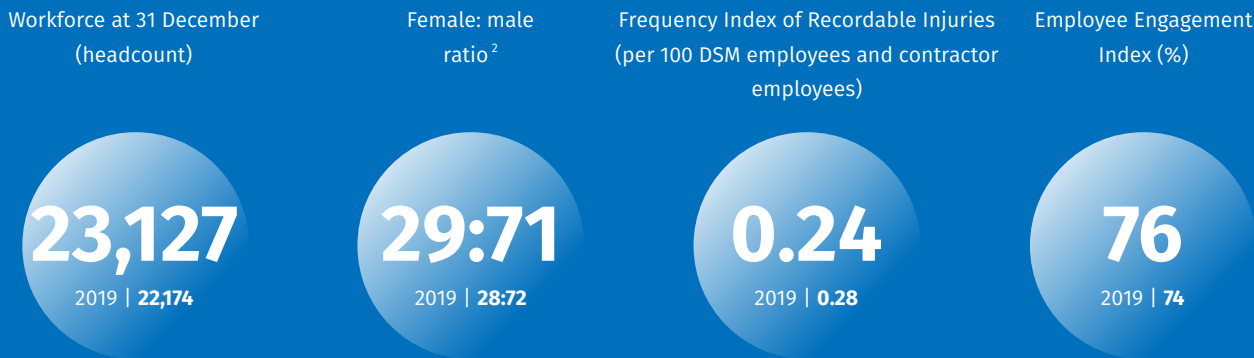
Innovation Center

DSM's Innovation Center supports the creation of opportunities for future earnings growth through cultivating purpose-led innovation across DSM. At the Innovation Center, we accelerate the innovation power and speed of our core businesses through, for example, our Science & Technology, Innovation Business Building and IP & Licensing departments. The Innovation Center also helps explore adjacent business opportunities that are outside the current scope of the company's business groups, through the Emerging Business Areas (EBAs): DSM Biomedical and DSM Bio-based Products & Services.

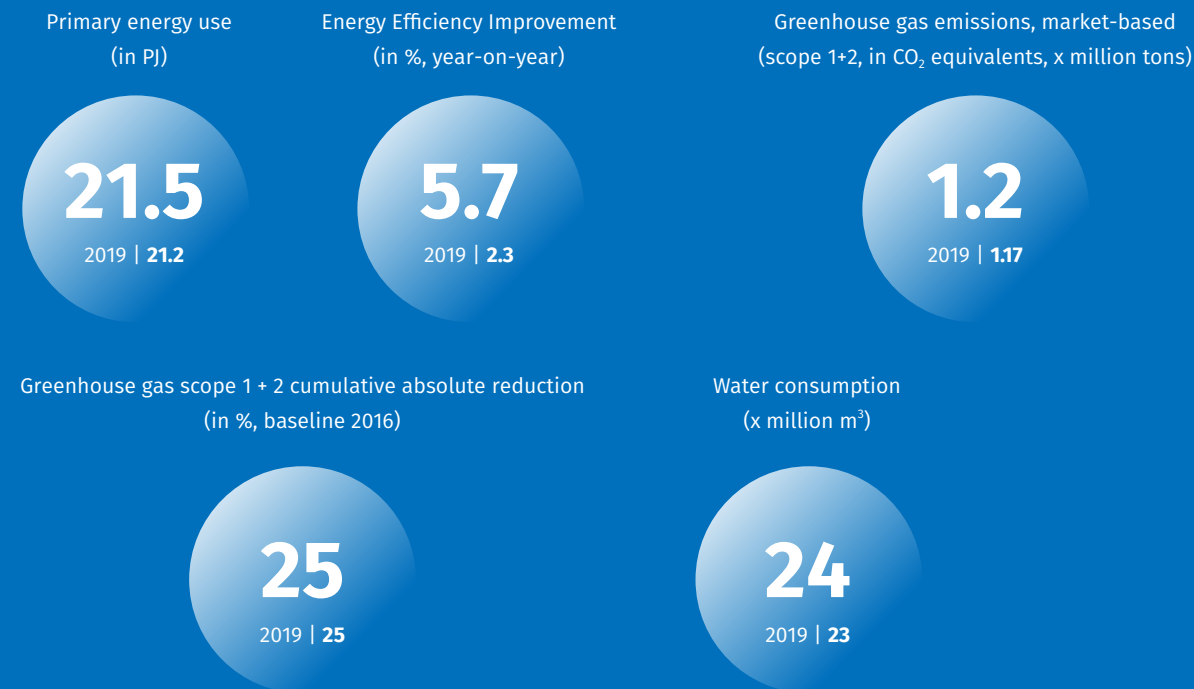


Key Data¹ for DSM Global 2020

People



Planet



Brighter Living Solutions

Brighter Living Solutions³
(as % of running business)



Profit (in € million)



Financial ratios (%)



Notes:

1. The above table presents part of the key data disclosed in DSM Integrated Annual Report 2020. For full key data, please refer to the DSM Integrated Annual Report 2020. For definitions, please see ‘Explanation of some concepts and ratios’ on page 63.

2. For the indexes based on age, nationalities, gender, inflow and outflow, the companies that are not integrated into the HR systems (approx. 6% of the total workforce) are not taken into account.

3. For a small percentage of sales (<0.6 % of sales) classified as Brighter Living Solutions, the environmental impact is considered ‘best in class’ together with other solutions.

4. In presenting and discussing DSM’s financial position, operating results and cash flows, DSM (like many other publicly listed companies) uses certain Alternative performance measures (APMs) not defined by IFRS and referred to as ‘Adjusted’. These APMs are used because they are an important measure of DSM’s business development and DSM’s management performance.

Letter from DSM China President



Dear readers,

2020 is beyond any doubt an unforgettable year for the whole world. The spread of the COVID-19 disrupted the world's economy and changed the way of our life and work. As a purpose-led science company active in nutrition, health and sustainable living, however, DSM has managed to make incredible achievements around the "PEOPLE", "PLANET" and "PROFIT" dimensions in 2020.

In the "PEOPLE" dimension, in 2020, DSM China's total recordable injury rate was 0.18, down 0.03 from the previous year. I am thrilled to see that with the concerted efforts of all our colleagues in China, during the pandemic, we have not only safeguarded the health of our employees, with zero employee infection, but also secured the continuity of our business operation. We've managed to resume work soon to guarantee the continuous supply of products to our customers.

At the same time, we've provided all our employees and their families in China with nutritional products that boost their immunity, and launched an Employee Assistance Program (EAP) to provide psychological counseling and other help to address the stress of our employees and their families. Through these "two-pronged" efforts, we achieved an 80% employee engagement index last year. We successfully won as a team under the "new normal" circumstances!

The virus knows no borders. DSM will always act fast and actively implement relevant health and safety regulations to improve COVID-19 preparedness and response. We will continue to fit our own business development into the community where our operation is located, grow together with the community, and use our professional expertise and our access to global networks to support the wellbeing of people all over the world.

Clear waters and green mountains are invaluable assets, like mountains of gold and silver. So, in the "PLANET" dimension, DSM has always highlighted our global environmental and social responsibilities, and extended our commitment across the value chain from our own operations to our suppliers, customers and end users. In 2020, we implemented a range of environment projects to control VOC emissions and improve sewage treatment. We also managed to raise energy efficiency in China by 6.7% and reduce greenhouse gas emissions from operations remarkably. For more details, you can refer to the "PLANET" chapter of this report. As a responsible corporate citizen, DSM has made tangible contributions to the United Nations Sustainable Development Goals (SDGs).

In the "PROFIT" dimension, despite unprecedented challenges, we achieved several key milestones last year based on our science expertise. In 2020, DSM was proud to report a topline revenue of more than RMB 9.22 billion in China. Despite the

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— Mr. Joe Zhou, DSM China President

impact of the pandemic, DSM still recorded a satisfactory business growth.

In the Nutrition Cluster, we completed the acquisition of Erber Group's specialty animal nutrition and health businesses BIOMIN and Romer Labs, which further strengthened DSM's capacity to create value for our customers. In the second half of 2020, after more than two years of preparation, DSM Animal Nutrition and Health opened a new premix plant in Hengyang of Hunan Province, the seventh of its kind in China, which consolidated DSM's ANH production capacity in China and underlined DSM's deep commitment to China.

Furthermore, DSM increased its stake in DSM Zhongken Biotech to 100% in Q4 2020. This move will consolidate our position and growth in the bio-gum business. In the future, DSM's Nutrition cluster will continue to maintain strong growth based on our unique business model combining "global products" and "local solutions". Meanwhile, we will add a "third leg" through driving nutrition precision and personalization, by building on big data, digital and bioscience capabilities.

In the Materials cluster, DSM has strong growth and earnings potential, and is well positioned in the strategic area of "Sustainable Living". After DSM announced the sale of Resins & Functional Materials businesses in September 2020, DSM's Materials activities now consist of DSM Engineering Materials and DSM Protective Materials, and DSM will continue to develop these into a more resilient, higher growth and higher-margin specialty business cluster. By adding bio-based and circular solutions, DSM is committed to addressing the growing demand for materials that protect the health of both people and planet.

Looking forwards, we want to seize the new opportunities of Year 2021 to help build DSM as a company of the future. We will continue to embrace our global strategy of being "Purpose-led, Performance-driven", applying our key competencies to global megatrends, aligned with the SDGs, to drive growth across our focus domains. There is no doubt that China is still one of the most important markets of DSM. We will continue to improve our core competences, follow the customer-centric approach, develop innovative and sustainable products, and scale new peaks in today's rapidly changing Chinese market.

Finally, on behalf of the DSM China Leadership Team, I would like to extend my sincerest gratitude to all our employees, customers, partners, governments, and universities. Thank you for your unfailing support and trust in DSM. In the future, we will continue to work closely with all our stakeholders and continue to create value at the same time across the three dimensions of "PEOPLE, PLANET and PROFIT" so as to create brighter lives for all!

Thank you!

Joe Zhou
DSM China President

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Purpose and Strategy

Purpose

For more than a decade, we have distinguished ourselves by embracing sustainability and providing value for all our stakeholders across the three dimensions of People, Planet and Profit. We have taken a decisive next step as a purpose-

led company, contributing to a brighter world for all with our science-based solutions. Our purpose is therefore fully anchored in our long-term purpose-led, performance-driven Strategy.

Our purpose is to create brighter lives for all

Businesses need to generate profitable growth while at the same time playing a positive role in the world.

We use our bright science to deliver positive transformations at scale for as many people as possible today and for generations

to come, operating within the constraints of the world's finite resources. We aim to redefine how we live and work in order to create a fairer, more prosperous and more sustainable society.

We are already reaching more than 2.5¹ billion people worldwide.

Acting on our purpose

We make change happen in three ways:

- Improve: we improve our own operations to do no harm; we optimize our own operational impact by continually raising safety standards, promoting health and well-being in our own workforce, reducing our emissions, increasing our use of renewable energy and unlocking more value from limited resources
- Enable: we enable our customers to have a positive impact by creating products and services that enable our customers and partners to deliver sustainable and healthy solutions for the planet and society
- Advocate: we advocate in our ecosystem for systemic change; we advocate for the future we believe in and we fully accept our responsibilities as a corporate member of society

We recognize the growing influence of large companies in the global economy, and the increasing impact they are having on our world. With increased impact comes increased responsibility. The private sector as the whole needs to deliver value for all stakeholders — not just employees, customers and shareholders, but the world's communities and the individuals who live in them. We therefore take an integrated approach to our responsibilities.

During the course of 2020, by means of our integrated approach, we implemented a range of external and internal initiatives to further our purpose and make an impact at scale in our three Focus Domains Nutrition & Health, Climate & Energy, and Resources & Circularity that most closely align with five of the Sustainable Development Goals.



Like many of our employees around the world, our senior management had to rely heavily on online communication as a result of the COVID-19 pandemic. This is how the vast majority of the DSM Executive Committee meetings took place in 2020 (clockwise from top left): DSM Co-CEO Dimitri de Vreeze, President DSM Human Nutrition & Health Philip Eykerman, DSM Co-CEO Geraldine Matchett, President & CEO DSM Nutritional Products Chris Goppelsroeder, Executive Vice President DSM Materials Helen Mets, DSM Chief Innovation Officer Patricia Malarkey and Executive Vice President Group People & Organization Cristina Monteiro.

1. Lives Reached is a measure of the number of consumers reached each year via products of customer and other third parties which contain DSM products and solutions. For more information, see Explanation of some concepts and ratios.

Our Purpose and SDGs

In 2015, the United Nations launched the SDGs, a roadmap to a more environmentally and socially conscious and responsible world by 2030. At DSM, we believe that companies have a key role to play in achieving the SDGs. We believe that our combination of Health, Nutrition and Sustainable Living contributes toward achieving the SDGs.

With our unique science-based competences, we have created a strong platform for growth and are ideally positioned to

contribute to, and capture the growth opportunities offered by, the global megatrends and SDGs, with a particular focus on developing innovative solutions addressing the challenges in the Domains of Nutrition & Health, Climate & Energy, and Resources & Circularity. Our purpose and three Focus Domains align most closely with five of the SDGs and our Brighter Living Agenda brings together many of our initiatives and creates an actionable framework.

SDG 2 and SDG 3 through Nutrition & Health



The link between adequate nutrition and health has never been clearer. For the first time in human history, diet-related non-communicable diseases (including diabetes, heart disease, stroke, and some cancers) have overtaken communicable diseases as the primary cause of deaths worldwide. At the same time, malnutrition in its various forms affects more than 30% of the world’s population: more than 2.3 billion adults and children are obese or overweight¹, more than 820 million people go to bed hungry each night, and approximately two billion suffer from hidden hunger².

Our Nutrition & Health Commitments

Together with the United Nations World Food Programme, we will raise awareness of improved nutrition while continuing to develop new food solutions.

We take responsibility to control and minimize all possible safety risks and adverse effects that could be caused by (the substances present in) our products throughout the value chain. Together with Generation Unlimited and Sight and Life Foundation, we will develop a business plan in Africa to reach one million smallholder farmers by transforming the food system, providing better nutrition, stimulating youth job creation and reducing reliance on food imports.

The Brighter Living Agenda for Nutrition & Health

Improve	Enable	Advocate
By reducing occupational safety incidents and promoting health and well-being in our own workforce.	By enabling healthy diets for all, through solutions such as the sustainable production of animal proteins, plant-based choices, immunity-supporting solutions, and food & beverage solutions. Our biomedical solutions improve quality of life for surgical patients and improve people’s health status.	For healthy diets within planetary boundaries, in partnerships to address sustainable and healthy nutrition through partners such as the World Business Council for Sustainable Development’s FReSH program and the World Economic Forum, and in partnerships to fight malnutrition, such as the UN World Food Programme, UNICEF, World Vision and Scaling Up Nutrition.

Contributing to the Sustainable Development Goals

- **Target 2.1** By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

- **Target 2.2** By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons

- **Target 3.2** By 2030, end preventable deaths of newborns and
- children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

- **Target 3.4** By 2030, reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

- **Target 3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

SDG 7 and SDG 13 through Climate & Energy



The stability of the world’s climate is under threat. We believe there is an urgent need to take action to curb climate change and its irreversibly damaging effects on biodiversity by dramatically limiting greenhouse gas emissions, transitioning to renewable energy, and adopting low-carbon emission solutions and processes.

The transition to a low-carbon economy will also create business opportunities and drive growth for our innovative and sustainable solutions. We are enabling the development of a low-carbon economy not just by reducing our own emissions but also by developing solutions to help customers and consumers to cut theirs.

Our Climate & Energy Commitments

Our Science Based Targets comprising a scope 1 + 2 absolute reduction of 30% and a scope 3 intensity reduction of 28% by 2030 versus baseline 2016 toward our net zero emissions by 2050 commitment.

Supporting targets of an average annual energy efficiency improvement of >1% and 75% purchased electricity from renewable sources by 2030.

We apply an internal carbon price of €50/t CO₂eq on our key investments, acquisitions and in our management reporting.

The Brighter Living Agenda for Climate & Energy

Improve	Enable	Advocate
Our long-term goal is net-zero emissions by 2050. To put us on track to achieve this, by 2030 we will reduce our own carbon footprint and improve the resiliency of our assets and supply chains.	By enabling the low-carbon economy through solutions that help customers cut emissions and improve society’s ability to adapt to climate change. These include improving the sustainability of animal farming and engineering solutions for mobility and solutions for renewable energy.	For climate action and building the movement for a low-carbon, resilient economy through cross domain initiatives such as the World Economic Forum and World Business Council for Sustainable Development, and leading climate platforms such as the Carbon Pricing Leadership Coalition, RE100 and GCA.

Contributing to the Sustainable Development Goals

- **Target 7.2** By 2030, increase substantially the share of renewable energy in the global energy mix

- **Target 7.3** By 2030, double the global rate of improvement in energy efficiency
- **Target 13.2** Integrate climate change measures into national policies, strategies and planning

- **Target 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

1. Source: IFPRI
2. Source: FAO

SDG 12 through Resources & Circularity



The world’s resources are finite, and with a population projected to grow to 9.7 billion people by 2050¹, some estimates suggest we will need the equivalent of four Planet Earths by then to sustain our current lifestyles². In addition, over 30% of all food produced either lost or wasted, representing a huge drain on natural resources³. New ways of achieving a balance between demand and supply have to be found, including approaches that are not based on single use and subsequent disposal. We are making important contributions to the development of a genuinely circular, bio-based economy founded on closed-loop solutions.

Our Resources & Circularity Commitments

- We will offer a full portfolio of alternatives that contain at least 25% recycled- and/or bio-based content by 2030 in our Engineering Materials business.
- Sixty percent of the feedstock used in our Dyneema® products will be bio-based by 2030.
- ‘Safe by design’ is the leading principle in the development of new and better products and processes.
- Eighty to ninety percent of our waste will be recycled by 2020
- We will at least maintain our water efficiency while we work toward defining a context-based water target.
- We will improve our VOC emission efficiency by 50% by 2021 (vs. 2015).

