



# DSM China Integrated Annual Report 2012

HEALTH • NUTRITION • MATERIALS



**DSM**

BRIGHT SCIENCE. BRIGHTER LIVING.

# Life Sciences and Materials Sciences

## DSM, the Life Sciences and Materials Sciences company

*Our purpose is to create brighter lives for people today and generations to come. We connect our unique competences in Life Sciences and Materials Sciences to create solutions that nourish, protect and improve performance.*

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

DSM believes that its continued success will be driven by its ability to create shared value for all stakeholders, now and in the future. It creates sustainable shared value by innovating in ways that allow its customers to provide better People, Planet and Profit solutions – solutions to the challenges facing society, the environment and end-users. In this way, DSM's customers derive value from being able to offer end-users improved products; society and the planet derive value from the impact of more sustainable, longer-lasting, safer, healthier and more nutritious alternatives; and, as a result, DSM and its shareholders derive value from stronger growth and profitability. Finally, DSM's employees feel engaged and motivated both through the contribution they make to a better world and the success this creates for the company in which they work.

### **DSM – Bright Science. Brighter Living.™**

Royal DSM is a global science-based company active in health, nutrition and materials. By connecting its unique competences in Life Sciences and Materials Sciences DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, pharmaceuticals, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials. DSM's 23,500 employees deliver annual net sales of around € 9 billion. The company is listed on NYSE Euronext. More information can be found at [www.dsm.com](http://www.dsm.com).

# DSM at a glance

DSM's activities have been grouped into business groups representing coherent product/market combinations. The business group directors report directly to the Managing Board.

For reporting purposes, the activities are grouped into five clusters. In addition, DSM reports on a number of other activities, which have been grouped under Corporate Activities.

## Life Sciences

### Nutrition

#### Continued value growth

The Nutrition cluster comprises DSM Nutritional Products and DSM Food Specialties. These serve the food and beverage, feed, personal care, dietary supplements and pharmaceutical industries with global capabilities and a deep understanding of customer and market needs. With customized formulation activities at more than 60 locations and a presence in more than a hundred countries, customer intimacy is key. DSM's nutrition technologies are broad, utilizing competences in biotechnology (including fermentation) and state-of-the-art process technology. DSM has the world's broadest ingredients portfolio and holds leading positions in many large ingredient markets for animal and human nutrition and health, like vitamins, carotenoids, enzymes, cultures, yeast extracts, polyunsaturated fatty acids, premixes and formulations.

### Pharma

#### Leveraging partnerships for growth

The Pharma cluster includes the business group DSM Pharmaceutical Products (DPP), one of the world's leading custom manufacturing suppliers to pharmaceutical and biopharmaceutical industries. Many of today's medicines around the world contain ingredients produced by DPP. The cluster also contains DSM's 50 percent interest in the DSM Sinochem Pharmaceutical joint venture (DSP). DSP was formed in 2011 from the former DSM business group DSM Anti-Infectives. DSP is one of the few producers and marketers of beta-lactam active pharmaceutical ingredients with a global presence, using cutting-edge manufacturing technology with a low environmental footprint.

## Materials Sciences

### Performance Materials

#### Growing via sustainable, innovative solutions

The Performance Materials cluster comprises DSM Engineering Plastics, DSM Dyneema and DSM Resins & Functional Materials. These business groups specialize in the manufacture of technologically sophisticated, high-quality materials that are tailored to meet customers' performance criteria, and that help customers substitute traditional solutions with more sustainable and durable alternatives. DSM's performance materials are used in a wide variety of end-use markets like automotive, aviation, electrical and electronics, marine, sports and leisure, paint and coatings, and construction. Sustainability is a true driver of new business and innovations in materials. DSM's materials portfolios are shifting towards a higher value added mix by introducing innovative, more sustainable solutions.

### Polymer Intermediates

#### Strengthening backward integration for DSM Engineering Plastics

The Polymer Intermediates product cluster comprises caprolactam and acrylonitrile produced by DSM Fibre Intermediates (DFI). These products are raw materials for synthetic fibers and plastics. Caprolactam is a key feedstock for DSM Engineering Plastics' polyamide production. Globally, DFI is the largest merchant caprolactam supplier and the third largest merchant acrylonitrile supplier. In addition, the business group produces ammonium sulfate, sodium cyanide, cyclohexanone and diaminobutane.

## Innovation Center

As an enabler and accelerator of innovation, the Innovation Center facilitates DSM's strategic transition towards becoming an intrinsically innovative organization. Innovation at DSM is guided by functional excellence in order to find the best sustainable and commercially viable solutions to market needs, helping create profitable growth. In addition to the activities of the DSM Innovation Center (including DSM Venturing), this part of the company also includes the three Emerging Business Areas (EBAs). These EBAs are growth engines that focus on new business areas outside the scope of the company's business groups. DSM Biomedical

develops novel materials-based solutions to meet the needs of the medical device and biopharmaceutical industries with coatings, drug delivery platforms and a wide range of biomedical materials for use in implantable medical devices. The EBA Bio-based Products & Services creates solutions for bioconversion of feedstocks for the production of bio-based chemicals and materials and develops the technologies to enable the production of bioenergy such as cellulosic biofuels. DSM Advanced Surfaces provides solutions for the development and application of smart coatings and is focused on solutions for the solar industry.

#### Sales per cluster in 2012

net sales in € million



#### EBITDA per cluster in 2012

EBITDA in € million  
excl. Innovation Center (-€ 38 million)



#### Workforce per cluster in 2012

headcount at year-end 2012



# Key data for DSM 2012

<b>Net sales, continuing operations</b> (x million)	<b>Operating profit plus depreciation and amortization, continuing operations<sup>1</sup></b> (x million)	<b>Net profit, continuing operations<sup>1</sup></b> (x million)	<b>Net profit, total DSM</b> (x million)
€9,131	€1,109	€437	€288
<b>Cash provided by operating activities, total DSM</b> (x million)	<b>Capital expenditure including acquisitions</b> (x million)	<b>Core earnings per ordinary share, continuing operations<sup>3</sup></b>	<b>Dividend per ordinary share<sup>2</sup></b>
€730	€1,980	€2.78	€1.50
<b>ROCE, continuing operations</b> (in %)	<b>Innovation sales as % of total sales</b>	<b>Sales in High Growth Economies as % of total sales</b>	<b>China sales, continuing operations</b> (x USD million)
8.9	18	38	1,700
<b>ECO+ solutions as % of innovation pipeline, total DSM</b>	<b>ECO+ solutions as % of running business, total DSM</b>	<b>Energy use, continuing operations</b> (in petajoules)	<b>Water use, continuing operations</b> (in million m <sup>3</sup> )
80	43	41	150
<b>Greenhouse-gas emissions, continuing operations</b> (x million tons)	<b>Workforce</b> (at year-end)	<b>Employee engagement - favorable score</b> (in %)	<b>Frequency Index of recordable injuries</b> (per 100 DSM employees and contractor employees)
4.2	23,498	72	0.44

<sup>1</sup> Before exceptional items

<sup>2</sup> Subject to approval by the Annual General Meeting of Shareholders

<sup>3</sup> Before exceptional items and excluding amortization of intangible assets related to purchase accounting

# Table of contents

3	<a href="#">Letter from the Chairman</a>
6	<a href="#">Letter from DSM China President</a>
7	<a href="#">DSM in China Overview</a>
7	<a href="#">DSM activities in China</a>
8	<a href="#">History - DSM grows with China</a>
10	<a href="#">Innovation in China</a>
11	<a href="#">Pursuing sustainability in China</a>
13	<a href="#">Stakeholder engagement</a>
18	<a href="#">2012 DSM China Report</a>
19	<a href="#">Key data for DSM China 2012</a>
21	<a href="#">People in 2012</a>
31	<a href="#">Planet in 2012</a>
37	<a href="#">Profit in 2012</a>
40	<a href="#">Bright science into brighter living – Business cases</a>
44	<a href="#">External recognitions in 2012</a>
45	<a href="#">What still went wrong in China 2012</a>
46	<a href="#">Explanation of some concepts and ratios</a>

# Letter from the Chairman

Dear readers,

As the world continues to face unprecedented challenges from both an economic, environmental and societal perspective, our existing approaches are being put to the test. Navigating through a decade that is already being dubbed the 'Turbulent Teens' is becoming increasingly challenging, as developments in our complex and interconnected world are happening with great speed. However, to DSM these challenges are also providing opportunities. We believe we can contribute to solutions and new approaches and we are committed to turning them into reality.

The innovative and sustainable solutions that we offer our customers help them address their current and future needs. These needs are a response to global trends and challenges. The global population is growing and aging, and is increasingly urban and increasingly wealthy. This all leads to increased consumption per capita and a bigger claim on the world's resources.

We see all this come together in the three key global societal trends that we have on our corporate radar screen: a global demographic shift, challenges in the field of the global climate and (alternative) energy use, and a growing focus on how to secure nutrition, health and wellness for all.

Our strategy in addressing these trends and meeting these needs has led us to focus on four growth drivers: High Growth Economies, Innovation, Sustainability and Acquisitions & Partnerships. In 2012 we once again delivered progress on all four growth drivers.

In the High Growth Economies, we continue to increase our sales and presence. In 2012 these economies accounted for 38 percent of our total sales versus 39 percent in 2011. This decrease was mainly due to lower caprolactam sales in China. Five years ago this was less than 30 percent. Most notable in 2012 were our investments in China (nutrition, resins and caprolactam) and our announcement of our upcoming expansion in Brazil, where we are preparing to acquire Tortuga, a leading company in nutritional supplements with a focus on pasture raised cattle.

We remain committed to R&D and innovation and have built further on our best practices. Evidence of this commitment is our new investment in R&D facilities in Delft and Sittard-Geleen (both in the Netherlands). During 2012 we further added over 300 new patents to our rich patent portfolio. In India and China we continued to develop regional innovation centers. We are firmly on track towards our target for innovation sales as a percentage

of total sales. In 2012 this was 18 percent. Our target for 2015 is 20 percent.

Our Emerging Business Areas (EBAs) are doing very well. The acquisition of Kensey Nash has further strengthened the Biomedical EBA, making DSM a leading medical device materials supplier. And together with POET in the United States, we started POET-DSM Advanced Biofuels, a joint venture to commercially develop the production of cellulosic biofuels, made out of plant residues. The construction of the POET-DSM biofuels facility in Emmetsburg, Iowa (USA), is proceeding according to plan. In the field of bio-based chemicals, too, we saw good progress, including the start-up of our new bio-succinic acid plant in Italy, in cooperation with Roquette.

Besides being a core value and a responsibility to contribute to society, sustainability has become a real business driver for DSM. Our ECO+ products and solutions, which have a clearly smaller environmental footprint than mainstream solutions, increased in 2012 to 43 percent of our total sales and accounted for 80 percent of our innovation pipeline. Our list of ECO+ solutions continues to grow. In 2012, we further enhanced our leadership position in sustainability. DSM is developing a People+ strategy that aims to deliver measurably better solutions for improving people's lives. People+ will do for the 'people' element of our Triple P approach what ECO+ has done for 'planet'.

In 2012 DSM was very active on the Acquisitions & Partnerships front. In addition to the biofuels partnership with POET and the biomedical acquisition of Kensey Nash, we announced more than five acquisitions in the nutrition field, including Ocean Nutrition Canada (Canada; polyunsaturated fatty acids, such as Omega-3/DHA), Tortuga (Brazil; organic chelates and other feed ingredients), Verenum Enzymes (USA; enzymes), the cultures and enzymes business of Cargill (USA and Europe, cultures) and Fortitech (USA; food (premix) ingredients).

In total we have invested €2.8 billion in acquisitions since September 2010, when we adopted our current strategy. The acquisitions will result in stronger and more stable growth and profitability for DSM overall and will contribute to the current and future growth of DSM. Due to synergies the internal value of the acquisitions is significantly higher than the total acquisition amount. All acquisitions immediately contribute to earnings per share.

As a result of the acquisitions announced in 2012, we are welcoming approximately 2,700 new colleagues to our

increasingly global workforce. Their smooth integration into the DSM family in a timely and efficient manner, while ensuring business continuity and customer satisfaction, is a key priority for us.

When all of the announced acquisitions have been completed, the majority of DSM's portfolio will be geared towards attractive end-markets with low GDP sensitivity. In the Nutrition cluster, DSM has announced around €2.4 billion in acquisitions since 2010, broadening our product portfolio, extending and enhancing our presence across the value chain and strengthening our global footprint. On a pro forma basis, the cluster now has a size of around €4.6 billion in sales and an EBITDA margin in the range of 20-23 percent.

As the world's largest supplier of nutritional ingredients, DSM has created a unique position with the broadest, deepest and most global offering to customers, positioning our company for further profitable growth. Nutrition now represents more than 70 percent of total EBITDA and has become a high value, global business with attractive growth prospects across the full value chain.

