DSM Brings Brighter Lives to China, Shaping China's Future Together

Joe Zhou

Abstract Royal DSM is a science company, which started as a mining company but became a global science-based company committed to *health and sustainability* covering nutrition and health, medical devices, solar technology and biofuels, sustainable materials to the world's strongest fibers. In China we cut across almost all markets in both *life sciences* and *materials sciences*. DSM also participates in China's development, particularly in *nutritional health* and *green development*, as well as the fight against poverty and Covid-19.

Keywords Health and sustainability · Life sciences · Materials sciences · Nutritional Health · Green development

Royal DSM is a global, purpose-led, science-based company active in Nutrition, Health, and Sustainable Living. DSM's purpose is to create brighter lives for all. Our products and solutions address some of the world's biggest challenges while simultaneously creating economic, environmental, and societal value for all its stakeholders—customers, employees, shareholders, and society at large.

We offer a family of solutions that benefit our customers and make millions of lives brighter. But what sets us apart is our unique scientific approach—our commercially viable solutions to the greatest challenges facing our world; how to feed everyone and keep them healthy and happy, tackling climate change and enabling a bio-based, circular economy.

DSM was established in 1902 by the Dutch government to mine coal reserves in the southern province of Limburg, the Netherlands. To this day, we still use the English translation (Dutch State Mines) of the company's original name, De Nederlandse Staatsmijnen. For our people, however, DSM has a more relevant (albeit less formal) significance: *Doing Something Meaningful*.

At DSM, innovation is in our blood—we are a science company after all. From the depths of the Dutch State Mines over a century ago, we have continued to transform ourselves over the years into something *truly bright*: a global science-based company committed to ensuring the world is healthier, more sustainable, and safer.

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From animal and human nutrition and health, medical devices, solar technology, and biofuels, sustainable materials to the world's strongest fibers, DSM's solutions deliver value for companies and society at large. DSM's business footprint in China cuts across almost all markets in both life sciences and materials sciences, including food and dietary additives, personal care, feed, pharmaceuticals, automotive, electrical and electronics, life protection, renewable energy, and bio-based materials.

DSM began trading in China as early as 1963 and set up our first sales representative office and first manufacturing plant in China in the early 1990s. At present, the company has 48 branches in China, including 26 manufacturing sites, with nearly 5,300 employees. DSM's regional headquarters and R&D center in China are located in Shanghai. DSM's business in China has recorded healthy growth, with a revenue of RMB 9.22 billion in 2020.

When DSM first entered China several decades ago, China was experiencing a period of rapid economic development, where reform and opening up of the market, and attractive foreign investment policies benefited many businesses. Since then, DSM has had great success in building plants across China and operating in this market.

1 Sustainability as a Business Driver

In recent years, DSM's focus on sustainability has opened a new chapter for the company. Our growth strategy aims to address and provide scientific solutions to global challenges including climate change, the energy crisis, and the nutritional and health needs of the world's aging population. In essence, sustainability has become the driving force of DSM's business.

DSM believes that achieving sustainable development means pursuing a balanced development of economic benefits, environmental quality, and social responsibility that creates value for people, the planet, and profits at the same time.

People: As one of the world's leading manufacturers of vitamins, nutritional solutions, and food science, DSM has a keen interest in nutritional advocacy programs. We have worked with humanitarian organizations, food companies, and social enterprises to share knowledge on nutritional science and brought nutrition to enhance the quality of lives of malnourished populations. With our innovative ingredients, DSM customers are able to produce a variety of healthier food and beverages—with less sugar, salt, and fat—and ensure important nutritional ingredients are incorporated. Thus, protecting the health of millions of people in developing countries around the world.

Planet: At DSM, we closely manage our absolute greenhouse gas (GHG) emissions and energy efficiency. Our global goal is to reduce direct GHG emissions and procurement of energy emissions by 50% in absolute terms by 2030, and we have committed to sourcing 75% of our electricity from renewable sources by 2030 at

the latest and 100% at the earliest possible opportunity. We have also set an internal carbon price—which means taking into account the cost of all GHG emissions-based decisions that require significant capital expenditure. The current price is EUR100 per ton of CO₂ equivalent.

In China, we actively pursue opportunities for renewable electricity across our sites in China. Our plant in Laiwu, Shandong for DSM Protective Materials is the first DSM site in China to achieve 100% purchased electricity through a Power Purchase Agreement, which helped reduce 3,700 tons of standard coal per year. Our Jiangshan nutrition plant has also replaced 15% of its annual electricity consumption with renewable sources. DSM is exploring opportunities for the broader use of renewable energy sources, such as recovering waste streams for the production of renewable energy.

Under the “We Make it Possible” strategic initiative, DSM Animal Nutrition and Health is leading a robust transformation worldwide in sustainable animal protein production. We are working tirelessly on combating key challenges facing the industry such as reducing GHG emissions, limiting nitrogen and phosphorous emissions while keeping the highest nutritional standards and ensuring quality livelihoods. With livestock and fish production contributing to 14.5% of the world’s GHG emissions, it is essential that we take action now—especially when the world’s growing population will demand an additional 40 million tons of meat and 25 million tons of fish each day by 2026. Reducing GHGs—particularly methane emissions—is an urgent priority for the world. At DSM, our methane-reducing feed additive for cows, Bovaer®, is helping to reduce methane emissions in cows by up to 30%.