The Brighter Living Agenda for Resources & Circularity

Improve	Enable	Advocate
By unlocking more value from the limited resources that are available. Water security and our impact on biodiversity are important aspects of our continuous improvement mindset. We minimize the use of substances of high concern where possible.	By enabling our customers to design safer and more circular end-products, and minimize the use of finite resources. These include our joint ventures Veramaris and Olatein, as well as bio-based and recycled-based solutions such as Akulon PA6 and bio-based Dyneema®.	For the transition from a linear to a circular and bio-based economy through global platforms such as the World Business Council for Sustainable Development, and circular economy platforms such as Platform for Accelerating the Circular Economy, Circle Economy and the Ellen MacArthur Foundation.

Contributing to the Sustainable Development Goals

- Target 12.2 By 2030, achieve the sustainable management and efficient use of natural resources

- Target 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

- Target 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout
- their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- Target 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Our contribution across the SDGs

Our purpose-led, performance-driven strategy is based on global megatrends and the SDGs. We align our approach of our Focus Domains with five ‘core’ SDGs: SDG 2 and SDG 3 through Nutrition & Health, SDG 7 and SDG 13 through Climate & Energy

and SDG 12 through Resources & Circularity. In addition to these ‘core’ SDGs, we believe that we can also Improve, Enable and Advocate to a varying extent across all the SDGs. Below we indicate our estimated contribution in respect of all the SDGs.

SDGS		Improve	Enable	Advocate
1	No Poverty	● ●	●	● ●
2	Zero Hunger	●	● ● ●	● ● ●
3	Good Health and Well-Being	● ●	● ● ●	● ● ●
4	Quality Education	●	●	● ●
5	Gender Equality	● ●	●	● ● ●
6	Clean Water and Sanitation	●	● ●	●
7	Affordable and Clean Energy	● ● ●	● ● ●	● ● ●
8	Decent Work and Economic Growth	● ●	●	● ●
9	Industry, Innovation and Infrastructure	●	● ●	● ●
10	Reduced Inequalities	● ●	●	● ●
11	Sustainable Cities and Communities	●	● ●	● ●
12	Responsible Consumption and Production	● ●	● ● ●	● ● ●
13	Climate Action	● ●	● ●	● ● ●
14	Life Below Water	●	● ●	● ●
15	Life on Land	●	● ●	●
16	Peace, Justice and Strong Institutions	●	●	● ●
17	Partnerships for the Goals	● ●	● ●	● ● ●

- ● ● Major

● ● Moderate

● Minor
- Improve: The impact within our own operations

Enable: Products that enable our customers to deliver sustainable products for planet and society

Advocate: Advocating for the future we believe in and acting on our responsibilities

1. Source: UN
2. Source: Accenture strategy research, 2017
3. Source: FAO

Strategy

At a glance

- +19% Adjusted net operating free cash flow growth versus 2019 and versus an average annual target of ~10%
- -1% Adjusted EBITDA from continuing operations versus 2019, with Nutrition +7% and Materials -27%
- 20% Innovation sales (continuing operations), in line with our ambition of ~20%
- ~18% ^{1,2} GHG scope 1 + 2 reduction – cumulative structural improvement versus ~17% in 2019 (baseline 2016)
- 0.24 Frequency Index of Recordable Injuries versus 0.28 in 2019
- 76% Employee Engagement Index versus 74% in 2019

Long-term strategy



With our long-term strategy, we are continuing our evolution as a **purpose-led, science-based** company operating in the fields of Nutrition, Health and Sustainable Living. Our strong growth capacity is anchored in developing customer-centric, innovative solutions addressing Nutrition & Health, Climate & Energy, and Resources & Circularity. At the same time, we are increasing operational excellence, managing costs, and accelerating profit growth and cash generation. We will continue to make suitable acquisitions to strengthen and develop critical capabilities and to support organic growth, predominantly in Nutrition.

In **Nutrition**, we focus on human nutrition & health (specialty nutrition, nutritional ingredients, consumer-branded products, personalized nutrition), food & beverages (specialty food enzymes, cultures, probiotics, bio-preservation, hydrocolloids, sugar reduction, and savory taste solutions), personal care and aroma ingredients and animal nutrition & health (core vitamins, premix solutions, and specialty feed additive solutions, including mycotoxin risk management solutions and diagnostics).

In **Materials**, we will further develop into a resilient higher-growth, high-margin specialty business, and focus on three Sustainable Living growth-platforms : Improved Health & Living, Green Products & Applications, and New Mobility & Connectivity.

By improving the impact of our own operations, enabling sustainable solutions for our customers, and advocating sustainable business models, we make a positive contribution toward achieving the Sustainable Development Goals while at the same time supporting our growth and profitability and improving our risk profile.

Mid-term targets and ambitions

We have set two ambitious targets for profit growth and cash generation to drive value creation for the period 2019–2021:

- A high single-digit percentage annual increase in Adjusted EBITDA
- An average annual increase of about 10% in Adjusted net operating free cash flow

We are committed to mid-single-digit **organic sales growth**. Key drivers to deliver this sustained growth are innovation, commercial synergies from our recent acquisitions on top of our underlying market growth, and the expansion of our customer-centric solution offerings.

We will continue to leverage our **unique technology platforms** to develop innovative and sustainable solutions in Nutrition & Health, Climate & Energy, and Resources & Circularity. We aim for 20% of our annual sales to come from innovation.

The following table describes our mid-term 2019–2021 financial targets and the ambitions that underpin them:

2021 targets¹	Ambitions underpinning our targets¹	
High single-digit percentage annual Adjusted EBITDA increase	1. Sales	Mid single-digit % organic sales growth Total DSM, Nutrition and Materials
	2. Adjusted EBITDA margin	Nutrition: >20% Materials: >20%
	3. Working capital	Reduce by 50 bps annually to ~16%
~10% average annual Adjusted net operating free cash flow² increase	4. Capex	~6.5% of sales
	5. ROCE	~1%-point increase per annum
	6. Adjusted EPS	Increase ahead of Adjusted EBITDA growth

1. Based on 2018 underlying business defined as Sales and Adjusted EBITDA corrected for our best estimate of the temporary vitamin effect.
2. Adjusted net operating free cash flow is the cash flow from operating activities, corrected for the cash flow of the APM adjustments, minus the cash flow of capital expenditure and drawing rights.

Our **cash allocation policy** remains unchanged and has a clear order of priority for cash deployment:

- Disciplined capital expenditure for organic growth: approximately 6.5% of annual sales
- A stable, preferably rising dividend
- Disciplined M&A, predominantly in Nutrition
- In the absence of value-creating M&A, capital to be returned to shareholders

We remain committed to maintaining a strong, investment-grade credit rating. With our dividend policy of a stable, preferably rising dividend, we target an average payout of 40–50% of adjusted earnings.

We will target **M&A** predominantly in Nutrition, given this business’s unique growth potential, resilience, strong leadership position and capacity for value creation.

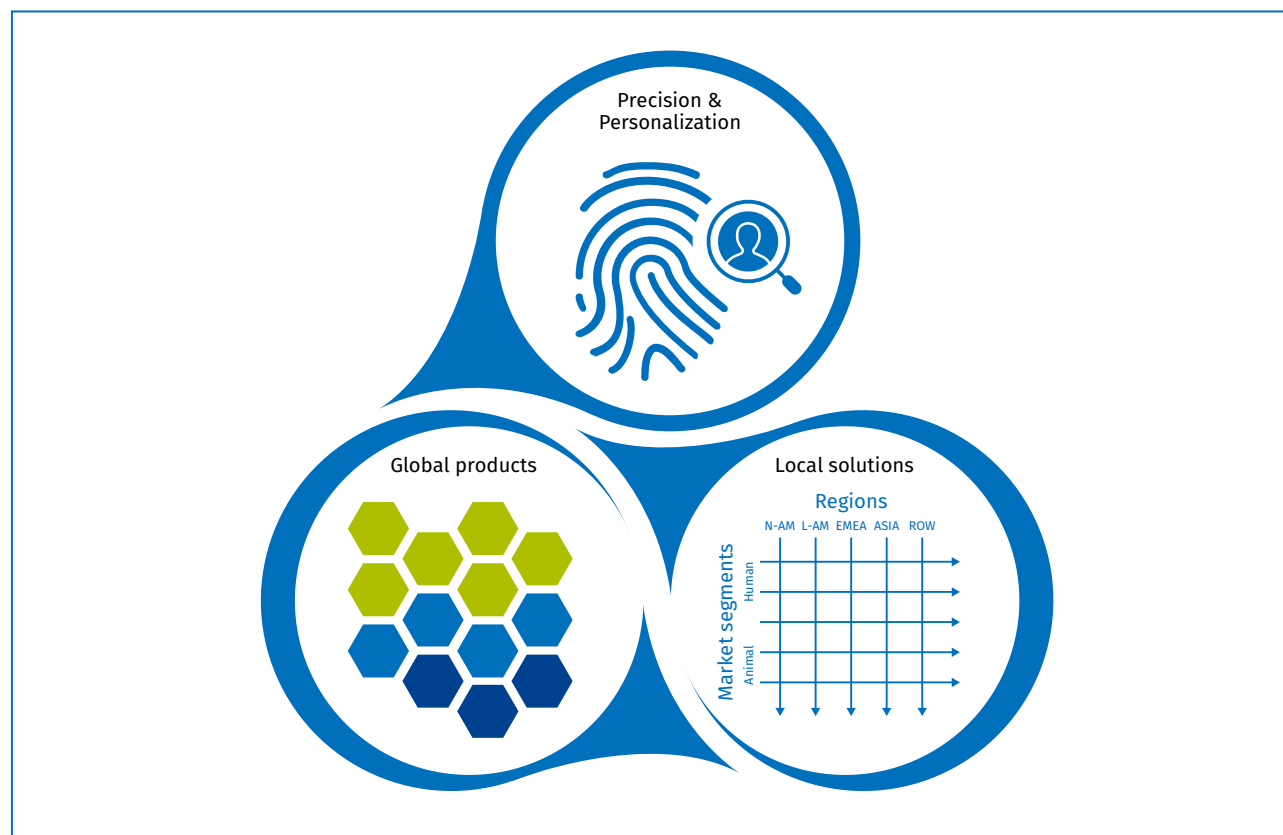
Nutrition strategy

Nutrition & Health builds on our unique ‘global products, local solutions’ business model. Our Nutrition & Health strategy focuses on strengthening and expanding this business model by further building our global products portfolio and advancing our solution-selling capabilities in our end-market-focused segments. In addition, developments in biosciences and the broad adoption of digital ways of life are opening

new opportunities to add a third area of innovation-based growth to our business model in Precision & Personalization, a rapidly emerging market, in both Human and Animal Nutrition & Health. Overall, Nutrition & Health aims to mid-single-digit organic sales growth, an Adjusted EBITDA margin greater than 20%, and a high-single digit Adjusted EBITDA growth percentage.

1. All data presented in People and Planet are subject to the non-financial reporting policy.
2. In total, our absolute reduction of scope 1 + 2 greenhouse gas emissions was 25% versus the 2016 baseline.

Our business model for growth: global products, local solutions, Precision & Personalization



The basis: our unique and successful business model-global products, local solutions

With this business model, we have successfully built a unique, broad, highly integrated and profitable growth business that covers the food & beverages, specialty nutrition, animal feed and personal care end-markets. Our results are testament to the strength and uniqueness of this business model, delivering 6% organic growth and an increase in Adjusted EBITDA margin from 17% to 21 % during the period 2015-2020.

Our **global product portfolio**, which includes vitamins, nutritional lipids, carotenoids, minerals, eubiotics, enzymes and yeasts, as well as texturants, flavors and cultures, has expanded through innovation and acquisitions. Most recent additions have been human milk oligosaccharides (HMOs) through the Glycom acquisition and mycotoxin absorbers and eubiotics through the acquisition of Erber Group. Bovaer® and our partnerships Avansya and Veramaris have been added through our own innovation efforts.

Our end-market focus across all regions allows us to better understand market needs, enable **solution selling**, and open up innovation headroom-for example, more relevant solutions supporting early life nutrition and dietary supplements in Human Nutrition & Health and supporting species such as poultry and swine in Animal Nutrition & Health. These capabilities are complemented by a diverse and significant premix footprint, with superior formulations and delivery systems, meeting local needs for our customers.

Expanding our business model: Precision & Personalization

Consumer and customer-driven 'Precision & Personalization' in the domains of both Human Nutrition & Health and Animal Nutrition & Health is where we will expand our business model. Developments in data science & bioscience are opening up exciting new opportunities to address challenges in health and nutrition. Rapid advances in computational biology, gene technology, Artificial Intelligence and diagnostics are transforming our ability to understand and influence the interplay between health, nutrition and the environment in both human and animal biology at an individual level.

We see '**Precision**' as a rapidly emerging market in its own right, enabling our customers to meet consumer demand for better health through improved diets and at the same time to produce food more sustainably, particularly in the animal space. We are well positioned to take a leading role in this development. We are an established authority in the field of nutritional science and biotechnology, and through our trusted company brand we have access to customers for and with whom we are already developing emerging Precision & Personalization solutions. This development also involves a natural evolution from delivering customized premixes to enabling the creation of personalized nutritional mixes. Building on these unique strengths, we will seek to work with an ecosystem of partners to create the appropriate digital solutions and interfaces. Offering leading solutions in this space allows us to leverage our unique nutritional science capabilities and multiply the relevance of our ingredients

through unprecedented precision. A good example is our new US-based personalized nutrition venture, Hologram Sciences, Inc., which brings together all the necessary capabilities to develop end-to-end turnkey personalized nutrition solutions that are commercially validated with consumers.

Our focus in Animal Nutrition & Health

Operating in alignment with the UN's Sustainable Development Goals 2 (Zero Hunger), 3 (Good Health and Well-Being), 12 (Responsible Consumption and Production), 13 (Climate Action), and 14 (Life Below Water), we have identified **six sustainability platforms** that address the major challenges facing the animal farming industry today. Our ambition is to lead a robust and achievable transformation worldwide, delivering innovative and sustainable solutions that will deliver significant value for our customers and at the same time for our company. These are:

- Improving the lifetime performance of farm animals
- Making efficient use of natural resources
- Reducing emissions from livestock
- Helping tackle antimicrobial resistance
- Reducing reliance on marine resources
- Improving the nutritional quality of meat, milk, fish and eggs, while reducing food loss and waste

In addition, we continue to build **specialist competences** to pursue new health solutions and support additional species, improve the end-to-end experience for the customer, and invest in our direct business-to-farmer and overall go-to-market capabilities.

Our focus in Human Nutrition & Health

In Human Nutrition & Health, we will continue to develop from the role of ingredient supplier to that of a fully **integrated provider of solutions**. We combine our products with third-party ingredients to create specialty solutions for our customers that deliver specific health benefit claims, allowing our customers to focus fully on the branding and commercialization of their products. Key focus areas are:

Preventive health and immunity. COVID-19 has alerted the world to the importance of preventive health and especially immunity. Micronutrients – such as vitamins C and D, omega-3 and probiotics, where we have leading positions – play a key role in supporting immunity. We are building on this consumer need by launching market-ready solutions such as ampli-D. Furthermore, we are continuing to invest in the business-to-consumer market to ensure the growth of our i-Health business.

Human milk oligosaccharides (HMOs). We are building an exciting innovation roadmap for next-generation HMOs to meet currently unmet needs in early life nutrition, dietary supplements, medical nutrition (e.g., to combat irritable bowel syndrome), and food & beverages. HMOs also have interesting potential applications in pet foods, and these are

being explored within the framework of our Animal Nutrition & Health business.

Personalized nutrition: Personalized nutrition is developing rapidly and has the potential to become very significant. We have the building-blocks needed to provide science-based personalized nutrition. With the creation of the wholly owned venture Hologram Sciences, Inc., we aim to develop, and validate with consumers, integrated personalized nutrition solutions for our customers. The stand-alone set-up is designed to ensure agility and speed, while the arm's-length link to DSM allows to leverage DSM's access to market. Hologram Sciences, Inc. will work closely with leading start-ups in which we have already invested, such as Mixfit, Tespo and AVA.

In addition, we are continuing our long-term commitment to champion efforts to increase the availability of micronutrient-rich food in countries with very low-income populations through various partnerships, such as with WFP, UNICEF and Africa Improved Foods (AIF).

We are also championing the purpose behind our products, which help address some of world's greatest nutritional challenges. Furthermore, we continue to sharpen our focus on customer-centricity and commercial excellence.

Our focus in Food & Beverages

The Food & Beverage market is subject to rapid change, driven by evolving consumer needs. The challenge for our customers, the food & beverage producers, is to anticipate these changes and respond by developing and delivering **on-trend, differentiating products** faster than their competitors.