During 2012 we continued to experience a challenging macro-economic environment, with low growth in Europe. Asia continued to show good levels of economic activity whilst the US has maintained a modest rate of recovery. In the context of these conditions, DSM delivered growth across all clusters in 2012, excluding caprolactam. For the full year EBITDA amounted to €1,109 million, 14 percent lower compared to 2011. Profit growth in all clusters was more than offset by approximately €300 million lower results from DSM's caprolactam activities in Polymer Intermediates and Performance Materials.

The Profit Improvement Program that was launched in August 2012, on top of the previously announced program in DSM Resins & Functional Materials, is fully on track and is expected to deliver structural annual EBITDA benefits of €150 million by 2014 of which more than half is expected in 2013. As anticipated, DSM has expanded the profit improvement initiative and now expects to achieve another €50-100 million in benefits on top of the €150 million. The benefits following this extension are expected to be fully achieved by 2015.

During 2012, we transitioned our Change Agenda into a ONE DSM Culture Agenda in order to develop the culture required to achieve our strategic ambitions, mirror the world that we operate in, and become a high performance organization. The ONE DSM agenda consists of four themes: external orientation,

accountability for performance, collaboration with speed and inclusion & diversity.

DSM's fifth worldwide Employee Engagement Survey showed a very high response rate of 87 percent. The Employee Engagement Index, the percentage of employees scoring favorable, was 72 percent compared to 71 percent in 2011, which means that it was once again above the global overall norm. An engaged workforce is critical to DSM in realizing our ambitions.

Our hard work to further improve safety is bearing fruit. During the year we focused on the improvement of our safety culture and performance, among other things by securing compliance with the Life Saving Rules. The Frequency Index of recordable injuries fell to 0.44 in 2012 from 0.53 a year earlier. Although this is a considerable improvement, we still need to work on further reducing this Frequency Index.

We also need to improve further with regard to diversity, among other things by implementing best practices.

For DSM, People, Planet and Profit are equally important. Our company's primary goal is to provide value for all stakeholders on all three dimensions. We stay committed to aligning our strategy and operations with the principles of the United Nations Global Compact. We are very proud that in 2012 we were again named among the leaders in the Dow Jones Sustainability World Index.



We are also proud that during 2012 DSM won several prestigious awards and received a great deal of recognition for its achievements regarding its integrated Triple P approach, developing a sustainable business that creates value for all stakeholders.

We continue to further develop our integrated reporting based on the guidelines on the Global Reporting Initiative (GRI). We have determined that this integrated annual report, our third, once again merits the GRI A+ rating, representing a high level of transparency.

The significant strategic progress we made during 2012 through our value creating acquisitions and the profit improvement initiatives we have taken, leave us well positioned to achieve our long term objectives. In 2013 we will focus on the operational performance and integration of the acquisitions we completed in 2012 with special attention to capturing synergies. We expect strong EBITDA growth in 2013, moving towards €1.4 billion. The Board's proposal to increase the dividend for the third consecutive year is testament to the stronger DSM we have built in recent years, with more stable growth and profitability going forward.

At DSM we are committed to creating value for all stakeholders by fully leveraging the unique opportunities in Life Sciences and Materials Sciences, for the benefit of people today and for generations to come. It is a collective effort whose success depends on the engagement not only of our employees but also of the people that we cooperate with: at our customers, at our suppliers and at the civil society organizations that we engage with. I would like to extend my sincere appreciation and gratitude to all who are traveling with us on this very exciting journey. We look forward to reporting further progress.



Feike Sijbesma  
CEO/Chairman of the Managing Board  
feike.sijbesma@dsm.com

# Letter from DSM China President



Dr. Jiang Weiming  
DSM China President, Corporate Vice President

Dear readers,

2012 proved to be a challenging year for the global economy. As stated at the 18th National Congress of the Communist Party of China, China set the goal to achieve sustainable economic growth by focusing more on the quality rather than the quantity of growth. The entire chemical industry in China is facing a great challenge of transforming from excessive capacity expansion to a sustainable development approach. For DSM, we see more opportunities than challenges. By connecting our unique competences in Life Sciences and Materials Sciences to provide solutions to the local market we face today we believe we can address the challenges we face today.

In 2012, DSM in China has made good progress in many areas particularly on the long-term strategic investment both in production site and R&D activities.

DSM Nanjing Chemical Company Ltd. achieved key milestones in the second line project. The new facility is expected to become one of the world's largest Caprolactam plants but also the most sustainable with considerable less energy consumption and emission discharge.

In 2012 DSM has stepped up major efforts in building on the world-class R&D facility in China focusing on what is needed in

the market. For example, we start to build an animal nutrition & health center in Bazhou, Hebei Province. This center will provide important scientific data to the animal nutrition industry development in China. We have also developed major activities in the performance material research center at the Shanghai Campus. The center will provide the first-class business solution to our customers on various applications.

Safety is always our top priority. This past year we have worked hard on Safety, Health and Environment (SHE) and made many improvements. In China, the Frequency Index of Total Recordable Injuries further improved to 0.14 (including contractors) in 2012, which was a reduction by 26% compared to 2011. In comparison to other regions, DSM China's safety performance ranks very high.

We have kicked off ONE DSM Culture Agenda in 2012 and various activities have taken place in many sites in China to enhance "ONE DSM" towards being a truly global company in the long term.

DSM in China has a very solid foundation in the market, and our business portfolio both in Life Sciences and Materials Sciences areas cover well what is demanded in the market. China remains an important part of the High Growth Economies and we will continue to expand our investment and innovations in the country while enhancing our efforts in sustainable development.

The basis for our long-term success is the great trust and support from all of our stakeholders. With this report, the sixth of its kind in China, it has become our regular practice to communicate performance and progress on the dimensions of People, Planet and Profit with our stakeholders in a transparent manner. On behalf of DSM China Leadership Team, I'd like to extend our gratitude to all of our stakeholders and we are looking forward to working with you even closer to create brighter lives for people today and generations to come.

Dr. Jiang Weiming  
DSM China President

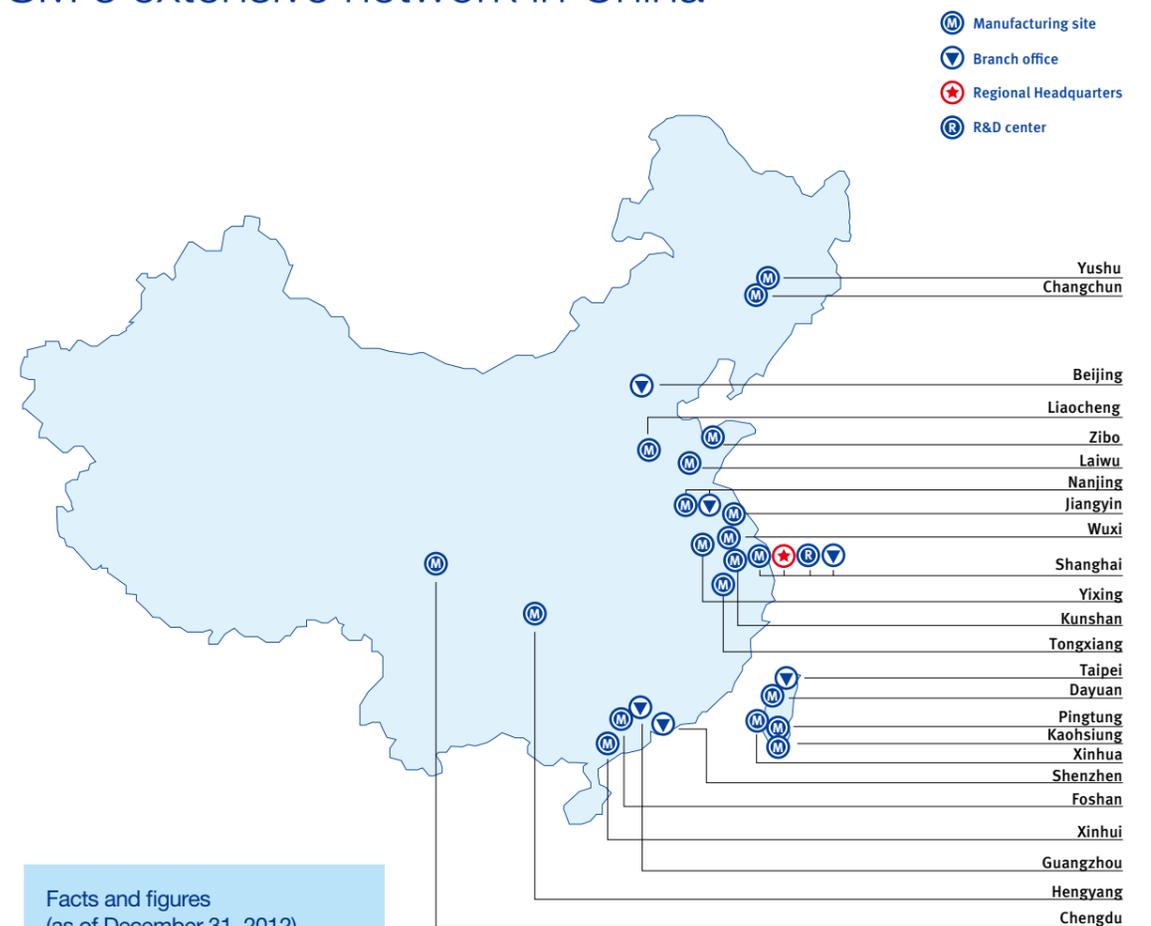
# DSM in China overview

## DSM activities in China

DSM is active across almost its entire portfolio of Life Sciences and Materials Sciences in China, serving the end markets including food and dietary supplements, personal care, feed, pharmaceuticals, automotive, coatings and paint, electrics and electronics, life protection, alternative energy 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. Today, DSM has invested in China for over a decade. The company currently has 40 affiliates in China including 26 manufacturing sites and employs about 3,500 people. DSM China regional headquarters and China Science and Technology Center are located in Shanghai. DSM's business is growing healthily and steadily in China with sales of USD1.7 billion in 2012.

## DSM's extensive network in China

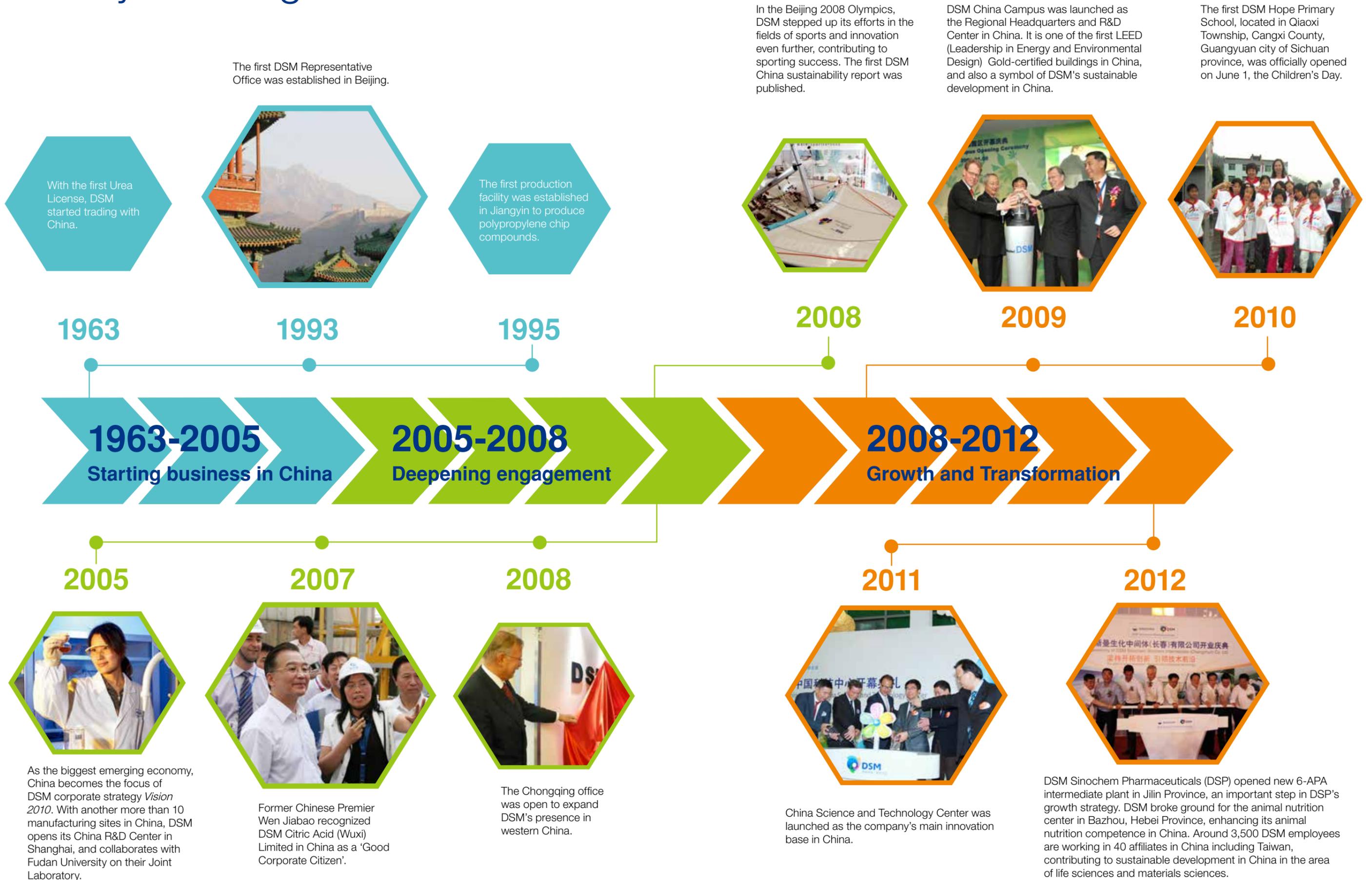


### Facts and figures (as of December 31, 2012)

- 40 affiliates
- 26 manufacturing sites
- 8 branch offices

Sales 2012      Employees  
**US\$1.7 billion    3,500**

# History - DSM grows with China



# Innovation in China

## From building the machine to doubling the output

Part of DSM's innovation efforts for the coming years is to further develop the new R&D centers in China that were established in 2009. Innovation is increasingly happening in China.