Profit: Conventional wisdom dictates that one can’t have it all. As a company, it’s either prioritizing profits or protecting the environment. Over the years, DSM has proved time and again that the two can co-exist. We cannot be successful in a society that fails. For the same reason, a company cannot grow sustainably without success in the business it operates. We have a sustainable business because our products are made from high-quality ingredients and that has helped our customers derive profitability. We remain steadfast in our commitment to reduce carbon emissions in our manufacturing processes, optimize energy and resource costs, and improve efficiency. Ultimately, our customers benefit when we improve earnings growth.

2 Openness and Continuous Innovation Driving China’s Development

In 2017, DSM ranked No. 2 on Fortune magazine’s “Companies that Changed the World” list. As a leading company in life science and materials science, DSM is not only renowned for our commitment to sustainable development, we are also recognized for our contribution to breakthrough innovations.

DSM derives 21% of its sales from its innovative business, with R&D spending accounting for 5% of its sales. We have more than 30 laboratories and 1,900 scientists

worldwide. Not only is China DSM's most important international growth market, innovation from China also plays a critical role in supporting global business growth. Since our foray into China, DSM has experienced three stages of development: strategic expansion, elevating social impact, purpose-led growth and performance-driven growth. Each of these stages have evolved along with the changes in the Chinese market. Over the years, DSM has learned the importance of localization and being customer-oriented. We advocate for "Innovation for China"—from establishing the DSM China R&D Center, the introduction of local solutions, and creation of a business model suitable for the Chinese market, to continuous investment and expansion in China. In fact, China is the only market today where all of DSM's global business units are fully established. Chinese consumers benefit from having access to a comprehensive selection of DSM's innovative solutions.

Nutritional health and green development are key development areas for DSM China, both of which are prime focus directives under China's 14th Five-Year Plan. These two key pillars are also reflective of the current global trends and support the United Nations Sustainable Development Goals. To maintain and enhance our competitiveness in these two areas, DSM has strategic plans in place to strengthen innovation capability and investment in our core businesses.

3 Collaboration with Stakeholders

3.1 Global CEO Council

Since 2013, DSM has been a member of the Global CEO Council initiated by the Chinese People's Association for Friendship with Foreign Countries, which is made up of CEOs from multinational companies. Through roundtable dialogues and discussions with Chinese leaders, the Global CEO Council works as a platform connecting business leaders and helping to deepen their understanding of China, while enhancing friendships and creating win-win cooperation to advance development. At every annual roundtable summit, DSM's Global CEO actively contributes his observations and suggestions on China's economic development. The Chinese leaders, in turn, recognize global CEOs for their confidence in China's peaceful and open development, their commitment to China, and their constructive suggestions on China's economic development.

3.2 World Economic Forum Annual Meeting of the New Champions

Since 2012, DSM's global executives and DSM China President have participated in the World Economic Forum Annual Meeting of the New Champions held in

Dalian and Tianjin. This is a high-level, thought leadership platform for “global growth companies” (GGC) to discuss the future of business and industry, and to engage in dialogues with public and private enterprises, as well as national and regional governments around the world. The annual event features different themes and keynote topics, attracting political and business leaders, experts and academics from more than 100 countries and regions to exchange ideas on the development and roadmap of the global economy.

3.3 Sustainability Organizations and Industry Associations

DSM is a member of the board of directors of the China Business Council for Sustainable Development (CBCSD) and a close partner in communication and cooperation with the board. DSM actively participates in many CBCSD activities and programs every year, including the CBCSD annual meeting and the seminar on sustainable development, its sustainability index report release conference, the China Top 500 Enterprises Summit Forum, World First-class Enterprise Best Practices Roundtable, China Council for International Cooperation on Environment and Development 2019 Global Environmental Governance and Industry Best Practices Forum.

Additionally, DSM is also an active member of the international exchange and foreign enterprise committee of the China Petroleum and Chemical Industry Federation. We participate in the annual China International Petrochemical Conference CEO roundtable summit and readily put forth our recommendations on standards for industry regulation, including input on the sustainable development of the petrochemicals industry and pivoting the industry in a dynamic environment.

3.4 Working with NGOs to Fulfill Corporate Social Responsibility

After the 2008 Wenchuan earthquake in China, DSM made donations in support of the China Youth Development Foundation to build two schools affected by the earthquake in Sichuan and Gansu provinces. Every June, DSM employees volunteer at the DSM Hope Primary School to celebrate Children’s Day with students and teachers. Volunteers visit underprivileged students’ homes with supplies for school and daily life such as backpacks, stationery, books, eye-protection lamps, and sports shoes. Employees have also been contributing proactively to creating scholarships for students from underprivileged families who perform well academically. In addition, DSM has donated electronic equipment, books, outdoor sports fitness equipment, water dispensers and water heaters to the school. During each visit, employee volunteers also organize various activities including giving lessons in English, arts and

crafts, nutritional and urban rail transit knowledge, as well as playing badminton, archery, and table tennis with students.