Our customers are therefore seeking:

- Products that deliver specific taste and texture attributes
- Products that deliver improved nutritional value and the associated health benefits
- Approaches that deliver more resource-efficient and sustainable food production

In the Food & Beverage market, we are uniquely positioned to offer solutions that address **health, taste and texture** in an integrated way, with our:

- Unique and extensive portfolio of global products, ranging from dairy cultures and enzymes for applications across dairy, baking and beverages; coatings and preservation systems; yeast extracts and process flavors and texturizing hydrocolloids; to our vitamins, minerals and nutritional lipids
- Deep expertise in application in our core end-market segments

To strengthen this unique proposition in food & beverages, we will continue to:

- Deepen our integrated application know-how
- Broaden our global product portfolio

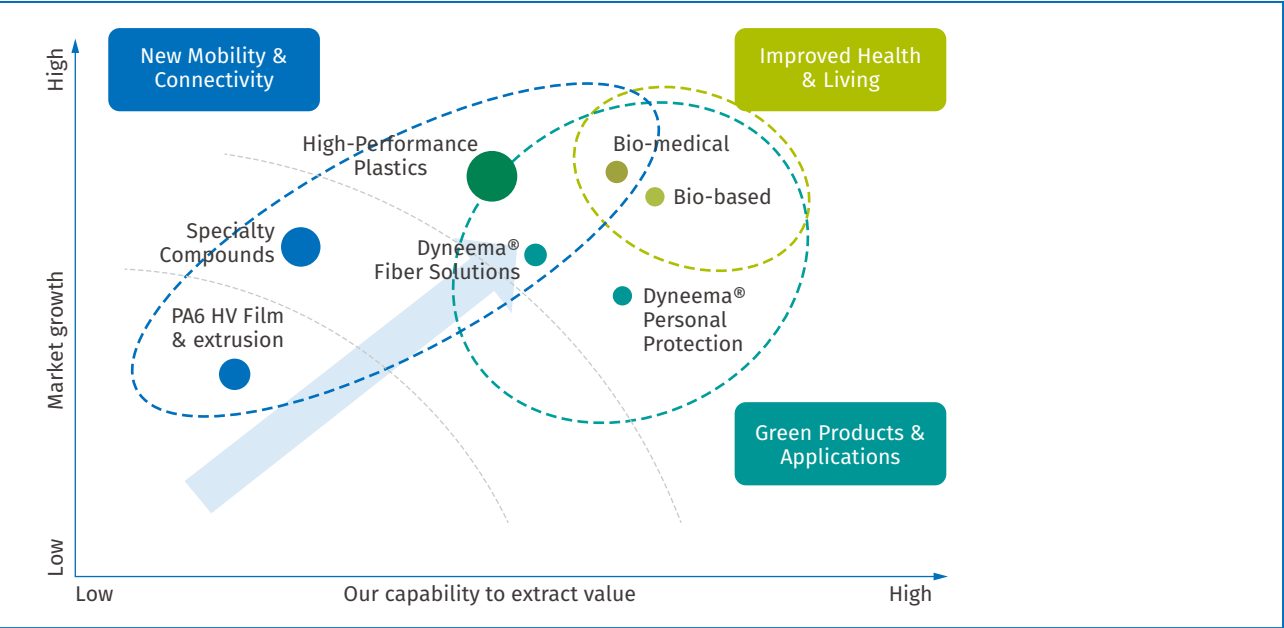
- Combine ingredient and application innovation
 - Maximize opportunities for inorganic growth
- An example of our ingredient and application innovation is **CanolaPRO™**, a sustainable plant-based protein source. This

Materials strategy

Following the announcement of the sale of our Resins & Functional materials businesses to Covestro AG, our Materials activities now consist of DSM Engineering Materials and DSM Protective Materials. These businesses generated sales of approximately €1.5 billion in 2020, have a strong growth and earnings potential, and are positioned to deliver growth in the strategic area of Sustainable Living. We will continue to

is a new building- block in our solutions offering for meat alternatives and dairy alternatives. Avansya, our partnership with Cargill to bring zero-calorie, cost-effective, non-artificial sweeteners to market at scale, is another such example of product innovation.

develop the Materials business into a more resilient, higher-growth, and high-margin **specialty business**. Focusing on three Sustainable Living growth platforms – Improved Health & Living, Green Products & Applications, and New Mobility & Connectivity – we aim for mid-single-digit organic sales growth, an Adjusted EBITDA margin greater than 20% and a high single-digit Adjusted EBITDA growth percentage.



Focus on three growth platforms
Our Materials platforms will capture more opportunities in Sustainable Living, propelled by the following growth drivers: winning segments, substitution, innovation and sustainability.

In **Improved Health & Living**, we are focusing in particular on the growing demand for healthcare, personal protective equipment and medical applications such as specialty materials for medical gowns, respiratory tubes and stents.

Innovation strategy

Innovation is what transforms our **‘Bright Science’** into **‘Brighter Living’**. We aim to develop innovative, sustainable solutions by leveraging our unique scientific competences and our profound understanding of:

- The science behind nutrition, and the capability to develop

In **Green Products & Applications**, we are focusing on the increasing demand for bio-based, recycled-based, and fully recyclable solutions. The launch of bio-based Dyneema® in 2020 is a good example.

In **New Mobility & Connectivity**, we are targeting the transition from fossil fuel to electric automotive power and hydrogen-fueled cars. An example is our specialty material Xytron® PPS for high performance fuel cells. We are also addressing the growing need for materials that enable autonomous driving and the increased connectivity between products, devices and applications.

- new nutritional ingredients with proven health benefits, supported by our state-of-the-art Biotechnology Centers, providing sustainable alternatives for chemical synthesis, as well as plant- and animal-derived ingredients
- Materials science and the capability to convert this into

Sustainable Living applications, supported by access to global state-of-the art laboratories

Our sales growth is driven by our ability to continually deliver innovative and improved products and solutions to meet our customers’ needs. Our innovations reflect our commitment to healthier and more sustainable outcomes and so help drive the performance of our **Brighter Living Solutions portfolio**.

Innovation sales have also improved our profitability, delivering higher margins than the average of our running business. Our innovation sales are defined as products and applications that have been introduced over the past five years. We aspire to maintain the contribution made by these sales at around 20% of total sales, which we consider to be a healthy proportion in view of the overall balance of our product portfolio and

product life cycles. We will continue to invest in differentiating science and technology.

Driving the innovation pipeline through seven growth themes
We are adapting our innovation approach from being project-based to platform-based to deliver a business-anchored pipeline of innovations that is aligned with our future strategic needs and supports our growth ambitions. We have identified seven **overarching growth themes** that capture the major global societal, technological and environmental trends that inform our innovation platforms. In Nutrition & Health, we focus on four growth themes: Pathways, Proteins, Prevention and Precision. In Sustainable Living, we focus on three growth themes: Improved Health & Living, Green Products & Applications and New Mobility & Connectivity.

Innovation growth themes

Nutrition		Materials	
Pathways Sustainable ingredient manufacturing	<ul style="list-style-type: none">• Bio-based Vitamins & Carotenoids• Sustainable Lipids	Improved Health & Living	<ul style="list-style-type: none">• Personal and Protection• Consumer Goods• Medical
Proteins Driving adoption of sustainable proteins to feed the population	<ul style="list-style-type: none">• Sustainable Food Proteins• Low-footprint Feed Proteins• Animal Emission Reduction	Green Products & Applications	<ul style="list-style-type: none">• Marine• Packaging
Prevention Healthy solutions provided by nature	<ul style="list-style-type: none">• Healthy Gut• Immunity• Sugar Reduction• Cultures Powerhouse• Pharmaceutical Nutrition• Personal Care• Animal Gut Health	New Mobility & Connectivity	<ul style="list-style-type: none">• Automotive• Electronics• Electrical
Precision Digitally-enabled business models	<ul style="list-style-type: none">• Personalized Nutrition• Animal Precision Nutrition		

This moves from individual projects to innovation platforms provides focus, and links our existing portfolio with our future pipeline. When we look ahead to 2025 and beyond, our success will not be dependent on several large projects only. Instead, each innovation platform will have a clear pipeline of multiple projects at different stages of maturity.

Enabling programs for accelerated growth

Our enabling programs will underpin and facilitate our ambitions by focusing on key areas such as a performance-driven organization, leadership and people, culture, powered by digital and sustainability leadership across DSM.

Organization, leadership and people, and culture

We continue to develop our organization, leadership and people, and culture to enable continued performance. The extraordinary circumstances of 2020 – new leadership at the top; a pandemic disrupting our views about work, workplace and workforce; and a continued company transformation – called for a new People & Organization (P&O) strategy. The new P&O strategy is both a continuation and an evolution of our current strategy, with a focus on ‘Creating a Flotilla Organization’, ‘Empowering Our Employees’, ‘Creating a

Contemporary Workplace’, and ‘Resetting the Context for Leadership’ – all anchored in our **DSM Culture Compass**.

Powered by digital

- The 5 key digital shifts taking place in the world around us are leveraged and scaled across our organization to solidify and optimize our core business but also to create new value streams
- Building the right partnerships and ecosystems at scale to go beyond current business models; for example, personalized nutrition
 - Using data and insights at scale in all functional domains to enlighten decision-making and boost top and bottom line
 - Intensifying automation, eliminating all routine tasks, thus allowing the simplification of operating models and the acceleration of key processes

- Becoming truly agile, moving from a traditional waterfall organization to cross-functional teams empowered to take integrated decisions and operating in an iterative and adaptative manner
- Preparing for a future workforce that is fully digitally oriented and possesses advanced digital skills

Report on progress in 2020

Our strategy served us very well in 2020. It helped us to set our priorities in order to drive organic growth, especially in view of the rapidly changing circumstances brought about by the COVID-19 pandemic. It also helped us make the right capital allocation choices, including the selection of acquisition targets and the development of our nutrition portfolio, where appropriate.

Highlights:

- We completed the integration of two acquisitions (CSK and Glycom), and started the integration of Erber Group into DSM
- These three acquisitions valued together at €1.7 billion further strengthen our ‘global products, local solutions’ business model as well as the Precision part of our business model by acquiring Romer Labs as part of the acquisition of Erber Group
- We announced the divestment of our Resins & Functional Materials and associated businesses

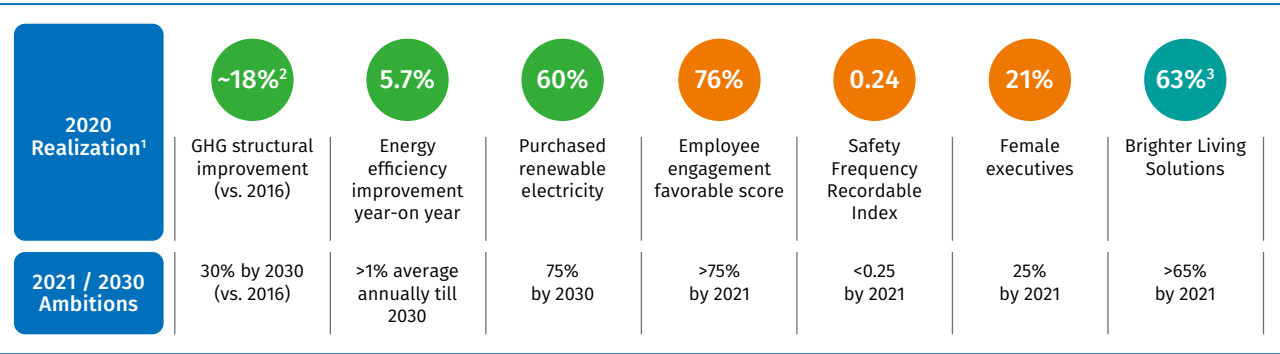
Sustainability leadership

Sustainability is not only our core value and a key responsibility, it is increasingly an important business growth driver at DSM that is fully embedded in our strategy. By improving the impact of our own operations, enabling sustainable solutions for our customers and advocating sustainable business, we make a positive contribution toward achieving the Sustainable Development Goals.

- We executed two change programs, ‘Agility to Grow’ in Materials and ‘Fit for Growth’ in DSM Nutritional Products, to support profitable growth through process simplification and improved alignment with market needs
- Enhanced our platform-based approach to driving innovation, ensuring a healthy pipeline of new products and solutions
- Delivered against our purpose-led sustainability ambitions in people and planet

Progress in Sustainability

At DSM, sustainability is not only our **core value** and a **key responsibility**, it is also an important business driver that is fully engrained in our purpose, strategy, business and operations. Our approach for bringing about positive change is to improve, enable and advocate. See below an overview of our progress on our key sustainability metrics:



1. These data are subject to the non-financial reporting policy.
2. We estimate that the effect of the underlying cumulative structural improvements in absolute GHG emissions was approximately 18% in 2020, versus the 2016 baseline. The total cumulative absolute reduction was 25%, versus the 2016 baseline.
3. For a small percentage of sales (<0.6 % of sales) classified as Brighter Living Solutions, the environmental impact is considered ‘best in class’ together with other solutions

We have leading positions in important ESG indices for investors: we hold a platinum sustainability medal from EcoVadis putting us in the top 1% of our industry, we are already ranked first out of 120 companies in our industry by Sustainalytics, have an AAA rating from MSCI, have Prime Status with ISS-ESG, and have a leading position in the rankings of Vigeo Eiris.

Progress in Digitization & Digitalization

With 157 bots automating numerous processes and more than 50 data analytics use cases implemented, we have created a solid basis to scale the benefits of **advanced analytics and automation**. The pandemic required us to accelerate the adoption of digital tools and practices among our workforce and laid down the key principles of new ways of working that will thrive in the ‘Next Normal’. We piloted with success

our digital mindset change program in Latin America and China by inviting employees to learn, ideate and try out digital approaches more and more often. In the second part of the year, we combined the Nutrition strategy with digital imperatives to form an integrated transformation program that will shape, over the coming years, the digital Nutrition of tomorrow.

Strategic priorities and key path forward

We are committed to deliver against current performance expectations. This means that we are focused on delivering growth, through being the partner of choice for our customers, bringing our innovations to market, and successfully integrating our recent acquisitions. At the same time, we will be building the company for the future. This also entails building new business models by scaling our capabilities in

digital & bioscience and M&A. We will create a stronger brand focus on Health through Nutrition. Additionally, we will ensure we have the right organizational culture to embrace this next phase. All of this will require, as always, further adjustments to our organization – starting with the carve-out of our Resins & Functional Materials businesses.

Strategic priorities



DSM in China

DSM Activities in China

DSM is active across almost its entire portfolio of Nutrition, Health & Sustainable Living in China, serving the end markets including food and dietary supplements, personal care, feed, medical devices, automotive, electrical and electronics, life protection and bio-based materials.

DSM began trading with China in 1963 and established its first China sales office and first manufacturing facility in early 1990s. The company currently has 48 affiliates in China including 26 manufacturing sites and employs about 5,358 people. DSM China regional headquarters and China Science and Technology Center is located in Shanghai. DSM's business is growing healthily and steadily in China with sales revenue reaching approximately RMB 9.22 billion in 2020.

Facts and Figures, DSM Greater China
(as of December 31, 2020)

Net sales continuing operations
(in RMB million)

Employees

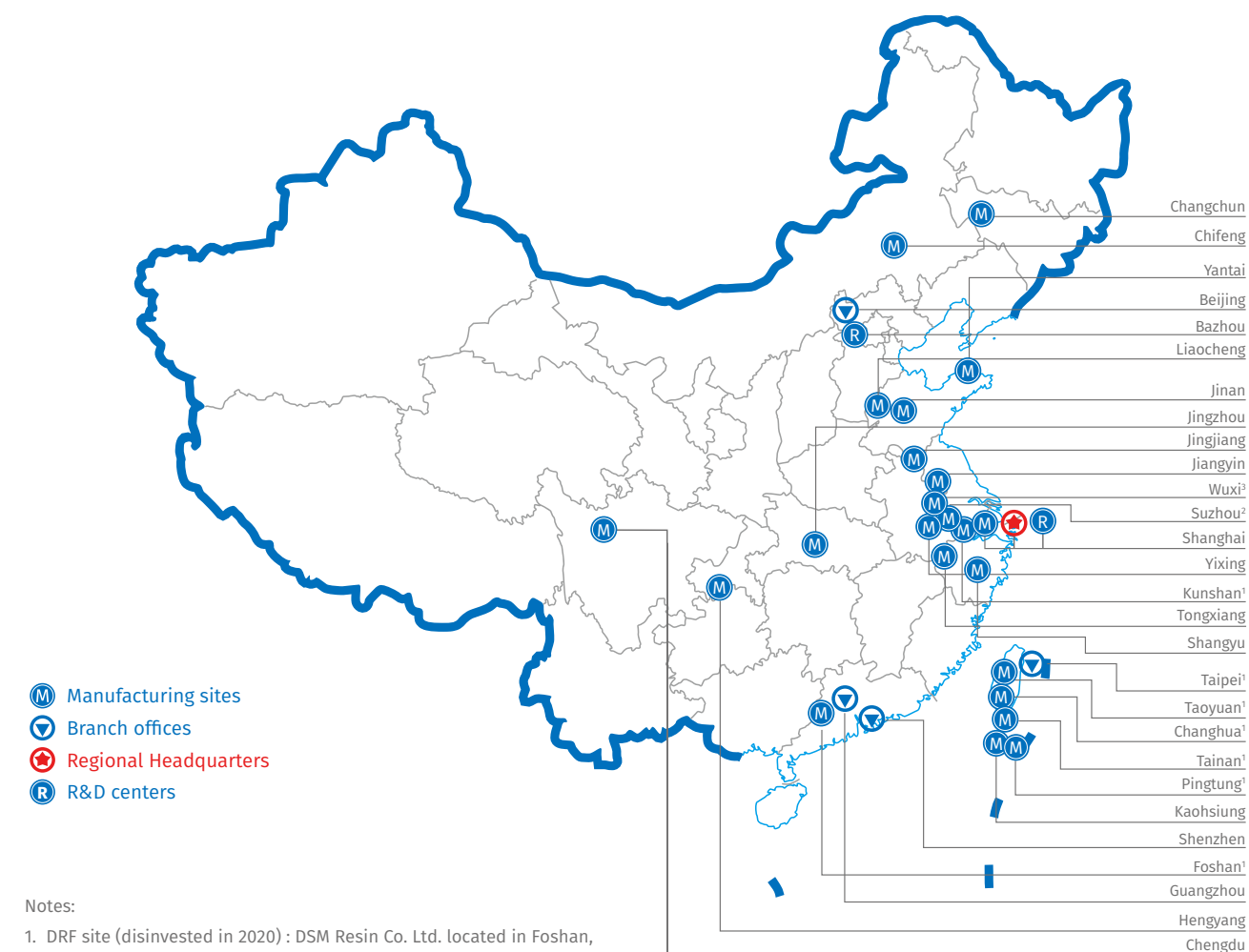
48
affiliates

26
manufacturing sites

4
branch offices

9,222

5,358



Notes:

1. DRF site (disinvested in 2020): DSM Resin Co. Ltd. located in Foshan, Kunshan and Pingtung in Taiwan, and AGI Corporation located in Taipei (shared office with DEM and DNP), Taoyuan, Changhua and Tainan
2. DAS site (disinvested in 2020): Sunshine Solar Technology (Suzhou) Co., Ltd. in Suzhou
3. Biomin and Romer Labs (newly acquired in 2020): BIOMIN China Co Ltd. located in Wuxi (included in manufacturing sites); Romer Labs in Wuxi and Romer Labs (Beijing) Co., Ltd. in Beijing (included in branches)

DSM China History



1963-2005

Starting Business in China

1963

With the first Urea License, DSM starts trading with China.