The DSM China Science and Technology Center in Shanghai is being developed to become DSM's main innovation base in Asia. It will form a vital part of the company's global science and technology innovation network. The center integrates research and application technology activities in the areas of materials sciences and life sciences, chemistry and biotechnology. It also provides advanced business development capabilities and can support creating new ventures.

2012 was an exciting year for DSM Biotechnology Center China. Lab renovation and set-up of equipment are completed. The microbiology lab has been officially granted with Biological Safety Level Two certificate, which paved the way for the center to deal with living microorganisms and became the microbial strain conservation unit for various DSM manufacturing sites in China. Research team was built up, through initial training and work on first concrete and exciting project tasks.

### Local for local solutions

In 2012 DSM China Science & Technology Center made great progress in building up innovation competence and developing local solutions to meet local business needs. Within one year from its start-up in October 2011, Performance Materials Research Center has already built up its competence structure focusing on material properties, polymer physics and material processing. This 3-pillar competence structure, coupled with Phase 1 equipment installed during 2012, enables high-level material scientific research work to be executed in Shanghai. Meanwhile, three new users joined the Materials Science

Research and Development (R&D): Advanced Surfaces, Fiber Intermediates and Fiber Optics Materials, signaling that synergy will be created via close collaboration. Life Science R&D China extensively focuses on local-for-local solutions.

- Working with customers, new products are being developed for local market that utilizes DSM technologies and knowhow, with customer's knowledge of consumer products.
- The applied biochemistry lab gave strong support to the Baking and Food & Beverage sales team in business unit Enzyme Solutions.
- The active pharmaceutical ingredient (API) lab helps to shape the new product portfolio of DSM Sinochem Pharmaceuticals and the formulation lab became fully operational, delivering strong support to the business activities of the joint-venture.

### Reducing environmental footprint

Besides, Life Science R&D China works on reducing Eco-Footprint, especially on sustainable technologies in producing nutritional ingredients. In 2012 a new method was developed for producing a key intermediate which will help in reducing waste.

### Patents

DSM China filed 30 patent applications in 2012, compared to 8 in 2011. Of these 30 patent applications 10 were substantially invented in China by DSM employees predominantly from Life Sciences. In addition 15 patent applications were filed for DSM Fiber Intermediates covering processes relevant to manufacturing plants in China.



DSM broke ground for the animal nutrition center in Bazhou, Hebei Province in August 2012.

# Pursuing sustainability in China

## From responsibility to business driver

DSM's mission is about creating brighter lives for people today and generations to come. The company's core value, contributing to a more sustainable world, supports this mission. As part of its 2010-2015 strategy "DSM in motion: driving focused growth", the company formulated the ambition to go to the next level in sustainability: sustainability remains a core value and a responsibility to contribute to society, but in addition DSM is now developing sustainability into a strategic growth driver as well.

By 2050 there will be nine billion people living on the planet. The growth in the modern world requires innovative solutions to meet the needs of all, and to generate a stable, prosperous and fair future, within planetary boundaries.

By 'sustainable' DSM means 'meeting the needs of the present generation without compromising the ability of future generations to meet their own needs'. This is the widely accepted definition that the Brundtland Commission set up by the United Nations to encourage countries to jointly pursue sustainable development. Like this commission, DSM believes that achieving sustainability means simultaneously pursuing social responsibility, environmental quality and economic performance, creating value on the three dimensions of People, Planet and Profit.

DSM believes sustainability will be the key differentiator and value driver in the coming decades. The company is uniquely positioned to capture new opportunities across the value chain.

Sustainability is an integral part of the company's operations, strategic actions and decisions. DSM's businesses are coming up with new science-based products and solutions that contribute to brighter living while also helping grow the bottom line of the business.

### ECO+

ECO+ is DSM's strategic concept for promoting the development of sustainable, innovative products and solutions with ecological benefits. Products qualify as ECO+ when their environment footprint is reduced compared with competing products or solutions. ECO+ solutions offer, when considered over their entire life cycle, not only superior performance but also ecological benefits such as a clearly lower eco-footprint when compared to the mainstream solutions they compete with. ECO+ solutions, in short, create more value with less environment impact. The ecological benefits can be created at any stage of the product life cycle, from raw material through

manufacturing and use to potential re-use and end-of-life disposal. ECO+ is determined using Life Cycle Assessments.

Sustainability aspirations 2011-2015	Realization 2012
<b>Dow Jones Sustainability Index</b>	
Top ranking (SAM Gold Class) <sup>1</sup>	Gold Class
<b>ECO+ (innovation)</b>	
At least 80% of pipeline is ECO+ <sup>2</sup>	80%
<b>ECO+ (running business)</b>	
From approximately 34% towards 50%	43%
<b>Energy efficiency</b>	
20% improvement in 2020, compared to 2008	14% improvement
<b>Greenhouse-gas emissions</b>	
-25% (absolute) by 2020, compared to 2008	1% decrease
<b>Employee Engagement Survey</b>	
Towards High Performance Norm <sup>3</sup>	72% favorable
<b>Diversity and People+</b>	
To be updated	Diversity aspirations defined
	People+ framework defined <sup>4</sup>

<sup>1</sup> This means a total score of within 1% of the SAM sector leader

<sup>2</sup> See page 46 for a definition of ECO+

<sup>3</sup> The High Performance Norm (80% favorable) is the composite of the top 25% employee responses of the selected external benchmark organizations

<sup>4</sup> See page 21 in the People chapter

Typical ECO+ examples are DSM's engineering plastics that enable customers to produce lower-drag, lighter-weight and therefore more fuel-efficient cars. A life-science example is Brewers Clarex™, which enables brewers to prevent chill haze without having to cool their beers to sub-zero temperatures. Resins for the production of high performance coatings based on water, instead of harmful solvents, also help reduce emissions.

In 2015 DSM aims for at least 80 percent of its innovation pipeline to be ECO+ products or solutions and in 2015 their share of total net sales is expected to grow towards 50 percent.

### People+

DSM is developing a People+ strategy for measurably improving the lives of consumers, workers and communities across the value chains in which the company is active. People+ will do for the 'people' element of Triple P what ECO+ has done for 'planet', giving further impetus to sustainability as a business driver for the company. DSM refined its People+ strategy in 2012 and also defined and road tested new metrics

for it, thereby further enhancing its leadership position in sustainability.

Until recently a tool to measure a product's impacts on the People dimension was not available. By contrast, a product's eco-benefits (its ECO+ effect) can readily be measured using the well-known Life Cycle Assessment (LCA) methodology. The LCA method is widely accepted as a tool to assess environmental impacts associated with all the stages of a product's life.

The People+ program was further defined in 2012, including developing a new tool to measure the impact on people, in cooperation with a broad group of stakeholders. Business can use this first version of the 'DSM People LCA tool', a Life Cycle Assessment method, as a tool to further develop value propositions, taking into account the impact of DSM products on the lives of people involved in making and using the product. This also encourages innovation and R&D.

A comprehensive description of the People+ framework can be found in the 'People in 2012' chapter. See also: People+ (page 21).

#### People, Planet, Profit

The People dimension of the Triple P approach is twofold. Firstly, DSM addresses the needs of its employees and people working in the value chains where the company is active, looking for a positive impact in areas such as employee health and vitality, employee safety, diversity and employee engagement, as these are critical components in delivering DSM's strategy. Improving employee engagement and encouraging diversity are defined as sustainability aspirations in the current strategy period.

Secondly, DSM seeks to improve people's lives with its activities, solutions and innovations. This includes the People+ program, DSM's strategy for measurably improving people's lives. See also: People in 2012 (page 21).

On the Planet dimension, DSM delivers activities, solutions and innovations that improve the environmental footprint of its own businesses and those of its customers and suppliers. This includes the ECO+ program. Improving energy efficiency and reducing greenhouse-gas emissions are also among the sustainability aspirations for the current strategy period. DSM aspires to realize a 20 percent improvement in energy efficiency by 2020, compared to 2008. The company seeks an absolute reduction in greenhouse-gas emissions of 25 percent by 2020, compared to 2008. See also: Planet in 2012 (page 31).

DSM's Triple P approach to profit aims to translate sustainable innovations into strong and profitable businesses that meet the needs of today's global society while at the same

time creating true value for the company's shareholders. Because of its engagement with stakeholders, DSM has a deep understanding of societal needs and therefore is well positioned to develop new products and solutions that can effectively grow its business.



#### Sustainability governance

DSM in China established a regional China sustainability committee in 2012, as the first regional organization across business groups and units for DSM in China. This committee helps to contribute to more awareness of sustainability as a business driver by organizing sustainability events and establishing quarterly reporting. In 2012, two webinars with focused topics, like water, energy, and Life Cycle Assessment (LCA) were organized internally to promote the learning and understanding of sustainability.

*"DSM's transformation proves very successful with the right approach to innovation and sustainability."*

**Professor Cheng Siwei, former vice chairman, Standing Committee of the National People's Congress of the People's Republic of China, Chinese Economist**

In 2008, DSM in China published its first local China Sustainability Report for the year 2007, as the supplementary report of DSM's Global Sustainability Report with focus on China local sustainability development progress. From that year onwards DSM continued to publish its annual local sustainability report to report its regional progress in People, Planet and Profit to all the stakeholders of the company in China, including customers, suppliers, employees, media, government, etc. In order to meet the global trend of integrating annual financial report and sustainability report into one integrated report, DSM in China published its first 2010 DSM China Integrated Report in August of 2011.

# Stakeholder engagement

DSM believes and invests in a strategic, pro-active dialogue with key stakeholders not only to share thoughts and views, but also to deepen the company's insights into governmental, societal and customer trends, drivers and needs. The company wants to achieve its engagement objectives in a focused manner by taking part in stakeholder dialogues on relevant topics. It aspires to resolve issues, receive endorsement and build trust, and by doing so, create more shared value.

In engaging with these stakeholders, DSM does more than just responding to their expectations. As a thought leader, the company actively shapes these expectations by striving to be a trendsetter rather than a trend follower in selected fields, including sustainability.

The strategy that DSM adopted in 2010 – DSM in motion: driving focused growth – was influenced by the company's dialogue with its stakeholders: shareholders, customers, suppliers, local communities, end-consumers, industry peers, financial institutions, governments, investors, non-governmental organizations (NGOs), special interest groups and the company's own employees.

## Customers: Working together to reduce environmental footprint

### Extending Life Cycle Assessments with Baiyunshan Pharmaceuticals

DSM Sinochem Pharmaceuticals uses proprietary enzymatic biotechnology to produce antibiotics, which has been proved to achieve major reductions of energy consumption, produces far less waste and emissions to air, compared to the traditional chemical process.

DSM has started a dialogue with customers on making pharmaceutical products more environmentally sustainable whilst ensuring product safety and quality. For example in 2012, DSM Sinochem Pharmaceuticals together with local partner company Baiyunshan Pharmaceutical have conducted a Life Cycle Assessment for the value chain of Cefalexin in  $\beta$ -lactam antibiotics. The assessment compares the real production data of the traditional chemical process and the enzymatic process, including their carbon footprint and ecosystem footprint. The results show that the enzymatic process greatly reduces both the carbon footprint and the eco-footprint. It means that enzymatic processes in the overall value chain have less negative impact on the environment.