Since 2007, DSM has been a global partner of the World Food Programme (WFP), through which DSM adds key vitamins, minerals, and other micronutrients to WFP food baskets. In China, DSM holds the annual “Bright Experience” charity event—in partnership with the United Nations World Food Programme (WFP) and the China Foundation for Poverty Allowance (CFPA)—to raise public awareness of child hunger and malnutrition. The event is supported by over 2,000 DSM employees and families in China. All funds raised are donated to the WFP’s nutritious meals for preschool children in poverty-stricken areas in China, and the CFPA’s “Nutrition Meals” program to improve the quantity of children’s nutrition.

As a science-based, purpose-led company that aims to create a positive societal impact, DSM supports the UN’s Sustainable Development Goals (SDGs) and vision for a zero-hunger future. By working closely with partners across the value chain, including WFP and HarvestPlus, we put a particular emphasis on improving Nutrition & Health (SDG 2 and 3), Resources & Circularity (SDG 12) and Climate & Energy (SDG 7 and 13). Vital to achieving these goals is DSM’s food nutrition and feed solutions, which support healthier diets and reduce food loss and waste, while maintaining the highest sustainable standards.

3.5 Fight Against COVID-19

The COVID-19 global pandemic presented unprecedented challenges, impacting the economy and every aspect of people’s lives. As a corporate citizen, DSM actively supports the frontline fight against the epidemic and adheres to DSM’s commitment to health and safety. In order to ensure the undisrupted supply of daily necessities, DSM’s factories in Liaocheng, Hengyang, Changchun, and Chengdu received approval from local governments to resume work ahead of schedule after the outbreak. Concurrently, DSM supported 50 tons of vitamin C raw materials supply to the Hubei provincial government for the production of health care relief aids, in addition to 1.1 million bottles of vitamin C products for frontline workers in Hubei and other provinces and cities to improve immunity. DSM China also provided RMB 1 million in relief funding to the Red Cross Foundation of China to support epidemic prevention and control work in Wuhan. Since the onset of the pandemic, DSM China has established various crisis response mechanisms and measures, such as split teamwork arrangement, office/workplace safety and health protection protocols, and travel restrictions. All of which provided best practice benchmarks for DSM operations globally.

At DSM, the safety and well-being of our employees is our top priority. We have conducted numerous and regular employee care programs since COVID-19 hit. As part of our #OptimizeYourImmunity initiative, DSM distributed vitamin products to 23,000 employees around the globe. In February 2020, we provided our employees

and their family members with access to confidential and professional psychological counseling as support for their mental and emotional well-being through the Employees Assistance Program (EAP).

4 A New Chapter: Healthy Planet, Healthy People

Since 2020, we have observed a shift in mindsets and behaviors in people to focus proactively on what they can do to improve their health. Global demand for immunity-optimizing products—such as dietary supplements—continues to grow. At DSM, we believe in taking a proactive, precautionary approach to improving one's health with quality nutrition. In 2021, DSM introduced the “Health through Nutrition” concept to advocate better general health for people through our nutritional expertise and innovation, as well as protecting the health of our planet through sustainably produced foods along with circular and bio-based materials.

Moving forward, we will continue to build on our successful “global products” and “local solutions” model to support growth in nutrition by leveraging on big data, digital and bioscience capabilities to deliver precision and personalization.

In our materials business, DSM has demonstrated strong growth and is well positioned in the strategic area of Sustainable Living. We aim to further grow into a resilient, higher-growth, high-margin specialty business, and focus on three sustainable living growth platforms—improved health and living, green products and applications, and new mobility and connectivity.

Led by our Purpose, DSM is committed to achieving positive change through more sustainable ways of working. From protecting health and providing sustainable proteins, to improving nutrition in vulnerable communities, DSM is helping to make people and the planet healthier. As the global population inches toward 10 billion by 2050, the importance of providing sustainable products with high nutritional value will only continue to grow. We will continue to work alongside our customers to develop solutions and products with a positive impact to support the health of our growing global population.

Joe Zhou joined Royal DSM in 2020. As the President of DSM (China) Limited, he is responsible for overseeing DSM's business in China in the areas of Health, Nutrition, Sustainable Living, and building the reputation of DSM in China. Joe worked for Alcatel Lucent in Australia and China for 19 years where he gained extensive experience in commercial, operations, strategic, and general management roles. Joe was a key leader for the establishment of a major joint venture, Alcatel Shanghai Bell, before running its successful international unit as part of the top management. In 2008, Joe joined Eaton as its China President before taking leadership responsibility as Asia Pacific President for its Aerospace Group and once again became its China President following Eaton's acquisition of Cooper Industries. He was the China President at Arconic before joining DSM. Joe holds a degree in Business Administration from the Queensland University of Technology in Australia, and a bachelor's degree in Engineering from the Beijing University of Aerospace in China.

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