1993

DSM establishes Representative Office in Beijing.

1995

The first production facility is established in Jiangyin to manufacture polypropylene chip compounds.



2005-2008

Deepening Engagement

2005

As the biggest emerging economy, China becomes the focus of DSM's corporate strategy Vision 2010. DSM adds more than 10 manufacturing sites in China and opens its China R&D Center in Shanghai. DSM enters a collaboration with Shanghai's Fudan University to set up a Joint Laboratory.

2007

Premier Wen Jiabao recognizes DSM Citric Acid (Wuxi) Limited in China as a "Good Corporate Citizen".

2008

In the run-up to the Beijing 2008 Olympics, DSM steps up its efforts in the fields of sports and innovation, contributing to sporting success.

2008

DSM publishes its first China sustainability report.



2008-2020

Growth and Transformation

2009

DSM opens its new China Campus the new seat of its Regional Headquarters and R&D Center in Shanghai. As one of the first LEED (Leadership in Energy and Environmental Design) Gold-certified buildings in China, it is a symbol of DSM's sustainable development.

2010

The first DSM Hope Primary School in China opens on June 1, Children's Day. It is located in Qiaoxi Township of Guangyuan city, Sichuan province. The school was devastated by the Sichuan earthquake in 2008.

2011

DSM starts up its China Science and Technology Center as the company's main innovation base in China.

2012

DSM starts its animal nutrition R&D center in Bazhou City, Hebei Province. DSM Sinochem Pharmaceuticals (DSP) opens new 6-APA intermediate plant in Jilin Province.

2013

DSM's investment in Yantai Andre Pectin Co. Ltd. creates a China-based hydrocolloids growth platform. The acquisition of the German chemical company Bayer's premix activities in China further expands DSM's global premix network. On May 31, DSM opens its second DSM Hope Elementary School, in Lintao County, Gansu Province.

2014

DSM launches a food specialties world-class enzyme facility in Jiangsu to serve both the local and global markets. In the same year, DSM opens a new animal nutrition center in Bazhou to support the Chinese livestock production industry.

2015

DSM finalizes the acquisition of Jiangshan Pharmaceutical, which allows DSM to further strengthen its position in the vitamin C market. DSM's Hydrocolloids Business Unit (DHC) breaks ground for its gellan gum site expansion at DSM Zhongken Biotechnology Co., Ltd. (DZK) in Tongxiang, to make a world-class development center for hydrocolloids including gellan gum.

2016

DSM opens its state-of-the-art vitamin B6 facility in Shanghai Xinghuo Site. DSM and NHU officially inaugurate the joint venture to produce high-performance PPS compounds. DSM opens its Asia Pacific Personal Care Technical & Application Center in Shanghai.

2017

DSM expands solar product portfolio with "Sunshine" (Suzhou Sunshine New Materials Technology Co., Ltd.) technology acquisition. DSM Animal Nutrition and Health (ANH) opens its sixth state-of-the-art, premix plant in Liaocheng City, Shandong Province, China. DSM strengthens its Hydrocolloids Business Unit (DHC) with the acquisition of Inner Mongolia Rainbow Biotechnology Co., Ltd. (China).

2018

DSM Hydrocolloids Innovation Center is officially put into use in Tongxiang. DSM updates its strategy entitled "Strategy 2021: Growth & Value – Purpose-led, Performance-driven" for the next three years (2019-2021).

2019

DSM completed the increases of its shareholding in Yantai Andre Pectin Co. Ltd. to majority shares as one of the three Hydrocolloids manufacturing plants in China; DSM forms joint-venture Yimante with Nenter & Co, Inc. to produce Vitamin E for animal nutrition in China.

2020

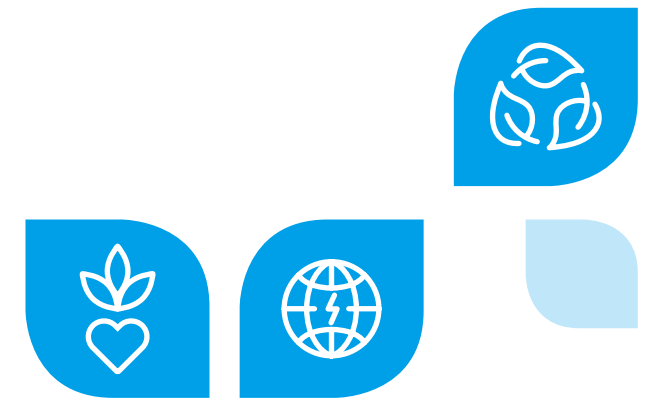
DSM Group acquired Biomin and Romer labs under Erber group; DSM Animal Nutrition and Health business opened its seventh premix plant in Hengyang, Hunan Province; DSM completed 100% shareholding plan of Zhejiang Zhongken Biotechnology Co., Ltd.



Newly Acquired Biomin Plant in Wuxi



Newly launched ANH Pre-mix Plant in Hengyang



Bright Science, Brighter Living

“Our long-term strategic focus remains on Nutrition, Health and Sustainable Living. Our strategy aligns our unique competences and our purpose (‘creating brighter lives for all’) with our ambitions to address specific megatrends and targeted Sustainable Development Goals (SDGs). Our expertise is in the science of how nutritional ingredients can ensure better general health for people and animals (‘Health through nutrition’) as well as in how to enhance the health of the planet through sustainably produced food along with more circular and bio-based materials.”

*Geraldine Matchett and Dimitri de Vreeze,
Co-CEOs Royal DSM*



Human Nutrition and Health



Keeping the world's growing population healthy

The global public crisis triggered by COVID-19 has highlighted the need for easily accessible dietary solutions that support immunity. This is driven by consumers' demands for food that is more natural and healthier, and meanwhile, more sustainable and friendlier to our environment.

We continue to develop from the role of ingredient supplier to that of a fully integrated provider of solutions. Our unique portfolio of products and services is global and highly

diversified, serving customers and other stakeholders locally across an extensive range of end-markets worldwide. As an end-to-end partner within the value chain, DSM champions the purpose behind the products that help solve the world's greatest nutritional challenges and keep the growing global population healthy. We want to contribute to a brighter world and better nutrition for all through science and our sustainability engagements.

Delivering healthier and more sustainable food choices

Today's consumers are increasingly aware of the impact their dietary choices have on the environment and are seeking foods that can meet their sustainability preferences. More health-aware and switched on to product claims than ever before, consumers also want to understand what is in the foods and beverages they purchase and where the ingredients come from. DSM Food Specialties products play an important role in helping food and beverage manufacturers produce affordable, healthier, more sustainable food choices that satisfy the diverse demand of global consumers.

Improving the brewing process

DSM Brewers Clarex® is easy to use and streamlines stabilization by eliminating the deep cooling and rinsing step in the process, helping breweries save money, enhance efficiencies and remain at the forefront of innovation. Producing 100,000 tons of beer, brewers using Brewers Clarex® can cut their carbon footprint by 5-8%.



preferences. Delvo®Plant enzymes improve taste, texture, sweetness in plant-based dairy alternatives, bringing more delicious and sustainable plant-based drinks.

Plant-based meat substitutes provide consumers with a healthier and more sustainable diet, which is changing consumers' dietary interests. Maxavor® Fish YE are new middle block fish flavors that are natural, vegan and allergen-free, plus Kosher and Halal certified - making it truly unique and fully declarable. It's also worth noting that Maxavor® Fish YE is derived from a sustainable algal oil base, and it also speaks to DSM's own commitment to developing ingredients that further enable the creation of sustainable, plant-based products with a clean label.



Innovative food preservation solution

DSM's BakeZyme® solutions are designed to help bread producers rise above the freshness challenges that can make or break consumer choices. BakeZyme® solutions is an innovative maltogenic amylase for industrial bread producers looking to improve bread's textural shelf life – creating softness that lasts longer. It helps bakers produce bread with supreme resilience, delayed staling and extra softness during shelf life. Delayed staling means less waste, better use of resources and satisfied consumers.

We provide a wide range of food and beverage solutions to help our customers improve productivity, reduce cost, and enhance innovation capability to meet consumers' need for tasty and nutritious foods.

Healthy and reliable multi-flavor food solutions

Our star product, the lactase Maxilact®, is used in the production of lactose-free milk for lactose-intolerant consumers. Its lactose-decomposing process produces natural sweetness and is used to produce low-sugar yogurt products. Used in combination with other DSM products, it could reduce the sugar content by as much as 50%.

Delvo®Plant family of enzymes delivers a better taste, texture and smoother mouthfeel to plant-based drinks. Delvo®Plant enzymes also unlock natural sweetness-fine-tuning the sugar profile of your products to meet different regional consumer



Sustainable nutrition solutions reducing environmental impact

We support food, beverage and supplement manufacturers in creating solutions that promote the health and wellbeing of people worldwide, while also limiting the impact of our products and solutions during their lifecycle on the planet.

Quali®-C - the vitamin C with the lowest carbon footprint on the market

The continuous improvement of working methods and production processes in DSM's certified manufacturing sites plays a central role in minimizing our use of raw materials and energy while reducing our GHG and nitrogen oxides (NOx) emissions. Quali®-C – DSM's branded vitamin C – is a great example of our commitment to sustainable, high-quality production methods, allowing dietary supplement and food and beverage manufacturers to develop nutritional solutions that can help create brighter lives for all.

Besides its high quality, Quali®-C has the lowest carbon footprint of all vitamin C on the market. It helps improve local air quality as it offers 65% lower GHG emissions and an 87% reduction in dust and particulate matter (PM 2.5) emissions, compared with the main alternative source. Evidence shows that buying 1,000 tonnes of Quali®-C versus the alternative commercially available vitamin C would save 13,300 tonnes of CO₂ equivalent – that is equivalent to the carbon offset by 210,000 tree seedlings grown for 10 years.



Jiangshan site for Quali®-C production

Sourcing sustainably to preserve natural resources

Facing the challenge that there are limited fish resources to support the nutritional demands of our growing population sustainably, we launched our life's DHA™, an 100% plant-based alternative to fish oil, which is sourced directly from non-GMO microalgae that have been fermented in a fully controlled manufacturing environment and extracted through a pure water process. This provides complete end-to-end traceability, providing reassurance for manufacturers, and ultimately the end consumer. Producing life's DHA™ has no negative impact on the world's fish population or other natural resources, helping to protect our oceans and planet.



Hydrocolloid solutions tackling social challenges

We champion the purpose behind our products, which helps address some of the greatest social challenges to benefit a wider population.

"Textured" foods innovation for combating dysphagia in the elderly

Dysphagia, a medical term for swallowing difficulties, is common among the aging population, posing risks of choking and malnutrition. In 2018, soon after identifying this growing opportunity, DSM Hydrocolloids initiated a strategic project to innovate and commercialize industry-leading "Textured Foods Solutions" in China, aiming to provide DELICIOUS and SAFE foods to the elderly with dysphagia without compromising sufficient NUTRITION intake. To date, the team has developed 20+ varieties of ready-to-eat dysphagia foods, ranging from meat, vegetable to fruit options. These offerings are developed in accordance with the Standards of the International Dysphagia Diet Initiative.



Ready-to-eat dysphagia foods



Our team introducing ready-to-eat dysphagia foods at a nursing home, attracting great interests

Olive oil gummies with DSM texture solutions – a joint effort for local poverty-alleviation

Since its first introduction to China in 1970's, olive trees and olive oil have been cultivated and produced by some local farmers and become their main source of income in certain regions. Thanks to its unique climate, the city Longnan in Gansu province is known as the "City of Olives" across China. However, due to a lack of R&D and commercialization capabilities such as product development, branding and logistics, local farmers still face enormous challenges in overcoming poverty and bringing such a natural product to a wider consumer base.

A start-up company "Olive Times" was founded with the aim to foster sustainable economic growth in the area and support local farmers by accelerating olive-derived product development and commercialization.

Soon after DSM hydrocolloids team met "Olive Times" through the DSM China Growth Program, a market-trend concept was

co-created: an industry-first, sugar-free olive oil-containing gummy candy with a real fruit-like texture.

From ideation to launch, the team faced challenging technical hurdles under a very ambitious timeline. The team decided to adopt a "new retail" mindset in bringing this product to the market with SPEED and AGILITY. Made possible with a DSM texture solution, and with the help of food science expertise from Jiangnan University and a local experienced gummy candy manufacturer, this "olive oil gummy" was successfully launched within 3 months of ideation.

Transforming olive oil from a mundane ingredient to a tasty and healthy snack, DSM Hydrocolloids brought together taste, texture and nutrition in ONE solution. Moreover, we did this with purpose - DSM's ultimate PURPOSE to "Create brighter lives for all".



Making animal farming more sustainable

Animal-based proteins are highly nutritious and form a key part of a balanced, healthy diet. Their rising consumption, however, is driving up greenhouse gas emissions and piling pressure on natural resources at the same time. Embedding sustainability as a business driver, we apply new thinking, new technologies and new business model and have identified six platforms that address the major challenges facing the animal farming industry today:

- Improving the lifetime performance of farm animals
- Making efficient use of natural resources
- Reducing emissions from livestock
- Helping tackle antimicrobial resistance
- Reducing our reliance on marine resources
- Improving the nutritional quality of meat, milk, fish and eggs, while reducing food loss and waste

Here we highlight our contribution to two of these: reducing emissions from livestock and helping tackle antimicrobial resistance.

Reducing emissions from livestock

Animal farming accounts for 14.5% of all human-derived greenhouse gas (GHG) emissions. This is set to rise as the demand for animal-source food increases. To be sustainable in the long term, animal farming has to reduce the emissions it produces, cutting levels of methane, ammonia and nitrous oxide, which drives up global warming and negatively impacts the environment.

Our innovative nutritional solutions targeting these emissions include

- Bovaer®, a feed additive for cows and other cattle and ruminants that reduces methane emissions by at least 30%, contributing to a significant and immediate reduction of the environmental footprint of beef and dairy products
- VevoVital®, ultra-pure source of food grade benzoic acid that cuts ammonia emissions by up to 18% in swine, leading to a healthier environment
- ProAct, our protease feed enzyme that reduces nitrogen emissions by up to 17% through improving digestibility of proteins, supporting sustainable animal production

We work closely with our customers and other partners in the value chain to make sustainable animal farming possible, and

are always looking for ways to increase our positive impact together. For several years now, we have been helping our customers to calculate their carbon footprint (GHG emissions), working with them to reduce it over time by means of practical, proven nutritional solutions to ensure they reach their emissions reduction targets.

We have recently developed a new Animal Protein Sustainability Service (APS Service), which will allow us to holistically evaluate the full environmental footprint of our customers' animal protein production operations. The APS Service uses highly advanced Life Cycle Assessment (LCA) tools, modeling and benchmarking to produce a powerful business diagnostic for animal protein producers: a large footprint is often associated with inefficiencies in the farming system, and eliminating these can allow the farmer to capture financial value while reducing the farm's environmental footprint.

Our solutions enable our customers and partners to develop practices that are both sustainable and economically viable. Together, we act in terms of a low-emissions future for animal farming.

Helping tackle antimicrobial resistance

The use of antibiotics in low dosages has been one contributory factor that advances productivity in animal production. However, there is now a significant body of evidence that substantiates the link between the misuse and over-use of antibiotics in animal production and the spread of antimicrobial resistance (AMR) in the wider population. The use of feed antibiotics as a growth promoter therefore is a highly contentious issue. In July 2019, the Chinese Ministry of Agriculture outlawed the use of antibiotics in animal feed, effective in July 2020. Through our innovative alternatives and integrated solutions, DSM promotes a more sustainable and a low-emission future for animal farming.

Enabling the replacement of antibiotic growth promoters

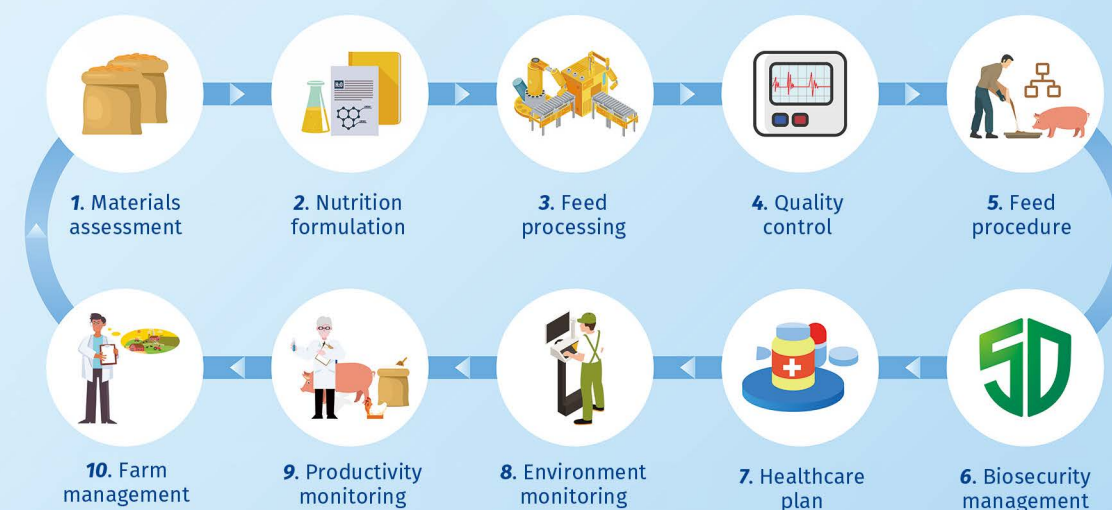
We launched our new animal gut health solution, Vevowin™, a combination of VevoVital®, an ultra-pure source of benzoic acid, and CRINA®, which contains essential oil components including thymol, eugenol, piperine, etc. The combination has been demonstrated by our experiment to have a positive effect on colibacillosis prevention, nutrient digestibility and growth performance.