### Applying the Cradle-to-Cradle (C2C) concept to Goodbaby products

DSM has received Cradle to Cradle® certification by the internationally renowned sustainable design firm, McDonough Braungart Design Chemistry (MBDC) for many of its products, and customers are applying those products to a number

of applications. One major aspect of C2C certification is that the certified products are designed in a way that their materials can be recycled and re-used, significantly reducing the products' environmental impact. The C2C concept thus generates win-win results for ecology and economy.

Goodbaby, a well-known Chinese baby products company, has applied the C2C concept to its baby products. Baby products, such as strollers, car safety seats and high dining chairs, have a relatively short period of use, and are gradually set aside when children grow up. Goodbaby has selected DSM's C2C certified materials for its products, to permit the company to recycle these products for eventual reuse of their materials. This can greatly contribute to reducing the burden of resources and energy consumption.

## Society: Private-Public Partnership for a better living

### Role of business in society

DSM believes that in this ever more complicated world, companies, governments, academia, NGOs and international institutions have to work together to solve the big global issues of today. These issues include the question of how to deal with the big demographic changes in the world, including the rise of new economies and an aging population, but also how to address climate change and the development of alternative energy, and how to secure the health and well-being of all by resolving food and nutrition security and water issues, among other things. All of the world's problems are simply too big to be solved by just one entity.

The company is an active member of the World Economic Forum, an independent international organization based in Switzerland that is committed to "improving the state of the world". This forum brings together leaders from governments, businesses, academia and NGOs to exchange and synchronize thoughts and to work together on important agenda topics to make the world a better place. DSM is an also co-developer of the UN Business Partnership concept as an active participant in the UN Global Compact LEAD, a platform for corporate sustainability leadership.

In 2012 the company actively participated in the annual meeting of the World Economic Forum (WEF) in Davos (Switzerland), organizing a session on nutrition security. At the Annual Meeting of the New Champions in Tianjin (China), DSM CEO Feike Sijbesma participated as one of eight mentors on the theme of Creating the Future Economy, in several sessions on subjects including sustainability, innovation and the bio-based economy. At the United Nations Conference on Sustainable Development, also known as Rio+20, which took place in Rio de Janeiro (Brazil), Mr. Sijbesma led a panel debate on the role of the public and private sectors. At the 5th Multinational

Corporations Leadership Roundtable in Beijing, DSM Board Member Stefan Doboczky and China President Jiang Weiming gave speeches on DSM's values and practices on social responsibility and sustainability.

**Annual charity event in line with strategic partnership with WFP**



With a new theme of "Hunger is Solvable: Bright Experience", the annual global charity event was held in six Chinese cities on August 25, 2012.

DSM has once again joined hands with the United Nations World Food Program (WFP), the largest provider of food aid to fight hunger worldwide, to host charity events in six cities across China on August 25, 2012.

Initiated by the WFP and corporate partners in 2003, the annual global charity event aims to raise money and awareness to fight child hunger and malnutrition. It is called Bright Experience World Tour and features joint walks by the many people supporting the project. Employees from DSM and partner companies walked with WFP Goodwill Ambassadors, staff, and beneficiaries as well as government and NGO partners to show their solidarity in the fight against hunger and malnutrition.

In China, the money collected at the event was donated to the WFP's School Feeding Programs worldwide and the China Foundation for Poverty Alleviation (CFPA). The latter uses the money for the school meal program it conducts in poor areas of China.

As a global partner of the WFP, DSM has been taking part in the walks every year since 2007. With a new theme of "Hunger is Solvable: Bright Experience", this year's event has attracted more than 1,700 DSM employees and their families, as well as employees from partner companies. They all walked together in six Chinese cities including Shanghai, Beijing, Nanjing, Guangzhou, Jiangyin in Jiangsu Province and Zibo in Shandong Province to show their solidarity and support for the project.

**DSM supports project for elimination of anemia among infants and young children**

China's National Women's Federation, the Ministry of Health and the China Children and Teenagers Fund have jointly launched a project for elimination of anemia among infants and young children by delivering nutrition packs to poor families. The project is to be implemented in national poverty alleviation and development counties of 11 western provinces and autonomous regions, and will eventually cover about 7.86 million infants and young children in 592 counties.

Anemia among children is a serious public health problem in many countries. According to reports, anemia prevalence in China reached 24-28% of all children in 2010, and even to 40-50% in infants under one year old in some poor rural areas. The complementary food supplement – nutrition sachets or sprinkles - provided by the project to infants and young children of poor families can improve brain and nerve cells development, improve bone growth and development, strengthen the immune system, and effectively improve the anemia status in infants and young children. The supplements contain calcium, iron, vitamins and other nutrients. DSM has been invited to design and develop sprinkles for the project, and also supply them to the project.



DSM provides nutrition packs to poverty-stricken area of China.

**Continued partnership with Chinese Nutrition Society to support local nutrition study**

In May 2012, DSM and the Chinese Nutrition Society (CNS) jointly established the "CNS Nutrition Research Foundation - DSM Research Fund", with funds of RMB 1.5 million contributed by DSM. The new fund is providing incentives and financial support for nutrition researchers to explore solutions for improving infant nutrition as part of the ongoing campaign for improving public health and nutrition in China.

In November 2012, CNS and DSM announced that a total of 11 winning infant nutrition and health R&D projects were selected from a pool of 28 candidate projects.

These 11 projects aim to provide cutting edge scientific solutions in infant nutrition with clear focus and practical feasibility. They will be helpful to develop scientific guidelines for infant formula that meet the needs of infants and will offer a scientific benchmark for revising the dietary guidelines and dietary reference intakes for Chinese infants, thereby improving infant health and wellness.

In 2012, CNS and DSM jointly advocated and joined the 100 Years Vitamin celebration activities, and communicated on the latest research and development outcomes.

**Hope Kitchens put to use to improve rural students' food nutrition**

"Hope Kitchen" is a charity program jointly initiated with China Youth Development Foundation (CYDF). This project aims to improve the nutrition and diet of rural Chinese school children, and to improve the nutritional knowledge and food safety practice of rural teachers and kitchen staff. DSM has donated 80,000 RMB to build the "DSM Hope Kitchens" in primary and secondary schools in poor areas of China.

DSM signed the contract for the first two "DSM Hope Kitchens" in 2011. The two well-equipped kitchens have been put into use in 2012 and are able to provide hot meals for more than 1,000 students and teachers in total in Tunlu County, Zhangjiakou City, Hebei Province.

Every DSM Hope Kitchen is equipped with standard cooking utensils, refrigerator, disinfection cabinet, as well as nutrition guidelines and food safety practice posters and booklets. Headmasters from those schools received training on children's nutrition and food safety practice. Experts from DSM also provided supports to the kitchen to make sure it can provide safe and nutrient meals to the students.

**DSM Home Library - a sustainable Project Hope initiative**

Since 2007, under the initiative of "Torch" DSM China Nutrition Products donated 100,000 RMB to set up a DSM Liaocheng Education Foundation in cooperation with the Youth League Committee of Liaocheng, Shandong. A DSM Project Home

Library was set up in each of four poor primary schools and equipped each library with a computer room. Thousands of books and notebooks were also donated to these schools. In 2012, DSM in China keeps running the Home Library Project and donates another batch of books to the schools.

**Community: Development for enhancing sustainability awareness**

**DSM Engineering Plastics Jiangyin builds SHE culture with local Community**

DSM Engineering Plastics Jiangyin site (DEPJ) has been proactively participating in various activities to build a Safety, Health and Environment (SHE) culture in the local community. For example, in August, DEPJ's SHE Supervisor Yang Bo introduced DSM's experience in SHE management and culture to the leaders of the Department for Production Safety Management in the National Hi-Tech Zone of Jiangyin. More than 200 people participated in the meeting, including officials and managers from other companies in the Hi-Tech Zone, who were deeply impressed by the various activities organized at the site, illustrated with videos and pictures.

**Water day event in DSM Sinochem Pharmaceuticals (DSP) Zibo site**

On March 22 2012, the World Water Day, DSP Zibo held a water saving event. During the event, a special presentation was given to enhance the awareness of the importance of saving water. Delegates from the local authorities also joined the event. A workshop was organized, and the employees got the chance to discuss how to save water on the site in their routine daily work, as well as at home. About 30 recommendations were given at the workshop out of which five were selected for being implemented on the site to save water.

**Health journey Northeast China: constructive talks with local authorities**

In July 2012, DSM organized a health journey to Changchun city, the capital of Jilin province in Northeast China, which was attended by members of several DSM business groups.

The team visited the Occupational Disease Prevention and Control Center of Jilin province and held a session with hospital officers and doctors in which viewpoints on trends of occupational hygiene development were shared. The team also verified occupational health check-up equipment and the working environment in the hospital. Extra attention was paid to the audiometric booth, focusing on the reliability of the key health check-up data.

They also visited the provincial Safety Technology Testing Center and shared its health management philosophy and verified the industrial hygiene monitoring measures and analytical instruments in the lab. The team also shared insights

on how to improve health monitoring reports and signed an agreement with the center regarding testing approaches and cooperation. People in the testing center were impressed by DSM's ambition in occupational health and expressed their intention to cooperate even closer in the future.

## Employees: Bright people love the world

### "Your Love for Their Future" – College sponsorship at Yushu, Jilin Province

In August 2012, DSM Sinochem Pharmaceuticals Yushu site organized a donation to sponsor local high school students who need financial support to go to college. DSM sponsored 100,000 RMB while employees donated more than 60,000 RMB; totally 70 students received the sponsorship. And this activity will be continued at each August with the support from company and employees.

## Suppliers: Dialogue and practice for a sustainable value chain

To gain better insights into the environmental impact of its products and to improve their eco-efficiency, DSM pays close attention to the entire value chain in which it operates. In the past, DSM used to focus primarily on the greenhouse-gas emissions of its own production activities, including the greenhouse-gas emissions from the power plants that supply electricity and steam, known as 'scope 1' and 'scope 2' emissions. Taking into account the greenhouse-gas emissions coming from the value chains in which DSM operates as well, known as the 'scope 3' emissions, provides a more complete picture of DSM's environmental impact.

This approach is implemented in DSM's award-winning Global Supplier Sustainability Program. A powerful factor in this program is the company's willingness to help suppliers achieve the level of compliance that DSM demands, and to initiate co-developments. The audits are not just a check on performance and compliance. They also help building sustainable relationships with suppliers. The program, operated by DSM Sourcing, helps bringing the company closer to its sustainability aspirations and innovation targets by selecting suppliers based on their potential to contribute to these goals.

DSM uses a quantitative supplier evaluation tool with clear criteria to identify significant issues. Based on their overall score, suppliers are categorized as follows: sustainable supplier: no follow up needed; acceptable supplier: specific improvements need to be addressed; unacceptable supplier: an improvement program needs to be implemented; rejected supplier: supplier to be replaced.

DSM has started cooperation with an NGO to engage with

suppliers worldwide in order to jointly improve working conditions, reduce CO<sub>2</sub> emissions and identify supplier solutions for DSM's innovation pipeline. In 2012, one supplier did not pass the sustainability audit which meant that DSM had to freeze the contract with that supplier.

The program had started in 2006 with the introduction of DSM's first Supplier Code of Conduct. Since then, the company has added self-assessment questionnaires and audits. In 2012, DSM updated the program to keep up with changes in the legislative environment and latest sustainability trends. Targets are aligned with key climate change initiatives and conventions such as the Kyoto protocol and the United Nations' Copenhagen agenda.

The program comprises of two main elements: supplier compliance and supplier solutions. It engages both direct (raw materials and energy) and indirect (professional services, packaging and transportation) suppliers. It is primarily aimed at critical suppliers. After internal screenings, DSM has identified approximately 1,500 out of a total of about 100,000 suppliers as critical in the sense of providing DSM with critical components, being located in potentially high risk countries, supplying high volumes, or having a potential to create joint value in the areas of innovation and sustainability.

### Three-step approach towards supplier compliance

The Supplier Code of Conduct sets sustainability guidelines for suppliers. DSM's mission statement and the DSM Code of Business Conduct, based on DSM's core value – sustainability - create the basis for this code. In addition to basic rights, laws and principles, DSM also asks suppliers to look at their own supplier base and to make sustainable choices, pay attention not only to the safety but also to the health of their employees as well as to demonstrate their ability to ensure business continuity. A clear distinction is made between the people, planet and profit dimensions. In 2012, the supplier code was updated and further aligned with DSM's ECO+ and People+ programs and also with the Life Saving Rules. Moreover, guidelines on biodiversity and biomass policy to prevent potential competition with food/feed as well as water scarcity have been incorporated.