Supporting safe feed along the value chain

Offering alternatives is just the first step, as reducing antibiotics in feeds needs a systematic approach. We therefore develop the "Ten Focuses – DSM antibiotics-free solutions" plan. From feed plants to farms, we ensure the sustainable use of antibiotics across the value chain, to help achieve healthy and efficient farming at the end-range pastures.

Ten Focuses – DSM antibiotics-free solutions



As reducing antibiotics in feeds needs a systematic approach, our "Ten Focuses – DSM antibiotics-free solutions" targets the above ten steps, supporting the sustainable use of antibiotics across the value chain.

NUTRITION · HEALTH · SUSTAINABLE LIVING



DSM's Animal Nutrition & Health team steps in with innovative and integrated solutions to address climate change and AMR. We are transforming animal nutrition and health to build a sustainable future, responsibly.



Advancing a circular and bio-based economy

To tackle resource challenges, our Materials businesses, now consist of DSM Engineering Materials and DSM Protective Materials. The cluster comprises a high-quality portfolio of specialty materials for global end-markets including electrical components and electronics, automotive, food packaging, medical personal protection, commercial marine and apparel. Their combined offering addresses the increasing demand for materials that protect the health of both people and planet by adding further bio-based and circular solutions.

DSM Engineering Materials

Bio-based solution for smartphones

Our Stanyl® ECO is a new series of Stanyl with raw materials partially derived from castor oil. It keeps the classic advantage of Stanyl on high flowability, high temperature toughness, wear and friction resistance, with sustainability, high gloss surface appearance and dimensional stability as new features.

As one of the few bio-based solutions available for smartphones, it will be applied to over 100 million phone frames in 2021, with its 25% bio-based measurable content enabling a lower environmental impact. With impressive flow performance, Stanyl® ECO provides a ‘thinovation solution’ – enabling better signal transmission and allowing our customer to meet growing demand for 5G.



Recycled-based materials for high value products

Whether abandoned, lost or discarded, fishing nets are a huge threat to ocean environment and marine animals’ lives. Raising awareness of this pollution challenge, we use discarded fishing nets as the source to produce the recycle-based polymer Akulon® RePurposed.

As we use local labor to treat and upcycle the fishing nets before being compounded, Akulon® RePurposed not only contributes to cleaner oceans but also has an extended positive social impact in terms of job creation, along with the development of new skills and knowledge of people working in the supply chain. The product is now being used to produce the 42mm casing of a watch and may be soon used in the watch’s band too.



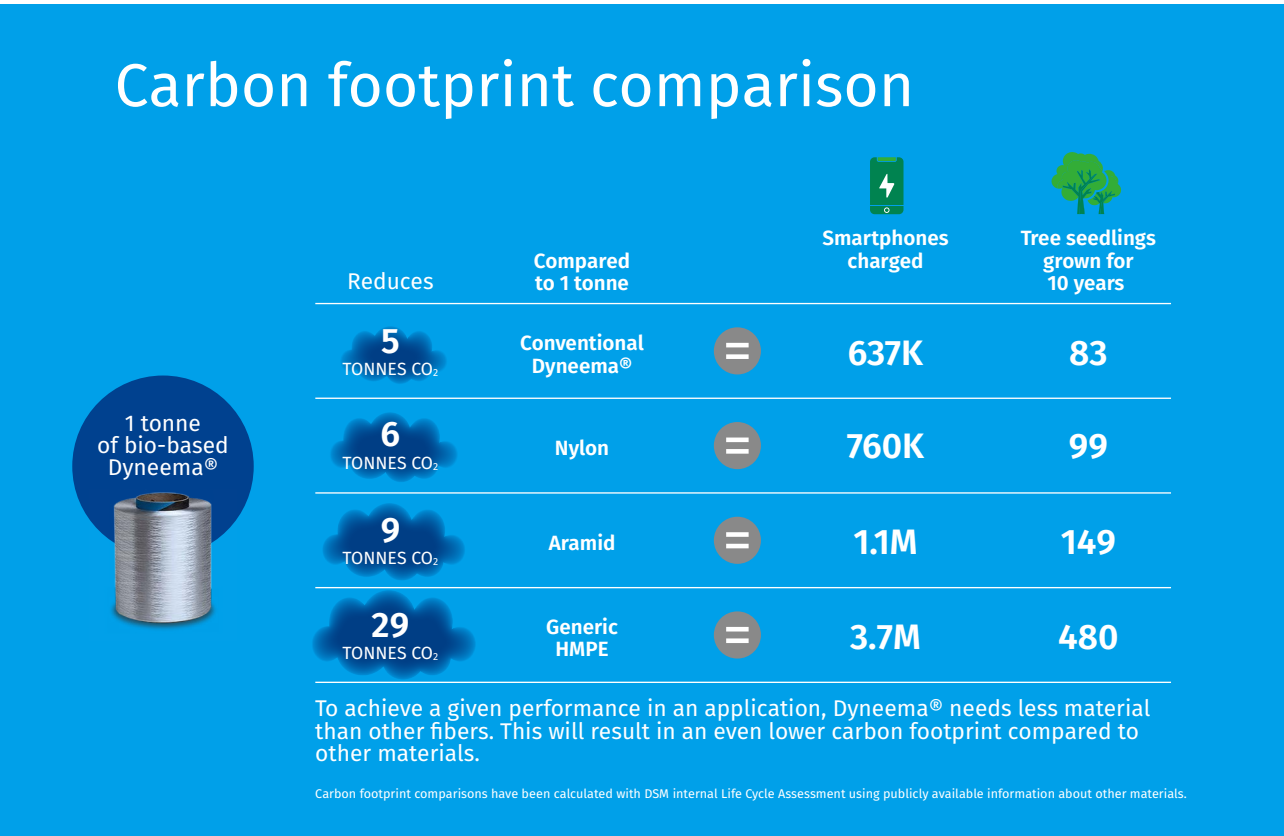
DSM Protective Materials

Bio-based Dyneema® fiber with low carbon footprint

To take the low-carbon necessary actions against climate change, it is essential to reduce our reliance on fossil feedstocks. Our innovative bio-based Dyneema® fiber, the first ever bio-based ultra-high molecular weight polyethylene fiber, helps facilitate this process.

Sourced from renewable, bio-based feedstock, bio-based Dyneema® fiber has a carbon footprint that is 90% lower than

other synthetic fibers, while maintaining the same performance, strength and longevity as conventional Dyneema® fiber. It is certified according to the International Sustainability and Carbon Certification (ISCC), which citifies that it originates from a transparent and traceable supply chain while guaranteeing that the amount of bio-based materials sold is not more than the amount sourced.



A cross-industry coalition to achieve circular economy

We launched a cross-industry coalition, known as CirculariTeam®, to address the recycling and repurposing of end-of-use products made with Dyneema®. Formed by partners from three different industries, namely Fiber/Ropes/Nets, UD/ Ballistics, and Textiles and Clothing, the coalition aims to drive the transition towards renewable bio - and recycled based resources within its respective industries. All members are committed to move quickly and have a shared drive to collaborate and help each other improve.

The coalition provides a common platform to share knowledge, resources, and technical solutions with the aim to close the loop on the world’s strongest fiber – Dyneema® fiber. Together, we will deliver solutions and growth that benefit both businesses and society at large.

100% renewable electricity to achieve sustainable operation

We are proud to be one of the leading companies that have committed to sourcing 100% of our electricity from renewable sources at the earliest possible opportunity globally. In 2020, we made significant steps towards this target. One achievement is that DPM Laiwu site, manufacturer of Dyneema® ultra-high molecular weight polyethylene fiber, has announced to purchase renewable electricity from Shandong Huaneng Company. This deal ensures DPM Laiwu site achieving 100% purchased electricity from renewable sources and helps reducing 3,700 tons of standard coal per year, putting us firmly on course to achieve our target of 75% electricity from renewable resources by 2030. DPM is the first DSM Business Unit to be on 100% renewable electricity in China.

People

In 2020, the COVID-19 pandemic presented our employees new challenges. Ensuring that all our people felt included and cared for became more of a priority than ever. Fostering and maintaining an inclusive and diverse workplace is key to helping our employees offer their best, most authentic contribution, and is, therefore, a prerequisite to delivering on our strategic goals.

Safety, Health and Well-being

The safety, health and well-being of our employees has always been our number one priority. In 2020, as the pandemic unfolded, we were able to leverage and build on our strong foundations. We actively monitor occupational safety and process safety-the safety of our people and operations, and support the health and well-being of our employees.

Occupational safety

Occupational safety is the safety of both our employees and contractors. We strive to be an incident-and-injury-free company. In 2020, we were able to build on the robust practices put in place in previous years. Through the design of our processes and products or existed equipment improvement, as well as the provision of proper protective equipment, we aim to prevent occupational illness.

Occupational safety incidents can be measured through a Frequency Index of Total Recordable Injuries, in which Fatalities, Lost Workday Cases, Restricted Workday Cases and Medical Treatment Cases of all people present on-site are shown – employees, contractors and visitors. DSM aims for a Frequency Index of Total Recordable Injuries (per 100 DSM employees and contractor employees) that is less than or equal to 0.25 and Process Safety Rate (PSI) of 0.15 by 2020.

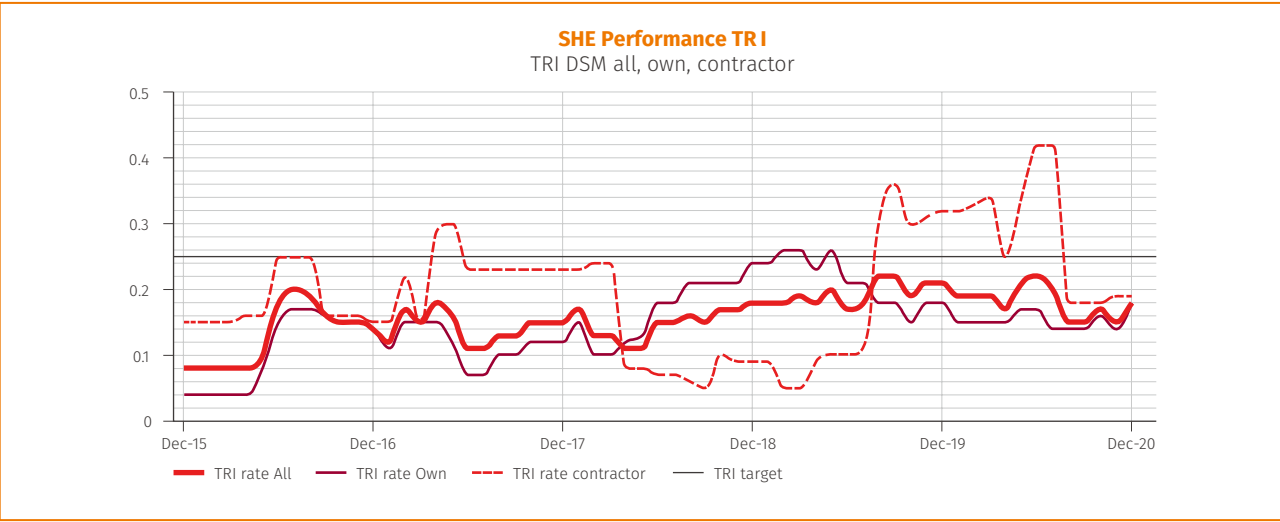
Safety Performance (2020)	DSM China Realization	DSM Global Realization	Aspirations 2020
TRI-all (Total Recordable Injury)	0.18	0.24	< 0.25

Our focus on sites with the highest numbers of recordable injuries continued to deliver results, and we saw a further decrease of the Frequency Index (TRI). Many key elements of our safety program contributed to this progress, such as the “I Care, We Care” campaign, the enhancement of key capabilities and the constant attention on hand safety. We also continued to reinforce the importance of the Life Saving Rules in our approach.

In 2020, the TRI was to 0.18 from 0.21 in 2019 at DSM China sites. No fatalities occurred in 2020, which means that DSM China has been free of fatalities for eighteen years in a row. In 2020, ANH Hunan site achieved OSHA Recordable Injury-Free over 4,400

days, ANH Xinghuo site over 4,000 days, and DFS Yixing site over 2,000 days.

While the progress of Recordable Injury rate and the impact of our focus programs are promising, we will continue to strive to make our company fully incident and injury free. In 2020, DSM China sites rolled out its own safety culture initiatives with the Living Safety Campaign integrated. These safety culture initiatives included “SHE Day” events, monthly SHE themes, Life Saving Rules (LSR) gap analysis program, hand safety program, SafeStart story sharing and learning, SHE knowledge contest, SHE management tools’ digitalization, digitalized safety dashboard, and many more.



SHE Culture Program: SHE Day

SHE Day is the grand opening of the SHE Culture Program in DSM China. Through experiential activities such as safety exhibitions, SHE knowledge learning and sharing, forklift operation, the employees and contractors enhance SHE knowledge and practical skills and share experiences with each other, keeping the “I care, we care!” in mind every day.



SHE Day field activities

Responsible Care Contest

In 2020, DSM China organized a Responsible Care Contest covering occupational & process safety, health, environment, security and sustainability topics. Before the final round, each site held internal contests that all employees participated, and sites across China competed with each other. We also conducted the contest on WeChat and invited all employees from all sites to join the online contest. After several rounds of online and offline competition, four winning teams had the final contest in Tongxiang. Jiangshan site won first place in the contest, Xinghuo site the second and Shunde site the third. Responsible Care Contest plays an important role in improving employee's knowledge and skills, as well as promoting SHE culture.



Laiwu internal contest that everyone onsite participated

DSM Life Saving Rules

Our DSM Life Saving Rules (LSR) plays an important role in our approach to safety and address the highest risks in our operations.

After the new LSR standards releasing, DSM China sites developed gap analysis and acted in compliance with LSR. They arranged level 1 & level 2 training for employees and contractors, organized LSR activities and designed themed programs to ensure LSR is fully implemented onsite.



Zero incident 100 day on truck safety activity

Hand safety

Hand safety is our key focus at DSM China. China sites are identifying the gaps and taking actions for improvement (e.g. remove knives and make cut-resistant gloves mandatory for personal protective equipment, etc). In 2020, China sites took further steps to prevent the similar hand injury cases from happening. For instance, DSM Hydrocolloids sites conducted a safety workshop, at which 500 employees joined the “line of fire, PPE and tools” training, learning minimum standard for hand protection. We expect to see the impacts of these efforts as we move forward in 2021.



Hand safety workshop with routine production

SafeStart Program

“SafeStart” started at China sites in 2019. The program focuses on self-awareness increasing to avoid mistakes or errors that can lead to safety incidents. DSM Nutritional Products (DNP) Xinghuo site launched the “Rate your states” program and reinforced the communication and feedback skill to reduce the fault. DSM Resins and Functional Materials Shunde site ran the “SafeStart” story sharing and learning from flyer activities to enhance the employee safety self-awareness.



SafeStart workshop

Process safety

Process safety refers to the safe operation of our facilities. In 2020, our Process Safety Rate improved from 0.23 to 0.20, but we missed our target of 0.15. The reduced rate can be attributed to, for example, the positive results of the asset improvement programs that began in 2019. We also pay special attention to the sites where the most incidents occurred in the past. This contributed to an approximately 60% reduction (compared to 2019) of small product leakages, which accounted for the majority of reported incidents.

We carry out digital follow-up procedures to ensure that we have learned from previous process safety incidents. This, alongside our employees' increasing understanding of and compliance with our Life Saving Rules, is helping to prevent the potential of most serious incidents.

In China, DSM continues to manage process safety with the target of continuous improvement and with a special focus on building up competence. Most of the sites have set up the Process Safety Life Cycle (PSLC) Role Map to ensure

Digital Program on safety

Digitalization is one of the management tools. It is the practice to digitalize daily workflow by citizen development system, with which all KPIs are collected and presented on the digital dashboard. We can acquire the key information of data for trend analysis from the system, so that it can be easier and more convenient to take actions. In 2020, DHC Tongxiang site started to develop a visitor system and a BBS program. We expect the digitization system can be applied to more areas in the future.

BBS Electronic Card Multiple-choice version

Instruction:
At DZK, everyone can use the BBS card to monitor safety, with paper card and digital card for your choice. To promote paperless office and sustainable development, we encourage you to use the digital version. In practice, if the employee finds difficulties in operating the computer, he/she is encouraged to fill in the paper version of the BBS card and submit to his/her supervisors. The team leader, director or managers will input data in the digital version. Let's join hands to achieve zero harm, zero incident at DZK.

*** Required**

1. 观察员
Name*
请在此处输入您的姓名

Enter you answer

BBS program by digitalization

process safety expertise and to improve process safety performance. Additional trainings, in combination with more strict qualification criteria, have been rolled out to increase competences of employees in key roles of process safety management. We are also dedicated to localizing trainer team to increase flexibility. By far, some local trainers have been able to provide training in a short notice.

In 2019, we shut down the newly acquired Jingzhou site temporarily to identify potential high-risk issues using the professional risk assessment method. The site can resume production only when high-risk issues are controlled and meet DSM requirements. In 2020, Jingzhou site re-started up after risk analysis and control of high-risk issues.

In 2020, we started to compare and assess China's local process safety related codes, to ensure DSM sites can be operated with meeting local codes requirements, and solve DSM site compliance issues caused by different local process safety management systems and concepts.

Occupational health and well-being

Our health & well-being ambition is to create a positive culture of health at work and support our employees to be 'fit for the future' by promoting well-being. Our health management system is based on prevention, primary care and promotion. In the special year of 2020, COVID-19 pandemic brought new direct and indirect challenges in ensuring the occupational health and well-being of our employees. In line with local risks and conditions, as well as the guidance and legislations of regional authorities, we scaled up our response to the pandemic and put in place a wide range of COVID-19 related practical initiatives. Early in 2020, we organized a Response Team to COVID-19 to install relevant safety and health measures.