In 2012, 93 percent of total procurement spending was covered by suppliers who have either accepted the DSM code or presented their own code of conduct that is materially similar to that of DSM. The code is an integral part of each supplier contract and is incorporated into DSM's general purchase conditions.

A self-assessment questionnaire enables suppliers to measure their activities up against DSM's code. In 2012, DSM received 59 self-assessment questionnaires. From 2013 onwards, DSM will be using a third-party sustainability assessment tool and will send specific requests for sustainability information to

suppliers during supplier selection or on-boarding processes. The results of these self-assessments will determine if DSM wants to do business with the respective supplier and will guide actions to be agreed before signing a contract.

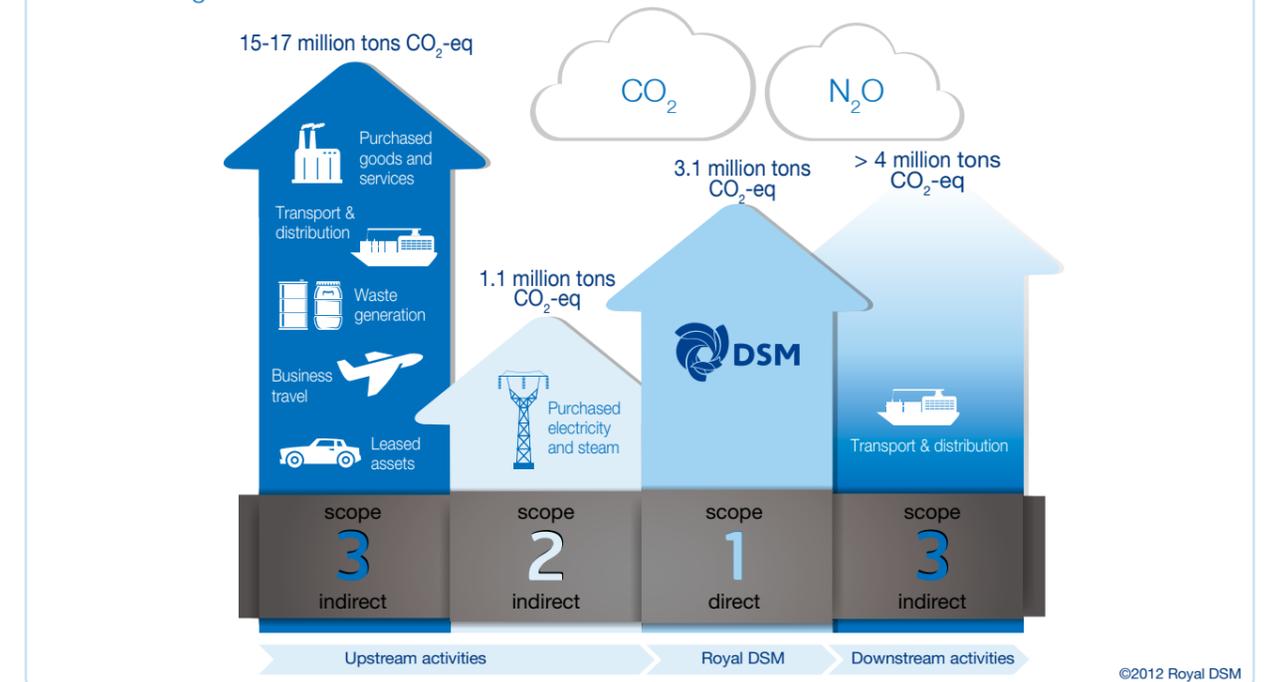
In 2012, DSM audited 62 suppliers. A total of 40 audits were done by an external party (13 in China), whereas 22 were performed by internal DSM auditors who were independent from purchasing functions (mostly from SHE and quality assurance departments).

Having a third party perform sustainability audits at its suppliers means DSM can benchmark its suppliers in terms of environmental and social performance against their peers.

These benchmarked results show that DSM's Chinese suppliers perform above average. Suppliers generally were more aware of their water consumption and restricted their emissions than in many other regions. On the other hand, there is room for improvement in regard to employee awareness on sustainable production, safety at the workplace, working hours, and setting energy efficiency targets.

In 2012, DSM has a very good start in China in its commitment to building a greener supply chain. More initiatives are planned in 2013, like life cycle assessments, joint efforts with local NGOs to organize supplier events in China to raise awareness on social issues, as well as more audits to carry on the good work done in 2012.

### Greenhouse-gas emissions in DSM's value chain





# Report of DSM China 2012

## Key data for DSM China 2012

	2012	2011	2010
<b>People</b>			
Workforce by Dec. 31	3569	3678	2913
Female / Male ratio	30/70	30/70	31/69
Frequency Index of recordable injuries (per 100 employees; DSM and contractors)	0.14	0.19	0.25
<b>Planet</b>			
Energy use (in PetaJoules), continuing operations	7.50	7.65	7.97
Water use (in million m <sup>3</sup> ), continuing operations	5.70	7.00	7.82
Greenhouse-gas emissions in CO <sub>2</sub> equivalents (x million tons), continuing operations	0.88	0.92	1.04
Emission of volatile organic compounds (x 1000 tons), continuing operations	1201	965	1619
COD (Chemical Oxygen Demand) discharges (x 1000 tons), continuing operations	381	323	499
Environmental incidents (cases)	0	0	0
<b>Profit (in USD million)</b>			
Net sales 2012 China, continuing operations	1700	2001	1528



*“My career with DSM started in 1997 and the following 15 years I was closely bonded with DSM in both my career and life. I believe if you dedicate to your work, it will reward you.”*

Vivian Huang, Treasury and Credit Control Manager of DSM China Finance Department, cherished the opportunity provided by DSM to become best on both professionally and personally. In 2009, when her family needed her to be in the US, she got an opportunity from DSM US, so that she was able to continue her career with DSM. And now she's working together with her team to further strengthen the position of China as Regional Treasury Center.

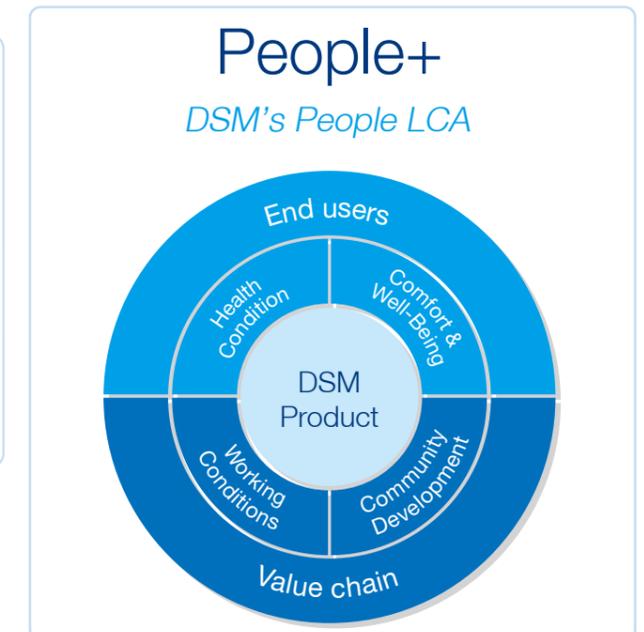
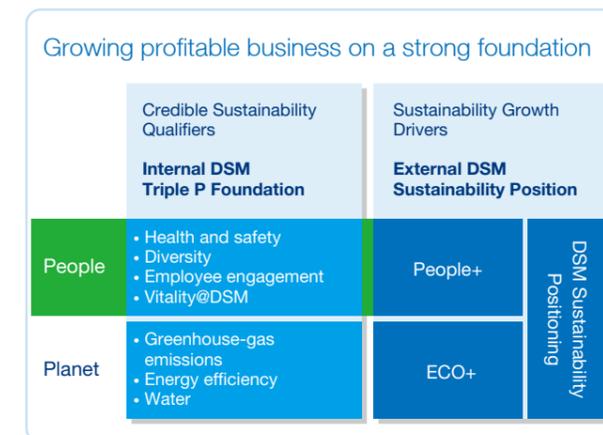
# People in 2012

The People dimension of DSM's Triple P strategy is about improving people's lives through the company's activities, solutions and innovations. 'People' here includes consumers, workers and communities across the value chains in which DSM is active. This chapter includes both the People+ strategy, which is the external component of the People dimension, and, under 'People at DSM', the human resources strategy as the internal component. For DSM, sustainability provides both a growth driver and a strong foundation for its human resources strategy.

the impact on communities across the value chains in which DSM is active.

The People+ approach focuses on four distinct dimensions:

- (I) Health Condition
- (II) Comfort & Well-Being
- (III) Working Conditions
- (IV) Community Development



## People+

DSM is developing a People+ strategy for measurably improving the lives of consumers, workers and communities across the value chains in which the company is active. People+ will do for the 'people' element of Triple P what ECO+ has done for 'planet', giving further impetus to sustainability as a business driver for the company. DSM refined its People+ strategy in 2012 and also defined and road tested new metrics for it, thereby further enhancing its leadership position in sustainability.

The DSM 'People LCA' indicators are based on international standards, such as those formulated by the World Health Organization, the International Labor Organization and the Global Reporting Initiative.

Until recently a tool to measure a product's impacts on the People dimension was not available. By contrast, a product's eco-benefits (its ECO+ effect) can readily be measured using the well-known Life Cycle Assessment (LCA) methodology. The LCA method is widely accepted as a tool to assess environmental impacts associated with all the stages of a product's life.

DSM is road testing the new metrics in R&D and value proposition projects.

In 2012 DSM, together with a broad group of stakeholders, developed a new metric to measure the People+ effect of products and solutions by assessing the impact on both the consumer and the people involved in the value chain for a product or solution. The new metric, the 'DSM People LCA', takes into account the product's impact on the health condition, the perceived comfort and well-being of end-users, the working conditions of the employees involved, as well as

On the next page a few illustrative examples are given, such as the disposable medical gown for surgeons based on DSM's Arnitel® VT. This gown incorporates a membrane that provides a higher barrier to viruses and bacteria than competing solutions. The Arnitel-based solution also allows perspiration to pass easily, which increases surgeon comfort. Another example is FloraGLO® Lutein which can be used in dietary supplements. Lutein is a component of the eye and supplemental use may help visual performance. It has also been linked to the prevention of age related eye diseases. The BluCure™ Technology for cobaltfree curing of synthetic resins also illustrates the People+ concept. This technology eliminates exposure of workers to cobalt during manufacturing, while enabling a high quality of the cured resin product.

The new assessment will make it possible for DSM to quantify its brand promise of 'Brighter Living'. The company aims to further develop the methodology and align with external stakeholders in the years to come.

## People at DSM

DSM's human resources strategy contributes to the development of inspiring and collaborative leaders, creates an engaged and competitive workforce, and fosters an inclusive environment where people trust and respect one another, and where they encourage each other to achieve sustainable focused business growth. The approach is supported by the ONE DSM Culture Agenda.

DSM's human resources strategy supports the company's goal to further internationalize its business in order to bring its organization closer to key markets and customers, strengthen the business and stimulate inclusion, diversity and innovation. DSM combines a strong regional infrastructure with clear board level accountability for regional growth.

### ONE DSM Culture Agenda

During 2012, DSM transitioned its Change Agenda into the ONE DSM Culture Agenda. The themes of the ONE DSM Culture Agenda have been simplified and more aligned with DSM's business environment and business strategy, as well as with its global footprint. With the ONE DSM Culture Agenda, DSM is developing the culture required to achieve its strategic ambitions, to mirror the world it operates in, and to become a high performance organization. The four themes of the agenda are: External Orientation, Accountability for Performance, Collaboration with Speed, Inclusion & Diversity. Accelerating these four themes across DSM will lead to a more agile organization that is fit to cope with fast moving developments in the business environment.

#### External Orientation



DSM is convinced that, in order to be able to execute its growth strategy and rapidly adapt to changing customer and industry requirements, our employees need to be fully in tune with the challenges the external world offers. This means not just anticipating customer needs and understanding market developments to drive marketing & sales and innovation priorities, but also tracking, learning and competing with best practices for all functions. External Orientation is also needed to broaden DSM's networks and engage with stakeholder groups.

#### Accountability for Performance



DSM expects its employees to set ambitious targets and take ownership to deliver these. Accountability for Performance is about people taking responsibility for their actions and for the

performance of their teams, about recognizing and celebrating successes, but also about bringing issues to the surface and viewing mistakes as individual and collective learning opportunities.

#### Collaboration with Speed



DSM expects that in an ever more connected world, where collaboration is becoming an important source of competitive advantage, DSM employees will actively (co-)create, share and build on ideas, information, knowledge and expertise of their colleagues and the external world. By fostering collaboration, DSM will harvest the power of its growing global workforce, as anchored in its leveraged organizational model with businesses, functions and regions. Besides increased collaboration, there is a need for faster decision making and execution. DSM needs to build a ONE DSM Culture in which its employees trust each other's skills and have a sense of togetherness, of being ONE DSM.