When the COVID-19 was the most severe, most of the sites implemented control measures not only on employees



Employees get their temperature checked and hand sanitized before entering workplace

DEM Jiangyin site – engineering control

Jiangyin site installed automatic palletizer and pallet wrapping machine in compounding plant, which improved working efficiency and reduced ergonomic risk as less manual work was required. With finished products being transported automatically to the exit of the plant, this improvement also helped reduce noise exposure as forklift drivers only need to enter the plant on occasion.



DEM Jiangyin site

but also on working areas and materials entering into the site. We monitored employees' health every day during the Chinese New Year holiday. After that, we checked employees' temperature on a daily basis and ensured their hands and shoes get sanitized before entering the working areas. Social distance and avoidance of non-essential travel were also listed for COVID-19 prevention measures.

We cleaned areas including handrails of stairs and doors, floors and desk surfaces regularly and also sanitized the surface of the truck and material before putting them into use.

In China, we updated control measures according to local real risk situation. No COVID-19 cases were identified on our China sites.

Beyond our pandemic-related efforts and initiatives, in 2020, China sites also tried to improve the employee working environment and decrease the health risk for the employees.



Employees sanitizing trucks



Employees sanitizing materials

DJV Jiangshan site – process improvement

Jiangshan site changed activated carbon dosing from direct power dosing to bagging dosing in open area, which decreased activated carbon exposure.

Employee Care Program against COVID-19

We carried out a wide range of programs to sustain our employees and their families during the COVID-19 challenges.

#Optimizeyourimmunity Initiative

As part of our #optimizeyourimmunity initiative, DSM China organized events to distribute vitamin products to more than 5,000 employees in Shanghai and other venues in June, September and December 2020 respectively. In the event, DSM China President Joe Zhou moderated the online broadcast, summarizing the launching process and demonstrating the outputs of the Initiative. In addition, Dr. Manfred Eggersdorfer gave a webinar to introduce the relationship between immunity and micronutrient, making more employees realize the importance of immune health.



Employees at DSM China Employees Nutrition Supplements Distribution Ceremony

Personal Care Initiative

With the outbreak of COVID-19 in 2020, we specially value our people's safety and well-being at the most and believe good health habits are essential. DSM Personal Care & Aroma Ingredients Department called on all employees to take hand sanitation seriously and to care for their hands and skins. In July 2020, a ceremony was organized to distribute hand creams to all Chinese employees, as part of our efforts to protect employee health, which increased the employee engagement.



Chinese employees receiving hand creams

Employees Assistance Program (EAP)

In February 2020, we launched the Employees Assistance Program (EAP), providing our Chinese employees and their family members with confidential and professional psychological counselling, to support the mental and emotional wellbeing of our people amid COVID-19.

What's more, our EAP continued to support our employees in reducing health anxiety, finding inner strength and adapting to unexpected changes wisely.



Career Development and Talent Program

Employee engagement

Our culture builds on our strong heritage, to guide us to our future. A strong, shared culture helps us to grow and thrive as a business, and as people.

A new Culture Compass

In 2020, we defined and launched our Culture Compass, a navigational tool that designed to connect us across regions, business units and functions.

Our purpose “Creating brighter lives for all” is at the center, steering our company to where we aspire to be. In particular, we deliver performance by being more of who we are (courageous, caring and collaborative), and by making decisions that show what we stand for (taking responsibility, championing sustainability, and delivering value).

The Culture Compass not only supports our purpose-led, performance-driven strategy. What’s more, it guides our day-to-day interactions and decisions, ensuring everyone at DSM could find their own ways of working and living while advancing towards the same goal steadily.

Employee Engagement Survey

An engaged workforce can help us to deliver our purpose in a global market that changes rapidly. At DSM, we strive to offer an environment where everyone can offer their unique contribution, and where everyone can feel safe, valued and included. By increasing employee engagement, we hope to improve work performance and innovation capability as well as attract and retain talents.

In 2020, we conducted the 13th Employee Engagement Survey. In China, we received a total number of 3,819 survey questionnaires, with a response rate of 97%. We are happy to see the active participation as it enables us to understand how our employees feel at work, where we need to improve on our



employee experience and what solutions we can implement.

The Employee Engagement Index reached 80% in 2020, a continuous growth over years. Among all the questions, 82% and 83% of our employees answered positively to questions such as “DSM offers a variety of learning and development opportunities” and “DSM motivates me to be the best”. As for other questions related to workplace and company culture, it is exciting to see that Chinese employees’ recognition rate is higher than average in almost every question. The results underline the positive effects of our active efforts to maintain high levels of engagement during the pandemic.

Talent development

Through initiatives and programs across the company, we keep to seek best talents, help our people achieve their greatest potentials and ensure everyone feel included.

China Operations Talent Event

The China Operations Talent Event, a biennial gathering of the operation team, provides a platform for operation talents to exchange experience and learn from each other and promotes the interaction between the management and the talents.



Employees at China Operations Talent Event

2020 DSM Greater China Operations Annual Conference & Talent Event was held in Shanghai, focusing on the topic “Simplify & Standardize, Stay the course!”. At the conference, operation members from DSM China discussed operational issues, shared experience in talent development and arranged

China Young Talent Program (YTP)

DSM’s China Young Talent Program (YTP) aims to find, recruit and nurture young talents across China. The goal is to hire the best-fit Chinese graduates, and then support them to accelerate the growth of their professional skills and enrich their business knowledge. This way we are creating a healthy inflow of young talents into the DSM China talent pipeline.

Young talents will experience an 18-month learning and development journey, aiming to develop them to be skilled professionals when graduating from the program. 2020 marks



YTP team building

WIN China

The mission of DSM China Women Inspired Network (WIN) is to inspire, support and enhance the professional and personal development of DSM’s female employees in China. The core values of WIN are motivation, tolerance, support, and care.

In 2020, WIN China organized a series of events at our Shanghai Campus responding to employees’ needs and interests as well as hot social topics, including Aging Gracefully, How to Find



WIN China Q3 Event: How to Find Your Inner Strength - workshop on how to find inner strength and live a richer life

dialogues on the newly launched Culture Compass. During the years, DSM China has been adhering to the concept of consolidating talent foundation and strengthening talent pool and has implemented a series of talent development measures to steadily promote talent development.

the seventh year of the China YTP. Facing COVID-19 challenges, this year we combined online career talk and onsite Assessment Center to select talents. 12 graduates will join DSM China and start their careers in various business units.

All sites and headquarters in China devote efforts to YTP, with strong support from line managers and senior leaders to tailor development plans and provide cross regions/sites learning opportunities. We continuously focus on talent growth and believe DSM China YTP will move forward steadily.



Meet, Share and Learn

Your Inner Strength Mindfulness at Work, Parenting workshop: Growing Pains, Love, Marriage and Law, etc.

Both internal and external speakers were invited to share their knowledge and experience. Female employees on other sites in China were able to join the events online. This further extended WIN China’s outreach and influence.



WIN China Q4 Event: Love, Marriage and Law - conversations on how to guard your love and property in marriage

Planet

“On Planet, we are well on track with respect to our greenhouse gas (GHG) reduction, energy efficiency and purchased renewable electricity targets. We signed two new renewable energy Power Purchase Agreements (PPA). This progress supports our commitment to a long-term pathway to work toward net-zero GHG emissions across our operations and value chains by 2050.”

*Geraldine Matchett and Dimitri de Vreeze,
Co-CEOs Royal DSM*

We take our global environmental and social responsibilities very seriously. These extend beyond our own operations to include those of our suppliers, customers and end-users. We fulfill our environmental responsibilities through our portfolio of Brighter Living Solutions, the Safety, Health & Environment (SHE) policy, the CO2REDUCE program, and our position on issues such as product stewardship and biodiversity.

We focus on:

- Improving our own environmental footprint
- Enabling our customers to do the same through innovative solutions
- Advocating on our key environmental topics

Our Brighter Living Solutions are better than the mainstream reference solution for people and/or the planet. Our operations network spans more than 110 commercial production facilities in over 40 countries. Our operational approach is led by the DSM Responsible Care Plan, described below, and supports the Sustainable Development Goals (SDGs), especially SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action), among others.

DSM Responsible Care Plan 2019-2021

The DSM Responsible Care Plan (DRCP) is aligned with our strategy. It defines our ambitions, targets and actions in the fields of safety, health, environmental footprint, value chain sustainability, climate adaptation and security.

We set ourselves ambitious targets in the DRCP, comprising those in line with our Science-based Targets. By 2030 and versus our 2016 baseline, we aim to realize:

- A greenhouse gas (GHG) scope 1+2 emission absolute reduction of 30%
- A GHG scope 3 intensity reduction of 28%

These were reviewed and approved by the Science-based Targets initiative in early 2019 and are the foundation for achieving our net-zero by 2050 commitment. To be more specific,

- Our scope 1+2 target is supported by our renewable electricity target (75% of purchased electricity to be sourced from renewables by 2030) and our annual average energy efficiency improvement of at least 1% through until 2030
- Our scope 3 target is supported by the CO2REDUCE program

Next to mitigating climate change, we are also working on climate adaptation. To improve the resilience of our assets against potential physical impacts of climate change, we conducted physical risk assessments in 2020. This involved mapping high-risk areas and our top 30 sites for five emerging hazards and long-term impacts using two-time horizons and three climate scenarios.

We will continue to drive the different water-related improvements that we identified during the water risk assessments in the past year, while shaping even more context-based water improvement plans for 2021 onwards. Furthermore, we continue to enhance our insights and capabilities to steer volatile organic compounds and waste improvements and we will develop action plans for all products containing substances of very high concern.

Climate & Energy

In 2015, the Paris Agreement first established a common ambition to take urgent actions on GHG emissions to limit average temperature increases to well below 2°C. Later in 2018, the Intergovernmental Panel on Climate Change (IPCC) provided a clear and compelling case to redouble efforts to limit the warming to 1.5°C. Our fair share of this ambition requires our emissions to reach net-zero by 2050 with a rapid acceleration of our rate of emission reductions over the coming decade.

These are defined by our net-zero commitment and Science-based Targets.

We were one of the first companies to align our efforts with the latest science as presented in the IPCC Special Report 'Global Warming of 1.5°C' by setting a long-term pathway to reach net-zero GHG emissions across our operations and value chains by 2050. Our Science-based Targets are our foundation to achieve

this goal, supported by our ambitions on renewable electricity and energy efficiency, and through working intensively with our key suppliers through our CO2REDUCE program.

Throughout 2020 and continuing into 2021, we are working with long-term innovation roadmaps to map pathways toward net-zero emissions in the coming decades.

In China, there are in total seven sites included on the list of main contributing sites. Six sites have finished identifying their opportunities and finalized their multi-year plan for the executions till the end of 2020. The other one site is on the planning list to be finished in coming years.

Environment Performance (2020)	Aspiration	Realization of DSM China 2020	Realization of DSM Global 2020
Greenhouse gas (GHG)			
GHG emissions scope 1 + 2 market-based (x million tons)		0.5	1.24
Energy			
Primary energy use (in PJ)		6.9	21.5
Final consumed energy (in PJ)		4.8	18.2
Energy Efficiency Improvement (in %, year on year)	>1	6.7	5.7
Electricity purchased from renewable sources	75% in 2030	0% ¹	60%

1. DSM China has successfully concluded the first Power Purchase Agreement (PPA) at the end of 2020, which will build up the renewable electricity purchase share in China.

In 2020, the total emissions of DSM China were 0.5 million tons of CO₂ equivalent, higher than the 0.44 million tons emitted in 2019. It is mainly because of the increase of total production volume in 2020 comparing to that of 2019 and the inclusion of newly acquired site in the reporting.

Supported by a dedicated corporate budget that is available to our business groups, we executed a variety of GHG reduction projects in 2019 (which will bring effect in 2020) and 2020.

Renewable energy

The contributions to our GHG reductions, due to the step-up in renewably sourced electricity that was made in Europe and North America in 2020, were offset by the current growth in limited renewably sourced electricity in China. This growth in China was due to the impact of acquisitions as well as organic growth in our China sites. In the coming years, in line with developing infrastructure, we will be actively pursuing opportunities for renewable electricity in China as well. Some first steps and results were already achieved in 2020. DPM Laiwu site has secured a renewable energy power purchase agreement for year 2021 onward, and DNP Jiangshan site has turned 15% of its annual electricity consumption from renewable sources.

Renewable Energy Power Purchase Agreement at Laiwu site

In 2020, we have successfully concluded the first renewable energy Power Purchase Agreement (PPA) in China, for DPM Laiwu site in Shandong Province, which will be effective in 2021. Laiwu site is the first DSM site in China to reach this milestone, underlining our commitment to sustainability in this region.

Next to significant steps taken to increase the ratio of purchased renewable electricity, we also look for opportunities for the broader use of renewable energy sources. Sites across DSM already recover waste streams for production of renewable energy while others are in an exploratory phase.



Laiwu site

For example, an anaerobic digester in Jiangshan site enables the production of biogas from wastewater. At the end of 2020, Chifeng site purchased and started to use steam produced

from biomass residues and stopped coal based boiler. This results in roughly 2/3 of the GHG emission reduction from the operation, in addition to significant cost reduction.



New bio-based steam transmission line in Chifeng site



Startup ceremony of bio-based steam in Chifeng site

Energy consumption

In 2020, we continued our energy efficiency improvement journey which is the most cost-effective way to reduce GHG emissions in our operations. We implemented a range of reduction proposals from the business groups, encompassing projects for saving heat, fuel and electricity with an expected total of GHG improvement potential of approximately 12kt/a in GHG reductions in China. In 2020, continuing with the energy performance diagnostic, DSM China sites also identified improvement opportunities and implemented several energy saving projects which resulted in an improvement on energy efficiency performance versus 2019.

was increased 6.7% versus 2019. The absolute increase was mainly due to production volume increase and the integration of newly acquired site in China environment reporting data.

Energy saving projects at Tongxiang site

In 2020, Tongxiang site continued to reduce its energy consumption by both CAPEX projects and 6-sigma projects, for example, the project on changing the pressure setting point of fermentation air system and the project on optimizing blades/shafts for fermenters' agitation systems. With minimum investment in these two projects, the site achieved over 1,000 MWh saving in 2020, which brought a reduction of GHG emission around 800 t CO₂ equivalent.

DSM's total annual energy consumption in China increased from 5.7 to 6.9 PJ in 2020, while DSM China's energy efficiency

Energy saving projects at Jiangshan site

Projects executed in 2019 began delivering results in 2020. In Jiangshan, for example, the installation of a membrane filtration system to preconcentrate a product solution, significantly reducing the amount of required steam, contributed about 6 kt CO₂ equivalent. In 2020, Jiangshan continued their improvement journey on EEI; besides CAPEX projects, there were quick win projects such as optimization of process control parameters. With all these projects in 2019 (executed but result delivered in 2020) and 2020 (quick win), Jiangshan realized 25.6 kt CO₂ equivalent emission reduction.



Scope 3 GHG emissions

In our CO2REDUCE program, a dedicated Scope 3 supplier engagement program, we apply a collaborative approach together with a given supplier whereby we aim to understand the supplier’s existing reduction ambitions and efforts, and develop a supplier action plan for reduction based on a common ‘reduction’ starting point. This typically involves the exchange of life cycle assessment data to establish the specific situation of a supplier.

In 2020, we have developed supplier action plans with six key Chinese suppliers, which have improved our insights in emissions while relationships with suppliers have been strengthened with a clear focus on next implementation steps for GHG reduction. We will continue our roadmap discussions with more suppliers in 2021 as well as develop capability building workshops or webinars to further enable and support our suppliers to reach our collective goal.

Other emissions to air

Our reporting on other emissions to air focuses on VOCs (Volatile Organic Compounds), as these are the most significant emissions in this area. We continue to report our NOx and SO₂ emissions in the Sustainability Statements of our Integrated Annual Report and via the company website. However, these emissions are not material due to improvement actions executed in the past. Our target is to continuously reduce our Volatile Organic Compounds (VOC) emissions, resulting in a more than 50% efficiency improvement by 2021—an increase on

our previous aspiration of 40% for the three emissions by 2020.

Our absolute VOC emissions increased from 0.8 kt in 2019 to 1.6 kt in 2020 due to the inclusion of acquired sites in the reporting scope. As this is the first year of reporting for these sites, they do not contribute to the VOC efficiency improvement. VOC efficiency improvement stayed almost the same between 2020 and 2019 since the majority of the larger abatement projects have been executed in previous years.

Environment Performance (2020)	Aspiration	Realization of DSM China 2020	Realization of DSM Global 2020
VOC efficiency improvement (in %, baseline 2015)	Continuous improvement	93	74
VOC (x 1,000 tons)		1.6	3.5

In Yantai site, ethanol emissions were reduced by more than 50% comparing to the emissions in 2019 due to the implementation of several process improvements, improving staff awareness and monitoring capability. This improvement is not reflected on the year-on-year VOC efficiency improvement KPI because it is the first reporting year for Yantai, but it does significantly contribute to the company’s overall VOC emission reduction in 2020.

Besides Yantai site, to further reduce their environment footprint proactively, other sites like Jiangyin site in China kept focusing on the reduction of VOC emission even it is not the site’s priority environment footprint. A CAPEX project was implemented in 2020 to install VOC collection and abatement equipment on seven production lines to reduce fugitive emissions like fumes and aerosols. As a result, 76% of fugitive emissions have been reduced.

Resources & Circularity

With the global population having doubled over the past 50 years, resource extraction has tripled, putting pressure on the Earth’s finite resources. At the same time, the Circularity Gap Report 2020 finds that the global economy is only 8.6% circular—in other words, just 8.6% of the 100 billion tons of minerals, fossil fuels, metals and biomass that enter the economy are re-used annually, and the trend is negative—the gap is not closing but getting even widened. That is why we are committed to securing the future availability of natural resources and unlocking more value from the limited resources available.