#### Inclusion & Diversity



DSM believes that fostering an inclusive culture that embraces differences will help to create a more diverse workforce which will drive a high performance organization achieving its business and strategic goals, especially in view of DSM's focus on further internationalization, innovation and sustainability. A more balanced DSM leadership group (in terms of gender, nationality and background) will improve the decision-making process as well as the implementation of DSM's strategy. Inclusion & Diversity requires thoughtful bridging skills and a full commitment to DSM's joint corporate values.

Meanwhile, DSM is strongly encouraging the "Glass Half Full" attitude of delivering positive energy, which drives our culture agenda and the overall development of our people.



"Deliver Positive Energy- Glass Half Full" event was held across DSM sites in China in December 2012.

## Report of DSM China 2012

Key data for China in 2012

People in 2012

Planet in 2012

Profit in 2012

External Recognitions

## Employee Engagement Survey

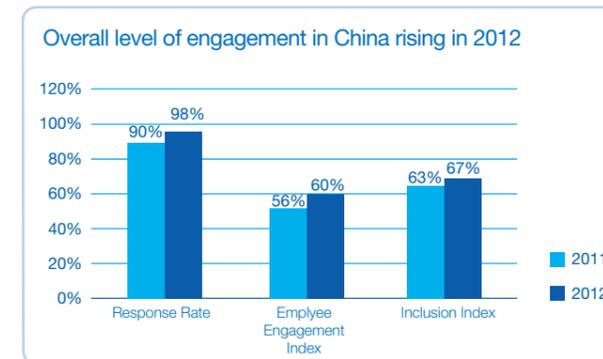
### Listen to employees' voice

DSM fully embraces that an engaged workforce is critical to realize our ambitions. Our Employee Engagement Survey (EES) helps us to receive employees' feedback on what our key strengths are to further build-on, as well as what are the areas for improvements.

In 2012, DSM executed its fifth worldwide Employee Engagement Survey. A total of 19,039 employees completed the questionnaire, which was distributed online and on paper in 19 languages to all DSM employees.

In China, a total of 3,200 employees shared their feelings and gave feedback via the survey. The response rate of 98 percent was an inspiring record.

The results show that the overall level of engagement in China has been rising in 2012 and all 19 dimensions are improved.



The survey feedback has also been very helpful to identify improvement areas about which the company will make strong efforts to learn more.

### Action & Effort behind improved scores – two successful stories

#### - DSM Sinochem Pharmaceuticals (Zibo)

This site achieved significant improvement on Employee Engagement Index (EEI) in 2012 comparing with previous year, which is a direct result of the strong focus and timely actions supported by the management team:

- Line managers take initiatives and role model for necessary improvements
- Listening to employee's real voice
- Timely & efficient communication, and seek for various opportunities & in different formats
- Tangible actions

*"This is a group effort by all employees while leading by the management team; through effective communication, we felt the sincere and confidence from the company, as the Chinese old saying, "When everybody adds fuel, the flames rise high", we believe the EES score will be better and better and the company will continuously show sustainable development."*

- ZHANG Feng, Shift Leader at DSP Zibo

#### - DSM Food Specialties (DFS) China

This site obtained the highest score in Employee Engagement Index 2012 across all BGs in DSM China with an increase of 39.3% compared with the previous year; a challenging factor for DFS is that about 75% participants are from Joint Ventures. Their secrets for their success are as follows:

- Greatly improved working conditions & safety according to DSM standards
- Learning opportunities provided to employees to escort their further developments
- Actively developing local employees and helping them succeed
- Management team pays great attention through on site visits & transparent communication
- Culture recognition based on mutual trust & understanding

### Talent Acquisition – Become a DSMer!

Working for DSM is about doing something meaningful to improve people's lives. DSM innovates sustainable solutions to many of the world's most important challenges. This means doing everything we can to spark, nurture and realize our people's bright ideas, translating customer needs into new opportunities, in a working environment that promotes health, personal initiative, entrepreneurial mind set and inspirational leadership.

*"We offer a recognized, professional HR support for all BGs and our employees with a focus on building the right capability to achieve sustainable business success in China. Our goal is bringing local sensitivity, speedy responses and synergy in the high growth market."*

- Eugene Eu, Vice President Human Resource of DSM (China) Ltd.

### Campus recruitment

In 2012, four universities events were successfully organized. The top DSM China management team is heavily involved in these events by giving inspiring campus talks.

Meanwhile, since 2010, DSM continued its sponsorship to “en·act·us”, a community of student, academic and business leaders committed to using the power of entrepreneurial action to transform lives and shape a better more sustainable world. One feature of the group is a business case competition which DSM attended in 2012 and acted as one of the judges for the business case competition. A few Enactus’ students joined DSM as interns, while DSM provided a good platform to develop students’ talent who are interested in corporate environment.



DSM actively participated in “Enactus” activity.

### Internal Referral Program

The Bo-Le Program, in which an Employee (referrer) supports a Referred Candidate, a Referred Candidate is a person that has been successful in his or her job for years and is well-known among employees. As a result, among many recruiting channels, there are almost 17 positions fulfilled by internal referral, which reached over 13% in total hiring.

*“Internal referral opened a new door to my career: after having worked at a competitor and then a supplier to DSM Engineering Plastics, I joined DSM last November. It is like the destiny that in a certain day I’ll be tied with DSM. And I’m happy to make the decision rightly in right time.”*

- Cindy Zhao, Commercial Excellence Manager

### Learning & Growing at DSM

DSM strongly believes in the need to invest in the knowledge, skills and experience of its employees to ensure their long-term employability.

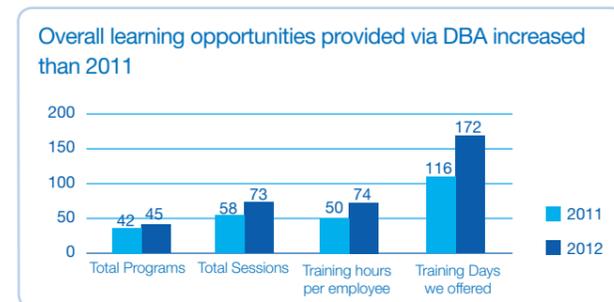
Our employees were provided with various kinds of learning opportunities by the company:



### DSM Business Academy (DBA) – Provide comprehensive learning courses

The DSM China Learning Architecture consists of four program clusters supported by the DSM Business Academy (DBA): Executive programs, Management programs, Functional programs and e-Learning programs, while the functional trainings covers full range.

In 2012, overall learning opportunities provided by DSM via DBA increased compared to 2011. Besides, hundreds of employees participated in on-line English learning.



### Talent Development – help people succeed

DSM strongly believes that successful talent management requires leaders who have the right focus, mindset and capability to identify, develop, engage and share diverse talent. Leaders who are inclusive and who are focused on growing themselves, their people and the business. In addition, the company believes in creating opportunities for its talented employees to maximize their development. In 2012 the company started many initiatives aimed at (1) empowering employees to take ownership of their career and (2) empowering leaders to take accountability for both talent performance and talent development.

### Report of DSM China 2012

Key data for China in 2012

People in 2012

Planet in 2012

Profit in 2012

External Recognitions

### DSM Leadership Model

In 2012 DSM presented a new leadership model that specifies the characteristics expected from leaders now and in the future in a simple, understandable and compelling way. The DSM Leadership Model provides a common vision and language regarding the leadership DSM desires, and it describes an inspirational mindset to raise the bar on the performance of leaders and to grow people. The model sets out the expectation for leaders to be role models and developers of a sustainable, successful organization for the future. It is the basis for high quality processes to hire people, to grow and develop talent and build high performing teams. The DSM Leadership Model consists of five imperatives: Insight, Shape, Connect, Develop and Deliver. In 2013, DSM will further communicate and promote this model via cascading down in the organization.

Moreover, DSM aims to create opportunities for its talents to maximize their developments and supporting their careers:

### Internal Transfer

- **2 regions x 2 organizations x 2 job functions:** DSM encourages employee internal transfers to allow them to further develop among different *regions x organizations x job functions*.
- **“CareerWorld@DSM”** : Since DSM launched its internal recruiting platform in 2008, internal developments have been increased.
- In 2012, 22% of DSM High Potential employees have further developed their careers through new internal assignments with great support from the management team and lots of efforts by human resources department.

*“Planning your own career is somewhat like driving a car. You need to get yourself prepared and clearly know where to go at the cross roads. The open communication among the line manager, the career manager and me is important to my career development in DSM; they listen to me and give their suggestions at my career crossroads. They encouraged me, “You are not recognized by short term achievement, but proofed by long term good performance and continuous practices.”*

- Chen Kai was transferred from DSM Jiangyin site to Shanghai Campus as Safety, Health and Environment Manager in 2012 for further development.

### China Excellence in Manufacturing Program (CEiM)

CEiM is a Talent Development program for plants and sites managers from different manufacturing sites of DSM in China. It aims to not only increase their knowledge but also to share the best practices among manufacturing managers. In 2012, the second Phase with 4 models was successfully launched.

Has been highly recognized from Global Operations Leadership Team, the second phase of CEiM provided a valuable development opportunity for current managers

in DSM China Manufacturing to continually enhance their capabilities for increased business and organizational sustainable success. And the China’s experience of this program will be shared with the US and India for their talent development.



Employees are learning “how to conduct a Performance & Development Review dialogue” during CEiM program.

### Our bright people



Vivian Huang, Treasury & Credit Control Manager, DSM China

*“My career with DSM started in 1997 and the following 15 years I was closely bonded with DSM in both my career and life. I believe if you dedicate to your work, it will reward you.*

*DSM gives me opportunities to become best on both professionally and personally. For me, working at DSM has many plus points, the biggest being its inclusion. Whenever I needed support, I always got it from my colleagues and managers; and the people with whom I sat on my very beginning years here have become my friends for life.”*

Vivian Huang, currently is Treasury & Credit Control Manager of DSM China Finance Department. In 2009, when her family needed her to be in US, she got an opportunity from DSM US, so that she was able to continue her career with DSM, whilst staying with the family and accompanying her daughter’s growing-up. And now she’s working together with her team to further strengthen the position of China as Regional Treasury Center.



Yu Ming, Business Development Manager of Emerging Business Area

*"It's very inspiring and motivating to me that the products and industries I have been working with at DSM are all closely related to Climate & Energy, and with China's development! I feel the high sense of achievement when the difficulties are broken through and goals are reached, but more importantly I feel proud to be part of our fast-growing and diligent team working for this meaningful business of future."*

Yu Ming, Business Development Manager of Emerging Business Area (EBA), was selected as one of the final three nominees of DSM Excellence in Sales Award 2012. DSM Advanced Surfaces focuses on providing solutions for the solar industry with its proprietary anti-reflective coatings KhepriCoat® to increase solar module efficiency. Yu Ming is responsible for the Asia Pacific market since mid-2010 together with a growing team, from totally scratch to being recognized as the leading and independent supplier of anti-reflective coatings in the solar industry. EBA employees such as Yu Ming are dedicating their efforts to achieve joint success with their customers through partnerships by supporting the company's sustainable commitment of 'bright science, brighter living'.



Huang Zhigang, Senior Sales Representative of DSM Nutritional Products China

*"As a member of the DSM sales team, I really enjoy the process of guiding and influencing our customers to use Rovimix® Premix products. I believe my work will contribute to the sustainable development of China's stockbreeding. Healthy, environmental-friendly and efficient are the key characters of our premix products, they are also our commitment to customers in this industry."*

Huang Zhigang, Senior Sales Representative of DSM Nutritional Products China, commits himself to the sales and promotion of premix products. By providing customized solution to customers with animal nutrition technical team and doing it in an innovative way, Huang set a good example on providing value added solution to customers and got business eventually. He has been selected as one of the final three nominees for DSM Excellence in Sales Award 2012!



YANG Kai, Scientist, DSM Nutritional Products

*"I am proud of working at DSM, as we are dedicated to developing advanced production processes that use less energy to minimize our eco-footprint. When our optimized sustainable technologies were approved with patent application and put into operation, we feel the high sense of achievement!"*

*Doing R&D needs to get down to their work and communicate more with colleagues. DSM's strong focus on people and innovations has provided us with optimized work environment and career development prospect. Doing research is an accumulation process, while working at DSM is a process of improving our self-value."*

Yang Kai is a scientist at DSM's Nutritional Products Research Center in Shanghai, where he focuses his research on optimizing the production of vitamin B6. With applications ranging from medicine to human and animal nutrition, this product has an impact on many lives around the world. Scientists such as Yang dedicate their efforts to improving both the product and the process, to ensure that DSM offers sustainably produced vitamins at a competitive price.



Performance Material Research Center (PMRC) Team

*"For whom want to be researchers like us, it's great to start your career in a place where attention has been attached to fundamental research on mechanisms which confirms DSM's long term commitment to China. Research is the path to learning new things. It keeps you passionate about what you do and always try to look ahead. We are proud of the way we work within DSM, especially the sharing of knowledge and expertise, and working towards the goal of 'bright science for brighter living'."*

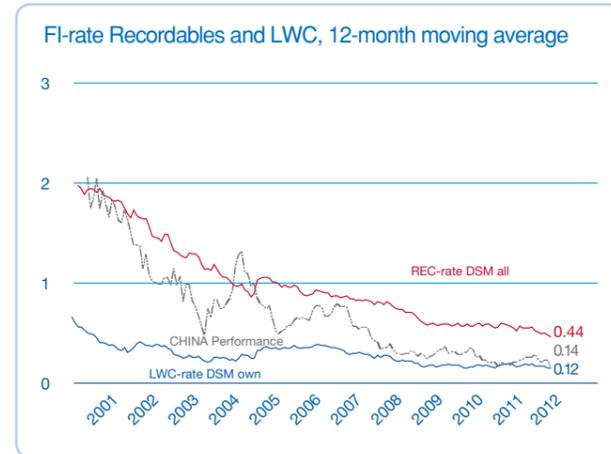
A group of young and enthusiastic scientists, who are working at DSM material research lab, are collaborating with colleagues both locally and globally to unlock the potential of polymers, whilst unlock the potential of themselves. And it is up to scientists like them to keep DSM delivering better products from both a technology and a sustainable perspective.

## Safety and Health

### Safety Performance Trend:

It is DSM's goal to create an injury and incident free working environment. DSM has set itself the target of reducing the Frequency Index of Recordable Injuries by 50 percent or more by the year 2020. This index measures Lost Workday Cases (LWCs), restricted workday cases, medical treatment cases and/or fatalities per 100 DSM and contractor employees within one year. In 2010, this Frequency Index was at 0.57; the target for 2020 is less than or equal to 0.25. In 2012, DSM's safety performance has shown clear improvement. At the end of 2012, the Frequency Index was at 0.44, the lowest ever (2011: 0.53).

In China, the Frequency Index of Total Recordable Injuries further improved to 0.14 (including contractors) in 2012, which was a reduction by 26% compared to 2011. Serious incidents were even halved to three, compared to six in 2011. In comparison to other regions, DSM China's safety performance ranks top.



**DSM Xinghuo (China) has won the 2012 DSM Global SHE Award**

The DSM SHE Award is granted once a year to the best performing site for Safety, Health and Environment. Moreover, the site that shows the strongest sustainable improvement in SHE receives the DSM SHE Improvement Award.



The Xinghuo site in Shanghai was honored the DSM SHE Award 2012.

The DSM Xinghuo site in Shanghai was selected out of four nominees to be the winner of the DSM SHE Award 2012. The Xinghuo site has a strong, solid but also creative SHE system showing sustainable dynamics and initiatives addressing all aspects of SHE and involving everybody in the organization, including contractors.

According to the jury, "Xinghuo operates on a very high standard and is at the same time always looking for new ways to keep attention and awareness levels high and to

further improve. It is an exemplary site located in an external environment where SHE performance is far away from DSM standards."

**DNCC receives Provincial SHE Culture Award**

DSM Nanjing Chemical Company Ltd. (DNCC) was recognized as "Exemplary SHE Culture Company 2011" by Jiangsu Provincial Safety Production Bureau in March 2012. DNCC and BASF-YPC Company Limited are the only two chemical companies in Nanjing which have received this award.

The evaluation in 2012 was more focused on the importance of building a SHE culture and its contribution to SHE improvement than in previous years. DNCC was recommended by the local Safety Production Office and assessed by a panel of representatives from authorities and experts. In addition to a large hardware investment in the past few years, DNCC paid much attention on system improvements and SHE culture building among all levels of management and employees, for example by emphasizing individual safety responsibilities. Thus, a proactive safety culture was developed; employees now engage in all sorts of safety management.

**DEPJ achieved 13 years without an LWC and 3 years without a recordable injury**

In 2012, DSM Engineering Plastics (Jiangsu) Ltd. (DEPJ) celebrated the double achievement of 13 years without an LWC and 3 years without a recordable injury. On September 21, 2012, the site celebrated 1000 days without a recordable injury. In December, a ceremony was held for both anniversaries. Colleagues from each department were invited to tell their personal SHE stories. Employees' stories focused on how much they have learned about safety and why certain rules are important and can be life-saving. A short video of the stories was played and SHE awards presented to employees and contractors who were particularly engaged in SHE.



DEPJ celebrated for double achievement of 13 years without an LWC and 3 years without a recordable injury.

**Employee Health Management**

Health and wellness are very important for DSM and its employees. The Global Health Management initiative involves a global employee health management program, called Vitality@DSM. Participants are offered an extensive periodic medical check-up called Vitality Check and are asked to fill out an electronic questionnaire. This provides DSM employees with a personal scorecard, and the company with anonymized, tangible and quantitative data on health at work. Thereby, the company can monitor progress through performance indicators, compare results by region as a base for defining content and priorities of local health promotion campaigns, and create collective scorecards for relevant levels in the company. Vitality@DSM fits the company's mission to create 'brighter lives for people today and generations to come' and addresses an important global trend, Health and Wellness, as defined in DSM's strategy for the years 2010-2015. The program is being piloted at DSM China.

**Vitality@DSM extended to China**

In a pilot scheme, over 140 employees of China Operations & Responsible Care, DSM Sourcing China in Shanghai and DSM Information Communication Technology China (DICT China) in Nanjing participated in the Vitality@DSM in 2012, coordinated by the China office of Occupational Health & Responsible Care and the DSM Occupational Health Center in the Netherlands. The program included a medical check-up, the online Wellness Checkpoint® Questionnaire that measures the degree to which health problems interfere with specific aspects of job performance, such as productivity or absenteeism. It is followed by one-on-one coaching sessions based on individual results. Examples of lifestyle-related health risks are smoking, excessive eating, alcohol consumption, stress and insufficient exercise.

The pilot project in China has revealed that there is some room for improving the physical and mental health of several participants, especially in respect to increasing exercise and reducing stress. In addition to the Vitality@DSM program, a number of other activities aimed at building up a sustainable health culture have been launched in China.

**Employee care – care to night shift employees**

The integrated global service desk in Nanjing provides 24\*7 ICT support to DSM end users around the world, therefore many employees work on shifts. In order to create a better environment for the night shifts, the company has started to provide healthy snacks during the night, and offers various types of food including daily delivered milk or yogurt, fruit and bread. A regular survey also notes employees' suggestions in order to adjust food accordingly.

**DSM Xinhuo site introduces joint exercises for employees**

The DSM Xinhuo site in Shanghai has initiated a "work-break exercise" for its office and workshop staff that, for example, includes stretching. The exercises have been designed based on the results of individual health monitoring.



A "work-break exercise" proves very popular at DSM Xinhua site in Shanghai.

**Occupational Health**

**Greater China SHE/IH&OH Platform Meeting at DEPJ**

In August, a combined Greater China SHE/Industrial Hygiene & Occupational Safety (SHE/IH&OH) Platform meeting was held at the DEPJ Site in Jiangyin. It was the first time that the Industrial Hygiene and Occupational Health platform was organized together with the SHE platform. More than 30 colleagues participated, including SHE Managers of 13 sites. They shared many SHE topics, with a strong focus on the implementation of DSM's Life-Saving Rules, high voltage safety & personal protection equipment practice as well as job safety analysis. Three high priorities for the IH&OH platform meeting were the setting of indicators, health risk assessment and noise protection. Besides, the participants conducted a field audit at the DEPJ site where each participant provided three valuable suggestions for improvements.

Meanwhile, a local doctor was invited to give all participants and DEPJ employees a health lecture on how to support the cervical and lumbar spine. He also corrected sitting and lifting postures and other unhealthy habits of the participants to help leading healthier lives.

# Planet in 2012

On the Planet dimension of its Triple P approach, DSM delivers activities, solutions and innovations that improve the environmental footprint of its own business and that of its external stakeholders in the value chains in which the company operates (customers, supplier and end consumers). This approach includes the ECO+ program, which defines sustainability as a growth driver. This chapter also addresses the reporting on DSM's environmental footprint and on its implementation of the Greenhouse Gas Protocol for scope 3 emissions.

from animal manure. Another example are Akulon®-based flexible packaging films such as Pack-Age™, a cheese ripening solution in the form of a breathable film bag that gives cheese the same taste and texture as the traditional coating method, but without the labor and without the waste.

All the above examples might be characterized as 'eco-efficient'. They help minimize environmental impact. DSM's long-term goal is to become fully eco-effective, by providing solutions that close the loop and have a truly positive, rather than less negative, environmental impact. To achieve a truly circular economy, it is essential to invest in the development of products made from renewable, bio-based raw materials rather than fossil fuels. Palapreg Eco™ is an example of such a product.

To promote a circular economy, DSM also proactively seeks to develop safer alternatives to existing solutions. Many products that are on the market today contain ingredients that bring specific benefits during use but that may cause problems in the end-of-life stage or make the product difficult to recycle. Considering safer alternatives creates new business opportunities that are not available to companies that are merely compliant with regulations. Good examples of safer alternatives are BluCure™, the 100 percent cobalt free curing technology for composite resins, and halogen-free flame retardant plastics such as Arnitel® XG and Stanyl® ForTii™. DSM also continues to focus on Cradle to Cradle® closed-loop solutions.

Some DSM ECO+ solutions carry an Environmental Product Declaration (EPD). An EPD is a standardized way of communicating the environmental performance of a product or system. It is based on ISO standard 14025/TR and Life Cycle Assessment. Eighty percent of DSM's ECO+ solutions are supported by LCAs.

Finally, most ECO+ solutions generate downstream cost benefits coupled to their environmental benefits at specific stages of the value chain. These effects include generating less waste in the use phase, making the application more durable and reducing energy consumption in the application or disposal phase.

## Growing profitable business on a strong foundation



## ECO+

ECO+ is DSM's strategic concept for promoting the development of sustainable, innovative products and solutions with ecological benefits, and for measuring these benefits. ECO+ solutions create more value with less environmental impact. The ecological benefits can be created at any stage of the product life cycle, from raw material through manufacturing and use to potential re-use and end-of-life disposal. To measure them, the ECO+ framework uses the Life Cycle Assessment (LCA) methodology.

Typical ECO+ examples are DSM's engineering plastics that enable customers to produce lower-drag, lighter-weight and therefore more fuel-efficient cars. A life-science example is Brewers Clarex™, which enables brewers to prevent chill haze without having to cool their beers to sub-zero temperatures.

Other ECO+ benefits are the minimization of the use of natural resources such as water or minerals (including metals), or the reduction of waste. A typical example is phytase used in animal feed. Phytase enables animals to absorb more phosphorus from their feed. This translates into less phosphorus supplementation and less phosphate pollution

*"We need to minimize our eco-footprint, which is why we focus our bright science on developing advanced production processes that use less energy."*

YANG Kai is a scientist at DSM's Nutritional Products Research Center in Shanghai, where he focuses his research on optimizing the production of vitamin B6. With applications ranging from medicine to human and animal nutrition, this product has an impact on many lives around the world. Scientists such as Yang dedicate their efforts to improving both the product and the process, to ensure that DSM offers sustainably produced vitamins at a competitive price.