We are enabling the transition toward a circular and bio-based economy by focusing on five drivers:

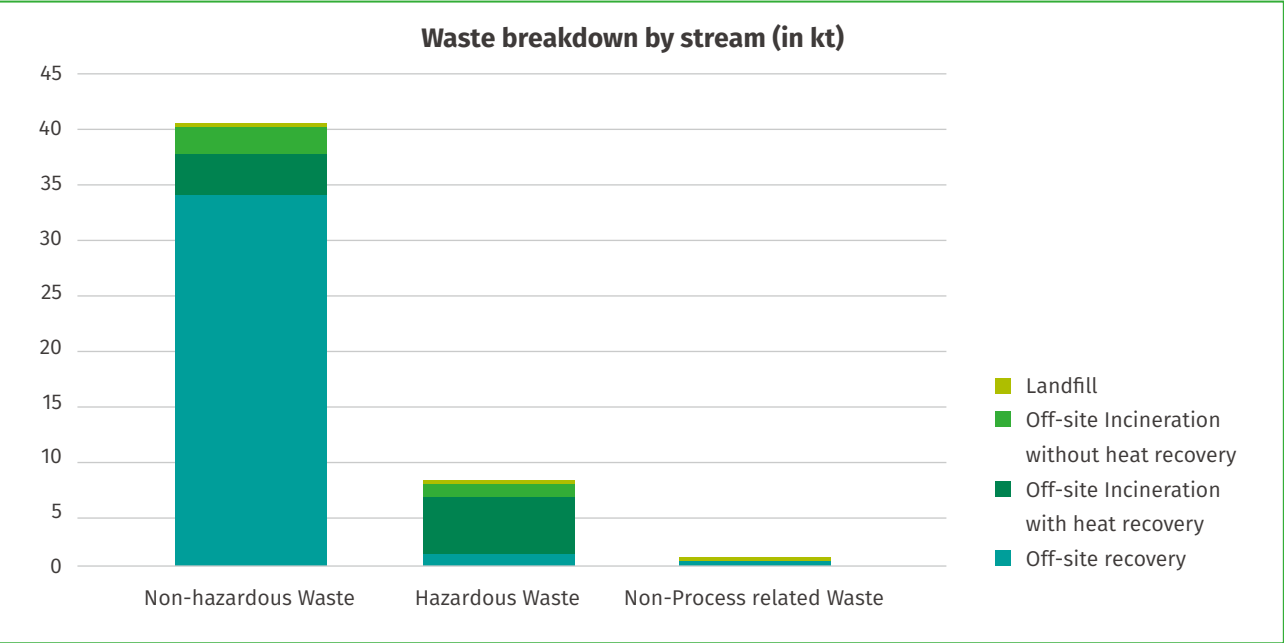
- Reducing the use of critical resources throughout the value chain
- Replacing scarce, hazardous, and potentially harmful resources with safe and renewable alternatives
- Extending the lifetime of products by means of improved durability or shelf-life
- Designing for recyclability
- Recovering waste streams by viewing waste as a resource

Waste

Environment Performance (2020)	Aspiration	Realization of DSM China 2020	Realization of DSM Global 2020
Waste recycled (in %)	80-90 in 2020	93	85
Total process-related waste efficiency improvement (in %)	at least maintain	4 ¹	6.3
Non-hazardous waste (kt)		40	130
Hazardous waste (kt)		7.6	75
Non-process related waste (kt)		0.6	10

Our definition of waste recycled is the percentage of total process-related waste that is recycled or, if this is not possible, incinerated off-site with heat recovery. We pay careful attention to meeting local waste management legislation. In total, this amounted to 43.8 kt out of 47.6 kt of total process-related waste. We aim to maintain our percentage of recycled waste in the range of 80-90%, which was achieved in 2020.

In 2020, China sites slightly increased 1% of waste recycled rate comparing to that in 2019 (91%). The absolute amount of process-related waste increased in 2020 due to the inclusion of acquired sites in the reporting scope.



Water Security

Fresh water is a finite natural resource that needs to be used and managed in a responsible and sustainable way. Water security is an integral part of our risk mitigation and environmental impact reduction strategies, closely connected to Climate & Energy and Resources & Circularity. At the company level, we commit to measuring, monitoring and reporting relevant performance indicators for water. We disclose the progress of our water stewardship program, via the CDP Water Security questionnaire.

DSM is a signatory of the CEO Water Mandate, a UN Global Compact initiative that mobilizes business leaders to advance in water stewardship and drive progress on SDG 6 (Clean Water and Sanitation). This commitment is translated to our global policy on water, the Water Management Standard, which applies to all our facilities worldwide, enabling the sites to implement relevant measures in line with the Alliance for Water

Stewardship (AWS) Standards, the WBCSD guide to circular water management and other industry best practices. In 2020, our CDP Water Security rating improved to an A - for our water governance and management strategy.

Water is not a primary ingredient in our products. Our primary water use is for the utility systems, in steam consumption and cooling processes. In addition to this, high quality freshwater is needed for a variety of our production processes, as a production medium and as a cleaning agent to meet the desired product hygiene and quality standards. For our direct operations, we strive to use water in balance with the context of the respective catchments. In our value chain, we monitor the materiality on water for our suppliers and customers through value chain engagement programs, such as Together for Sustainability (TfS).

A large proportion of our total water withdrawal (75%) is used for once-through cooling (OTC) purposes global wise in low water stress areas. For this type of water withdrawal, both risk exposure and environmental impacts are limited. Although OTC is not the same case as in China, to follow the global standard, we still report and monitor ‘non-OTC water withdrawal’ separately, to provide a metric that reflects our water intensity in a contextual way. We have a target in place to continuously improve water efficiency using this metric.

In addition to water withdrawal, we report and monitor our consumptive use, defined as the difference between water withdrawal and water discharge. Our consumptive use is primarily a result of evaporative cooling and is positively correlated to energy efficiency. For this reason, our GHG reduction program delivers co-benefits on water consumption through improving energy efficiency.

Total water withdrawal by DSM China increased from 4.2 million m³ in 2019 to 5.8 million m³ in 2020, mainly due to the integration of newly acquired sites in China environment reporting. Our water withdrawal efficiency in China improved by 4.2% versus 2019. In 2020, many sites conducted improvement projects to save steam use like improvement of steam trap, reducing steam use through process optimization which brought co-benefits on water consumption.

Building on the current continuous improvement targets for water efficiency, we aim to define a context-based water reduction target in response to the emerging availability risks in water-stressed regions. In 2020, a water impact assessment was conducted globally on key water stress sites to evaluate water reduction options and potential impacts operationally and financially. Besides providing the necessary insights to define a relevant and impactful target, the impact assessment raised awareness of water stress, strengthened water stewardship practices, including measurements and monitoring, and identified water recycling and reuse possibilities for the sites in water-stressed regions. Five sites in China were involved in this process. A list of high-level potentials of water saving had been worked out for each site and it will help the site to shape the future water saving roadmap on the context base.

The context-based reduction target as of 2021 will set the direction for improvements for the longer term and be complementary to our continuing efforts to manage water quality through a risk-based approach.

Environment Performance (2020)	Aspiration	Realization of DSM China 2020	Realization of DSM Global 2020
Water use (x million m³)			
Water withdrawal for once-through cooling (OTC) ¹		0	85
Water withdrawal for non-OTC ²		5.76	24
- surface water		0	4.8
- potable (tap) water		5.73	13.6
- ground water		0.03	5.2
Consumptive use		1.5	4.4
Sustainable water management			
Water risk assessments (in %)	100 in 2020	100	100
Closure of high-risk related actions (in %)	90 in 2020	92	97
Water withdrawal efficiency improvement (in %)	At least maintain	4.2	4.8
Water consumption (x million m³)		5.8	24
Emissions to water			
COD (kt)		0.11	2.0

1. This refers to water directly taken from surface water bodies, piped into circulating cooling towers, and then drained back to the original surface water bodies after being used. During the whole process, no chemical agents are added to the water.

2. This refers to industrial water withdrawal excluding the water withdrawn for OTC.

Profit

The year 2020 was also a milestone year for DSM in terms of progress on our growth strategy focused on Nutrition, Health and Sustainable Living. In order to strengthen our ability to deliver organic growth, we implemented changes in Nutrition and Materials to get our teams closer to customers and respond better and faster to their needs, while reducing internal complexity and cost. We enhanced our platform-based approach to innovation, ensuring a healthy pipeline of new products and solutions.

In 2020, DSM's net sales in Greater China totaled RMB 9.22 billion, up 2% compared with 2019.

The COVID-19 pandemic led to unprecedented global challenges. We took very prompt actions to ensure the health and safety of our employees and partners, while keeping operations running to maintain continuity of supply to our customers.

Business Performance

In 2020, with the certain impacts from the pandemic worldwide, DSM Group achieved +1% year-on-year growth in total sales, and €1,534 million in Adjusted EBITDA, 1% down compared with 2019. Materials saw a negative sales impact of around 10% on volumes over the course of the year due to the reduced global demand in the second and third quarters, while Nutrition saw an overall slightly positive sales impact from the effects of COVID-19 with 6% of sale growth, mainly due to the very strong demand in Human Nutrition for immunity-optimizing products.

DSM China achieved an overall growth of 2% sales compared with 2019, though the business was affected by COVID-19 in different ways. The trends of our two major business segments were basically the same as those of the Group.

Demands on Nutrition products soared during the peak of the pandemic, with sales up 10% versus 2019. Particularly, Human

Nutrition and Health experienced strong growth in demand for immunity-optimizing products. Market demands for Animal Nutrition and Health went well, but in the second and third quarters, the supply chain uncertainty influenced customers' inventory and further caused turbulences in our sales performance. Food Specialities saw good demand for packaged food, indicating an increase in packaged food applications. Personal Care was comparatively weak due to the lower demand for sun care and cosmetics, while Aroma Ingredients witnessed good demand for detergents and disinfectants.

The performance of our Materials cluster was significantly impacted by COVID-19, resulting in a 7% decline overall. Yet in the fourth quarter, Materials saw a strong improvement, especially in the prices of and demands for Engineering Materials that were directly related to automobiles.

Business Development

Acquisition of Nutrition & Health businesses

On 1 October 2020, we acquired Erber Group's Biomin and Romer Labs. Erber Group's specialty animal nutrition and health business, Biomin, specializes primarily in mycotoxin risk management and gut health performance management, while the Romer Labs business focuses on food and feed safety diagnostic solutions. The acquisition expands our range of higher value-add specialty solutions and further strengthens our expertise and reputation as a leading provider of animal health and nutrition solutions for farm productivity and sustainability, with an emphasis on emissions reduction, feed consumption efficiency, and better use of water and land.

In China, Biomin is headquartered in Shanghai, with branch offices in Beijing and Guangzhou. Its production plant is located in Wuxi, Jiangsu Province.

Expansion of Animal Nutrition & Health production

DSM officially opened a new premix plant in Baishazhou Industrial Park, Hengyang City, Hunan Province in November. Due to increasing demand for high-quality premix products in China, DSM further expanded its investment and opened

the seventh Animal Nutrition & Health premix plant in China. The new plant brings together many advanced processes and innovative technologies, integrating automation, digitization and intelligence. This is DSM's second premix plant in Hengyang, which is of great importance to DSM's industrial landscape in China.

And the Yimante vitamin E plant, which was jointly established by DSM and Nenter in 2019, was officially put into operation in December last year, and will gradually increase the outputs in 2021.

Disinvest in Resins & Functional Materials businesses

On September 30, 2020, DSM announced an agreement to sell DSM Resins & Functional Materials (DRF) business, including DSM Niaga® (a specialty technology to fully recycle carpet, mattress and furniture), DSM Additive Manufacturing (providing high performance material and professional knowledge for 3D printing) and the coatings activities of DSM Advanced Solar to Covestro AG for an equity value of €1.6 billion.

Stakeholder Engagement

Our purpose can only be realized by working with our stakeholders. Through empowering our employees, engaging with our customers and suppliers, and with the support of our investors, we will create a stronger legacy and brighter futures for generations to come. We discuss topics that are relevant to our operations and our impact on society regularly with our stakeholders. These conversations shape how we define and execute our strategy, including risk management, materiality, and new business opportunities.

Engagement with Multi-stakeholders

Engagement with the government and international organization

DSM contributed in FAO training program

August 2020, DSM experts were invited to deliver training modules in the 2020 China Field Epidemiology Training Project (CFETP)- a national-level project co-established by the United Nations Food and Agriculture Organization (FAO) and China's Ministry of Agriculture and Rural Affairs (MARA).

This was the very first time for CFETP to go beyond the academies and cooperate with companies, for DSM had been extensively renowned for its industry insights and technical strengths. Mr. Song Haijie, DSM Animal Nutrition and Health expert introduced DSM's 5D biosafety management system and its applications. Dr. Yao Bing, DSM Animal Nutrition and Health Vitamin Product Manager shared the knowledge of vitamin nutrition to animals' defense system and mechanisms against African swine fever and elaborated also on DSM Vitamin Nutrition™ (OVN™), the widely recognized vitamin application standard of the industry.

Mr. Wang Qiang, the Vice President of DSM Animal Nutrition and Health Greater China, remarked on the new cooperative attempt as: "DSM is honored to share its technologies and experience in the field of animal nutrition and health care. We will continue to strive for providing practical solutions to the challenges faced by the animal protein industry."



DSM experts assisted in FAO training program

DSM joined Wuhan post-epidemic recovery meeting

In September 2020, invited by the Chinese People's Association for Friendship with Foreign Countries, DSM China President Joe Zhou attended a delegation visit to Wuhan to investigate the prevention and control of the pandemic, resumption of work, production, and economic and social development. The delegation includes CEOs, presidents and executives from 20 globally leading MNCs companies in China from nine countries, including the United States, the United Kingdom, France, Germany, Japan, Australia, the Netherlands, Switzerland and Finland.

This visit is the first large-scale offline international event held by Hubei Province and Wuhan City after the city won the victory in the battle against COVID-19. It has been highly valued by Hubei Province and Wuhan City. The leaders of Hubei provincial government and Wuhan city met and had discussion with the delegation.

The delegation visited biological park, Wuhan Tongji Hospital and industrial park, and participated in the "Meet East Lake, Run-up Hubei" health running activity.

DSM set up its first joint venture in Jingzhou, Hubei Province with Nenter company in 2019. The local government provided

great support and helped the company's upgrading project resume in March despite the impact of COVID-19. DSM China President Joe Zhou took the opportunity to express sincere appreciation to Wuhan government for the support during the symposium. He also suggested a closer collaboration in vocational training so as to provide more skilled workers for the job market, and expressed the demand to the government for helping companies in reducing their dependence on petrochemical energy and increasing the utilization of green energy.



DSM China President Joe Zhou spoke in the symposium

Active in industrial exchanges

DSM participated in 2020 China Petroleum and Chemical International Conference

The CEO Roundtable at 2020 China Petroleum and Chemical International Conference took place in Ningbo of Zhejiang Province in September.

In the session of "Impact and Restart", DSM's Co-CEO Dimitri de Vreeze sent greetings and delivered a virtual speech on the reconstruction of the value chain. DSM China President Joe Zhou attended the CEO Roundtable for dialogues with other leaders from MNCs and Chinese companies.

In the interim, the president of China Petroleum and Chemical Industry Federation (CPCIF) talked about his visit to the Shanghai campus of DSM China. He highly praised DSM's evolving strategy from a coal mining company to a global leader in the nutrition and health industry, which can be a reference for those Chinese companies who explore to transform.



DSM Co-CEO Dimitri de Vreeze delivered a virtual speech at 2020 China Petroleum and Chemical International Conference

DSM attended China Top 500 Enterprises Summit

DSM China President Joe Zhou attended the "2020 China Top 500 Enterprises Summit" in Zhengzhou in September. Sponsored by China Business Council for Sustainable Development (CBCSD), the summit was co-organized by the China Association of Enterprises, China Entrepreneur Association, and the provincial and municipal governments.

DSM China President Joe Zhou delivered a keynote speech entitled "Sustainable innovation – driving business growth with sustainable development" at the "Sustainable Development CEO Forum". He introduced DSM's practices and cases from the perspectives of strategic, business and operational innovation, and showed DSM's continuous innovation progress and sustainable development evolution. These efforts explicated DSM's proactive strategy and measures in leading the industry forward.



DSM China President Joe Zhou attended China Top 500 Enterprises Summit and gave a keynote speech

DSM invited to Health Industry Summit

In November, the "China 2020 Health Industry Summit" theming "Putting life first, developing health industry and improving people's health and well-being" was held in Nanning. DSM China President Joe Zhou was invited to join a roundtable dialogue to exchange opinions with renowned experts and scholars.

With the theme of "Grasp people's new expectations for a better life, health and safety, and promote the high-quality development of health industry", DSM China President Joe Zhou introduced DSM China's active participation in the Healthy China 2030 action. Focusing on the whole population and the whole life cycle, DSM will contribute its knowledge and expertise in human nutrition, animal nutrition, early life and aging, food market, and healthy diet solutions.



DSM China President Joe Zhou attended Health Industry Summit

Sustainability Initiatives and Activities

Earth Day Event

"Do something meaningful" for our planet during Earth Week keeps as a tradition at DSM that lasts for the past two decades. Every year DSM Corporate Sustainability Team launches an "Earth Day" advocating information page to call for the joint actions of worldwide colleagues for our planet. In 2020, the DSM earth day theme was set as "Climate Actions" echoing the UN's Global Climate Conference of the Parties planned to be held in the year.

Due to the COVID-19 situation, DSM China conducted a variety of online and offline activities at different sites. From April 14 to 24, over 1,500 employees and their relatives from 19 sites in China participated in the event. An online seminar was organized for all China employees. Online activities were rolled out to get DSM employees involved. Some initiatives got expanded to onsite and community activities. For example, in Laiwu, a series of activities including four kinds of family activities, were carried out during Earth Week.

The tradition of Earth Day events paves the way for promoting sustainability in DSM China. Such notions have been deeply rooted in DSM management and operational actions, and will long be valued and cherished by our colleagues.



Group outing in Bazhou site



Ecological tour in Taiwan site

2020 DSM APAC/China Sustainability Forum

2020 DSM APAC/China Sustainability Forum was held in October in the form of online conference, providing a global-to-local, internal-and-external and cross-business-groups sharing and exchanging platform for all. Totally, over 200 people including 150 internal colleagues from global, APAC region and China and 50 external guests from UN agency, China governmental agency, industrial associations, NGOs, third-party service companies, and our customers and suppliers, participated in the forum.

Under the context of COVID-19 influencing business and work/life environment in China and the rest of world, the forum was themed in "Sustainability, the Solution and Goal for Business Development in the Mid/Post-COVID-19 Era". Four sessions were designed and delivered, including the plenary session on "DSM's Response and Strategy in the Mid/Post COVID-19 Era", and three specific sessions on the "Sustainable Production and Operation", "Sustainable Food System and Nutrition and Health Solutions" and "Sustainable Materials and Living Solutions" respectively.

The forum brought a lot of inspiring and insightful information from the macro policies to industrial practices, and offered a good platform for multi-stakeholder engagement.



2020 DSM APAC/China Sustainability Forum held online

Social Activities

DSM contributed to China's anti-COVID-19 efforts

In the wake of the COVID-19 outbreak, sentiments of support stirred within the country. DSM responded swiftly to combat against COVID-19 by providing donations and goods. DSM pledged to actively support the fight against the spread of the virus with a donation of RMB one million to the Chinese Red Cross Foundation in February. The funds were to be used to purchase medical supplies and equipment according to the requirements of COVID-19 control and supplement the needs of frontline medical personnel.

In addition, DSM donates two batches of Vitamin C products for medical personnel working tirelessly to contain the virus. The first batch of six million Vitamin C chewable tablets was



DSM China donated vitamin C tablets to frontline hospitals

donated to Wuhan Union Hospital of China and its branches and hospitals in Jingzhou, Hubei Province and other provinces. DSM also donated a second batch of 100 million Vitamin C pills, the raw material of which is manufactured by DSM Jiangshan Pharmaceutical (Jiangsu) Co., Ltd. These 100 million Vitamin C pills were donated to hospitals in Wuhan, Jingzhou and other cities where DSM production sites and offices are located in, helping strengthen the medical personnel's immune system.

With these donations, DSM affirms its aspirations towards applying its expertise to protect the medical staff in the frontlines, as well as the wholehearted commitments to China and its people.



DSM Jiangshan Pharmaceutical (Jiangsu) Co., Ltd. prepared donations

Bright Experience Event for fighting malnutrition

From October to November 2020, the event was co-hosted in 18 cities where DSM China's 19 sites are located in. Due to the COVID-19 outbreak, we carried out the event differently this year by assigning each site to tailor its arrangements, so as to respond to the national call for fewer gatherings and allowing the sites to act on their specific circumstances.

Nevertheless, we still saw plenty of enthusiasm from our colleagues. This year's event continued with the theme of "Hunger is Solvable". The event attracted 2,000 people from



Bright Experience Event 2020 in Jiangshan site

DSM employees, their families and corporate partners, and donated for the nutrition improvement program. Participants worked in groups to carry out a series of activities, including green cycling, athletic competitions, fruit and vegetable picking, calligraphy, etc.

DSM has always fulfilled its promises of playing an active role in improving the global nutritional status. With Bright Experience Event and other actions, advocacies and commitments, we will proceed to call for public awareness of nutrition and health.



DSM China colleagues and families joined Bright Experience Event

DSM volunteers visited the Hope Schools

Project Hope was launched and managed by the China Youth Development Foundation (CYDF) and the Communist Youth League (CYL) central committee, aiming at improving educational conditions and promote youth development in China for underprivileged children. DSM China has been an active participant of Project Hope since 2008 as part of a series of corporate social responsibility strategies. To date, DSM has funded two Hope Primary Schools in Sichuan and Gansu Provinces.

Due to the strict prevention control measures of COVID-19 in 2020, the planned visits of Rainbow Ambassadors to DSM-sponsored Hope Schools were affected. Yet our donation activities and communications with the schools did not stop. From May 15 to 25, employees signed up for financial aid donations through emails and WeChat. In ten days, we raised a total of RMB 100,000 donations from 78 employees in support of 150 students who excelled in their studies.

Also, DSM China donated a set of air energy water heater equipment to Sichuan Hope School, so that all the 150 students staying in dormitories can take hot showers in winter. This not only solved the bathing problem but also nurtured the children's hygiene habits. Besides, 20 laptops were given to Gansu Hope Primary School for the convenience of lesson

preparation and teaching activities.

On Children's Day, 12 volunteers as DSM Rainbow Ambassadors gave their greetings via video. Students in 26 classes of the two DSM-sponsored Hope Schools watched the video and joyfully shared the cakes DSM sent over as festival gifts.

Underpinned by our sustainability framework, this volunteer activity has evolved into a tradition for DSM China. The project makes it possible for our colleagues to realize their ambitions in social good. We will carry forward the exertions for we not only act responsibly wherever we operate but aspire to contribute for all.



Hope School students shared the Children's Day cake sent over by DSM China



DSM continually supports Hope School scholarship donation activity

Recognition and Awards



ISS ESG
We maintained the lowest risk rating (1 out of 10) from ISS QualityScore throughout the year. In May, ISS ESG reconfirmed DSM as ‘Prime’ according to its rating methodology. Our rating of B-puts us in the top decile relative to our industry group.



MSCI
In June, MSCI’s rating of DSM was unchanged at AAA. The report noted our increased focus on nutrition and health, our focus and investment in R&D, and our strong carbon mitigation strategy, including the link with executive compensation.



Vigeo Eiris Benelux
In October, we were again listed in the Vigeo Eiris Benelux, Europe, Eurozone and World indices and were reconfirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe and the Ethibel Sustainability Index (ESI) Excellence Global.



EcoVadis
In March, EcoVadis awarded our company a Platinum CSR Rating. The Platinum rating places us in the top 1% of companies assessed in our industry.



Sustainalytics
In January, we were assessed by Sustainalytics as being at low risk of experiencing material financial impacts from ESG factors, ranking 1 out of 120 companies in the specialty chemicals industry. Sustainalytics noted our strong corporate governance performance resulting in a reduction in overall risk.



FTSE4Good
We continued to be a constituent of the FTSE4Good Index. We have been listed on this index since 2004.



CDP
In December, for our climate strategy, and water governance and strategy in 2020, we were assessed as A and A - respectively by CDP.



GoldenBee CSR China Honor Roll to DSM China
By China Sustainability Tribune



2020 Best Case in the Combat against COVID-19 to DSM China
By Southern Weekly



State Scientific and Technological Progress Award to DSM Yantai site
By State Council of the People’s Republic of China



2019 Advanced Group of Safety Production to DSM Sichuan site
By Chengdu Municipal People’s Government



2020 Top 10 Most Competitive Enterprises in China's Optical Communication Industry to DSM Desotech
By Asian-Pacific Optical Communications Committee and Network Telecom Information Research Institute



2020 Advanced Group in Emergency Management to Zhejiang DSM Zhongken Biotechnology
By Tongxiang Economic Development Zone Management Bureau and Tongxiang Gaoqiao Sub-district Office



2020 Gold Award for Wealth Contributions to DSM Xinghuo site
By Shanghai Hangzhou Bay Economic & Technological Development Co., Ltd.



Ringier Technology Innovation Award to DSM BakeZyme® Fresh XL and BakeZyme® Master
By Ringier Trade Media Ltd.



The 1st Prize in Emergency Rescue Skills Competition for Hazardous Chemical Production Enterprises to DSM Jiangshan site
By Jingjiang Emergency Management Bureau



Sustainability Pioneer Award to DSM Engineering Materials Co., Ltd.
By Schneider Electric



High-tech Enterprise to DSM Yantai site
By Department of Science and Technology of Shandong Province, Department of Finance Shandong Province and Shandong Provincial Tax Service, State Taxation Administration



2020 Safety Enterprise in Tongxiang to Zhejiang DSM Zhongken Biotechnology
By Tongxiang Emergency Management Bureau

What Still Went Wrong in 2020

The year 2020 presented us with many challenges and opportunities. We integrated three major new acquisitions and carved out our Resins & Functional Materials business. The effects of the COVID-19, meanwhile, placed additional and wholly unexpected demands upon our company worldwide.

Despite the challenging circumstances we were able to maintain our high standards. Nevertheless, sometimes things still go wrong. Here we share the most significant incidents of 2020.

Preventing repeat problems requires us to understand each incident to the best of our ability. When an accident occurs, the priority is to take care of any injuries and repair any damage. We investigate every recordable incident using a fixed root cause analysis method. We also trigger an improvement cycle. We put new requirements or operating procedures in place as needed.

In line with our reporting policy, this overview includes not only incidents but also some serious near-misses. Near-misses are cases that did not result in injury, illness or damage but which could have done so. Even when a crisis is averted, it is our responsibility to learn from it and do better the next time. We have a process in place to collect the information about incidents and some serious near-misses as presented in this overview.

Safety Incidents Involving Falls

At DSM Nutritional Products in Hubei Province, an employee tripped up on the static grounding wire on the floor when he finished cleaning the pipe at the workshop.

At DSM Nutritional Products in Jiangsu Province, an employee broke his thigh bone when he fell to the ground after stumbling over a manual pallet mover.

At DSM Food Specialties in Shandong Province, an employee broke his foot descending a ladder, when the ladder slid under him and he fell to the ground.

To reduce such slip and trip incidents, we emphasize the importance of “keeping eyes on task and mind on task” through dedicated behavior-based training programs.

Other Safety Incidents

At DSM Nutritional Products in Jiangsu Province, an employee had his finger hit by the hammer and got a fracture of the finger during a maintenance job.

At DSM Protective Materials in Shandong Province, a contractor got a burn on the leg by the heat of a flash during a hot work.

Health Incidents

Despite of our efforts in occupational health, we still have some reported health cases in 2020. Three employees from DSM Nutritional Products in Jiangsu Province were indicated in their health check results that they had a trend of hearing loss.

These cases have been thoroughly investigated and mitigation actions were defined and executed. The site covered several noisy parts with acoustic material and installed silencer at the air outlet which decreased the area noise level. The site also updated the noise management procedure which included the training requirement, noise mapping and earplugs application.

Explanations of Some Concepts and Ratios

People

Frequency Index (FI)

Frequency Index is a way to measure safety performance. The number of accidents of a particular category per 100 employees per year.

PSI rate

The PSI rate is the number of Process Safety Incidents per 100 DSM employees and contractor employees in the past 12 months: $PSI\ rate = 100 * (number\ of\ PSIs\ (past\ 12\ months) / average\ effective\ manpower\ including\ contractor\ employees\ (past\ 12\ months))$.

SHE

Safety, Health, and Environment.

Eubiotics

The general term ‘Eubiotics’ is related to the Greek term ‘Eubiosis’ and relates to feeding ingredients that support an optimal balance of microbiota in the gastrointestinal tract of livestock animals. They promote efficient gut performance to produce well-nourished animals that get the most from their feed, while at the same time sustaining their health and welfare and protecting the environment.

Lives Reached

Lives Reached is a measure of consumers already reached

Planet

Brighter Living Solutions

Brighter Living Solutions (BLS) is DSM's program for the development of sustainable, innovative solutions with environmental and/or social benefits, creating shared value for our stakeholders. Brighter Living Solutions are products, services and technologies that, considered over their life cycle, offer a superior environmental impact (ECO+) and/or a superior social impact (People+) when compared to the mainstream alternative for the same application. The impact of Brighter Living Solutions can be realized at any stage of the product life cycle, from raw materials through the manufacturing process to potential re-use and end-of-life disposal.

Within the program, DSM conducts an annual ‘Product Category Sustainability Review’ for all product categories. This review identifies environmental and social impact differentiators and risks for each of our product categories and confirms the

through consumer products of third parties containing DSM products and solutions. This estimate is based on key market insights relating to market share, usage patterns and product composition. Mathematical modeling is used to eliminate double counting. This measure addresses key end-markets representing more than 25% of DSM's total sales. These end-markets cover our business segments — Nutrition, Materials and Innovation Center.

The number of Lives Reached is calculated for each market separately and then aggregated. As a business-to-business company, our products reach end-consumers via third parties, so calculations per market are performed at global level.

Consumer touch points are assumed to be unrelated, and overlap is eliminated using statistical methods (De Morgan's Law and Probability Theory — Independence). The actual overlap may be larger or smaller than calculated based on this assumption. Key assumptions are used to perform these calculations and include DSM's market share, total consumer markets, share of wallet and consumer consumption behavior. These assumptions are made based on external market data where available, supplemented with market and business intelligence insights.

mainstream reference solution. To substantiate the identified differentiators DSM uses comparative Life Cycle Assessments (LCAs) and/or expert opinions to determine whether a product has a superior performance and can be identified as a Brighter Living Solution.

Carbon footprint

The total set of direct and indirect greenhouse gas emissions expressed as CO₂ equivalent.

Circular economy

Circular economy refers to an economy that is restorative and in which materials flows are of two types: biological nutrients, designed to re-enter the biosphere safely, and technical nutrients, which are designed to circulate at high quality without entering the biosphere throughout their entire lifecycle.

CO₂

Carbon dioxide, a gas that naturally occurs in the atmosphere. It is part of the natural carbon cycle through photosynthesis and respiration. It is also generated as a by-product of combustion. Carbon dioxide is a greenhouse gas.

Chemical Oxygen Demand (COD)

COD is an indicator of the degree of pollution of waste water by organic substances.

Energy

Primary energy is energy that has not yet been subjected to a human engineered conversion process. It is the energy contained in unprocessed fuels.

Final (consumed) energy is the energy that is consumed by end-users. The difference between primary energy and final consumed energy is caused by the conversion process between the two as well as any transmission losses.

Greenhouse gas emissions (GHG)

Scope 1: Direct GHG emissions
Direct GHG emissions occur from sources that are owned or controlled by the company (i.e., emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.).

Scope 2: Indirect GHG emissions
Indirect GHG emissions relate to the generation of purchased energy (i.e., electricity, heat or cooling) consumed by the company. Purchased energy is defined as energy that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where the energy is generated.

Scope 3: Value chain emissions
Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

Market-based emissions
Reflects GHG emissions from electricity supplies that companies have purposely chosen (or their lack of choice) and contracted. Corresponding emission factors:
- Supplier specific emission factor (provided by the supplier)
- Residual emission factor (country-based grid factor, corrected for allocated purchased electricity from renewable resources)

Greenhouse gas emissions (GHGE) efficiency improvement

The GHGE efficiency improvement is the amount of GHG emissions per unit of output (specific emissions) in a given year compared to the specific emissions in the prior year. GHGE efficiency improvements are one of the ratios in the Long-Term Incentive part of the Managing Board remuneration and relate to a three-year period.

Net-zero emissions

The Intergovernmental Panel on Climate Change states: “Net-zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. Where multiple greenhouse gases are involved, the quantification of net zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential, and others, as well as the chosen time horizon)”.

NO_x

Nitrogen oxides. These gases are released mainly during combustion and cause acidification.

Renewable resource

A natural resource which is replenished by natural processes at a rate comparable to, or faster than, its rate of consumption by humans or other users. The term covers perpetual resources such as solar radiation, tides, winds and hydroelectricity as well as fuels derived from organic matter (bio-based fuels).

SO₂

Sulfur dioxide. This gas is formed during the combustion of fossil fuels and causes acidification.

VOC

Volatile organic compounds. The term covers a wide range of chemical compounds, such as organic solvents, some of which can be harmful.

Water use and water consumption

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.

Year-on-year

Rates of change expressed over the corresponding period (month or quarter in relation to the frequency of the data) of the previous year.

Profit

Adjusted net operating free cash flow

The cash flow from operating activities, corrected for the cash flow of the APM adjustments, minus the cash flow of capital expenditures and drawing rights.

Capital expenditure

This includes all investments in intangible assets and property, plant and equipment.

Earnings before interest, tax, depreciation and amortization (EBITDA)

EBITDA is the sum of operating profit plus depreciation and amortization. Adjusted EBITDA is the EBITDA adjusted for material items of profit or loss coming from acquisitions/ divestments, restructuring and other circumstances that management deem it necessary to adjust in order to provide clear reporting on the development of the business.

Innovation sales

Innovation sales are defined as sales from products and applications that have been introduced in the last five years.

Organic sales growth

Organic sales growth is the total impact of volume and price/ mix. Impact of acquisitions and divestments as well as currency impact are excluded.

Return on capital employed (ROCE)

Adjusted operating profit from continuing operations as a percentage of average capital employed.

Temporary vitamin effect

DSM's best estimate of the effect on sales and Adjusted EBITDA of the exceptional supply disruptions in the industry that started toward the end of 2017 and ended in the third quarter of 2018, including derived measurements.

Underlying business

Sales and Adjusted EBITDA (including derived measurements), corrected for DSM's best estimate of the temporary vitamin effect.

Working capital

The total of inventories and current receivables, less current payables. See also Operating working capital.

DSM-Bright Science. Brighter Living.™

Royal DSM is a global, purpose-led, science-based company active in Nutrition, Health and Sustainable Living. Our purpose is to create brighter lives for all. With our products and solutions, we address some of the world's biggest challenges while simultaneously creating economic, environmental and societal value for all our stakeholders – customers, employees, shareholders, and society at large. We deliver innovative solutions for human nutrition, animal nutrition, personal care and aroma, medical devices, green products and applications, and new mobility and connectivity. Including our associate companies, we deliver annual net sales of about €10 billion with approximately 23,000 employees. We were founded in 1902 and are listed on Euronext Amsterdam.

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DSM China

No. 476 Li Bing Road, Zhangjiang Hi-Tech Park
Shanghai, 201203, China

Tel: +86 21 61418188

www.dsm.com

www.dsm.com.cn



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