Value chain benefits of innovative ECO+ solutions

Applications	Higher eco-efficiency <sup>1</sup>	Renewable content	Safer alternative <sup>2</sup>	Environmental Product Declaration (EPD)	Downstream cost benefits
<b>Materials</b>					
Arnitel® VT	Breathable film	•			•
Arnitel® XG	Wires and cables		•		•
Akulon® Fuel Lock	Fuel tanks	•	•		•
Arnitel® Eco	Pan liners	•	•	•	•
BluCure™ Technology	Marine, building & construction		•		
Dyneema®	Aquaculture and fishing nets, cut-resistant gloves	•	•		•
EcoPaXX®	Engine covers	•	•		•
HighQ™ Container	Lightweight containers	•			•
Hybrane® CY-245	Car refinishing	•	•		•
KhepriCoat™ <sup>3</sup>	Solar panels	•			•
Neocryl® XK-238	Industrial coating	•	•		•
Neocryl® XK-555	Anti-graffiti coating	•	•		•
NeoPac® PU-480	Architectural coating	•	•		•
NeoRez® U-475	Graphic arts printing	•	•		•
Palapreg® ECO	Composite bridges	•	•		•
Stanyl® ForTii™	Micro-electronics	•	•		•
Stanyl® polyamide 46	Chain tensioners	•			•
Stanyl® TC	LED lighting	•	•		•
Synolite® 7524-N-1 FC resin	Artificial stone		•	•	•
Uradil® AZ-785	Architectural interior wall paint	•	•	•	•
Uralac® P32 series	Construction, heavy steel, part powder coating	•	•		•
Uralac® P752/755/3307	Construction sheet molding compounds	•	•		•
<b>Health &amp; Nutrition</b>					
Bakezyme®	Bread	•			•
Brewers Clarex™	Beer	•		•	•
Brewers Compass™	Beer	•		•	•
Claristar®	Wine	•			•
Delvotest®	Milk	•	•		•
Panamore®	Bread	•		•	•
Phytase	Animal feed	•		•	•
Purifine® PLA2	Soy oil	•			•
DSMPureActives™	Antibiotics	•	•	•	•
Rapidase®	Fruit juices	•		•	•
Vitamin E	Vitamins	•	•		•
<b>Combined</b>					
Pack-Age™	Cheese packaging	•		•	•

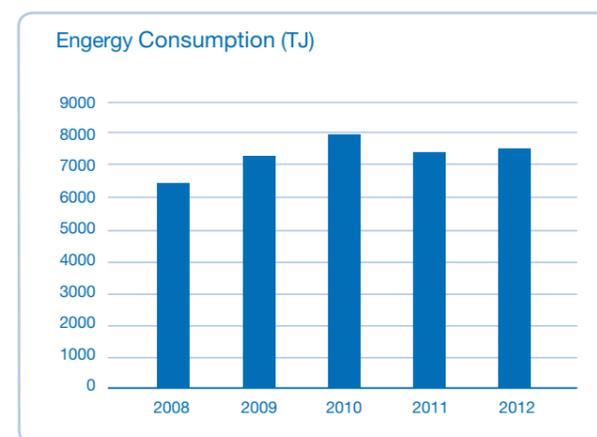
<sup>1</sup> Better resource efficiency and/or reduced GHG emissions thanks to e.g. higher energy efficiency in the product life cycle  
<sup>2</sup> Product can be used instead of existing products that contain materials that may contain substances of hazardous concern  
<sup>3</sup> LCA pending

Environmental impact of DSM's operations

DSM is committed to continuously reduce its environmental footprints. DSM China sites are taking measures to reduce energy consumption by recycling energy and increasing efficiency. At the same time, efforts are made to reduce water use as well as emissions of pollutants and waste.

Energy Consumption

The energy consumption of DSM China sites in 2012 was 7497 TJ. Energy efficiency (EEI) improved by 2%, compared to 2011.



DSM Nanjing Chemical Company Ltd. (DNCC) realized a significant improvement in energy efficiency, resulting in lower energy consumption at the same production volume. The replacement of steam supplied from its own relatively inefficient coal-fired boilers with steam supplied from a more efficient external supplier, as was already mentioned in last year's report, was now effective in the whole year.

Significant further reductions resulted from the closure of DSM Sinochem Pharmaceuticals (DSP) Zhangjiakou site. On the other hand, the new reporting plants DSP Yushu site and DSM Food Specialties (DFS) Zhongken site caused an increase in DSM China Sites' total energy consumption.

Cost down by launching energy-saving projects

Jinling DSM Resin (JDR) in Nanjing has reduced steam consumption by 14 percent in 2012 - even though its production volume has increased by 10 percent. This is equivalent to a 21.7 percent reduction in unit consumption, with considerable steam cost saving. In 2012 JDR also managed to cut diesel fuel consumption by 134 tons, a 19 percent reduction compared to 2011.

These successes were achieved through a series of measures.

- Incinerator efficiency improvement through of hardware modification and operating processes optimization
- Optimizing the production process in order to increase output without increasing energy consumption
- Good Preventive Maintenance Plan implementation kept the equipment in good condition and prevented leakage from equipment failure
- Enhancing awareness among the workforce and establishing standard operation procedures to regulate operations to prevent waste of energy

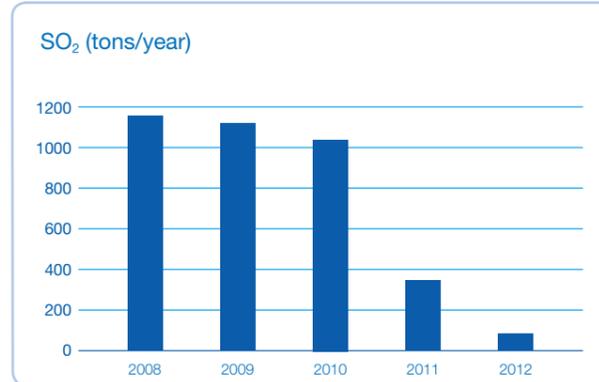
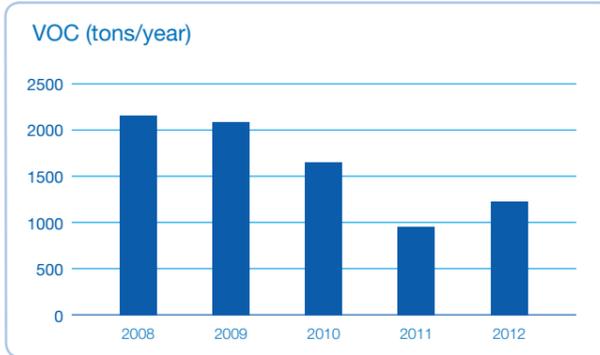
Other sites at DNCC, DSM Eternal Resins (Kunshan) Ltd., and DSM Engineering Plastics Jiangyin site also witnessed the energy saving achievements. DNCC installed a heat recycling system to reclaim reactor heat from the caprolactam productions process. Thanks to the new technology, the plant will save 3000 tons of standard coal in energy every year. Moreover, DNCC replaced an amount of older electrical motors to improve the energy efficiency. The new motors have higher electrical utilization efficiency and will thereby contribute to saving more energy. Kunshan site saved a lot of water and natural gas by launching a new system for steam condensate recycling.

Emissions to air

Volatile Organic Compounds (VOC)

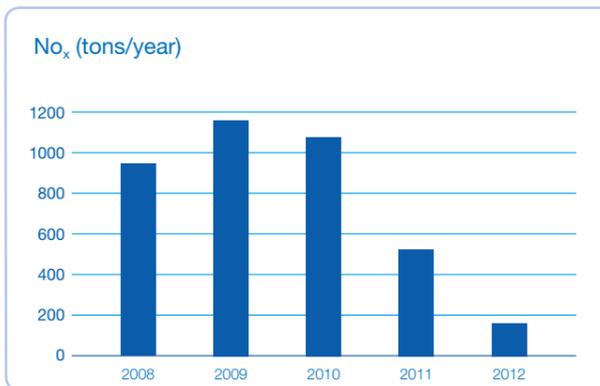
The Emissions of Volatile Organic Compounds (VOC) increased from 965 tons in 2011 to 1,201 tons in 2012 due to several causes.

The largest increase results from the new reporting sites, such as DFS Zhongken site, DSM Dyneema Laiwu site and DSP Yushu site, which contribute to DSM's VOC emissions as of January 2012. In addition, VOC emissions at DNCC have increased as a result of changes in the processing of one particular waste stream. This waste stream used to be incinerated on site. The incineration process required a large amount of energy and yielded an aqueous waste stream of sodium carbonate which was drained into the Yangtze River. A more sustainable solution to treat this waste stream was found. Various (valuable) components are recovered and energy consumption is considerably lower. However, the existing incinerator was also used to burn off-gases (VOC), and these are now temporarily released to the air. A new smaller incinerator to burn these off-gases is currently under construction. Once finished, it will further contribute to reduce the site's VOC emissions.



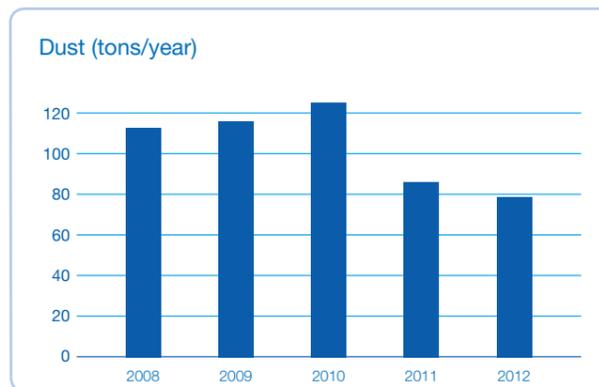
**Nitrogen Oxide (NOx)**

Nitrogen oxide (NOx) emissions decreased significantly, from 557 tons in 2011 to 176 tons in 2012. This is mainly because two coal-fired steam boilers at DNCC were closed in July 2011, as was already mentioned in the 2011 annual report. A smaller contribution resulted from the closure of DSP Zhangjiakou, the fact that planet data for DSP are only consolidated for 50 percent as of January 2012.



**Dust**

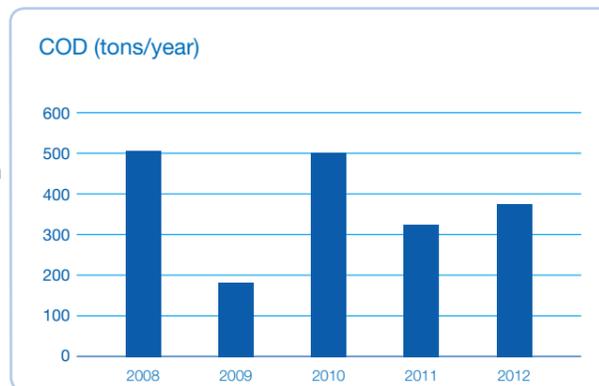
Dust emission has slightly decreased to 79.62 tons in 2012. This is due to the fact that large decreases were already achieved in 2011 as a result of improvements at DNCC.



**Sulfur Dioxide (SO<sub>2</sub>)**

Sulfur dioxide (SO<sub>2</sub>) emissions decreased significantly, from 331 tons in 2011 to 64 tons. The main reason is that the two coal-fired steam boilers at DNCC were closed in July 2011. A smaller reduction resulted from the closure of DSP Zhangjiakou and the fact that as of January 2012 DSP is only considered for 50 percent, compared to 100 percent in previous years.

**Discharges to water and landfilling of waste**



The discharge of COD (Chemical Oxygen Demand; an indicator of the degree of pollution of wastewater by organic substances), increased from 322 tons in 2011 to 380 tons in 2012. New reporting sites, DSP Yushu and DFS Zhongken caused an increase in COD discharge.

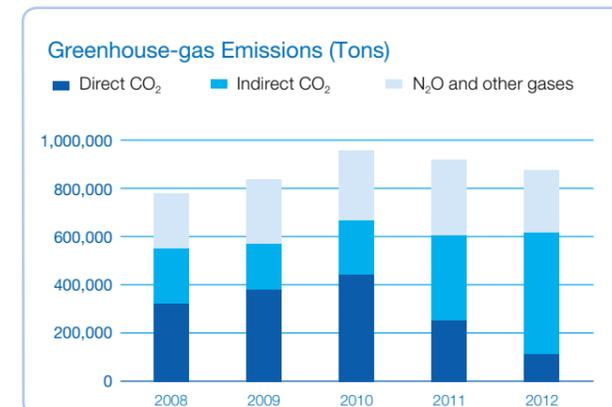
**Non-hazardous waste**

The landfilling of non-hazardous waste increased from 4216 tons in 2011 to 5,967 tons in 2012. The main reason for this significant increase is the fact that the new reporting site, DSP Yushu has landfilled a significant amount of non-hazardous waste due to a large construction project.



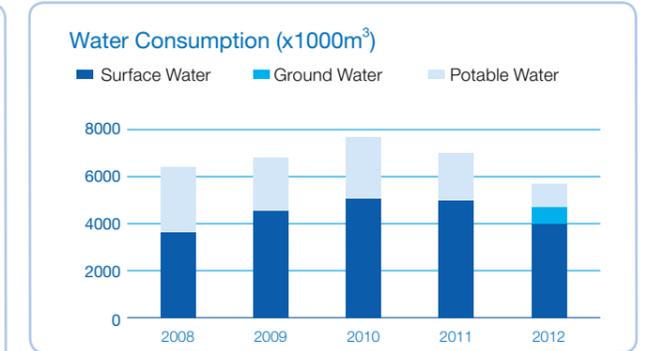
**Greenhouse-gas emissions**

In China, greenhouse-gas emissions decreased from 0.92 million tons in 2011 to 0.88 million tons in 2012. A structural improvement was realized at DNCC, where an N<sub>2</sub>O abatement system was taken into operation in September 2012. Smaller reductions at several other sites and the closure of DSP Zhangjiakou are offset by the contribution of two new reporting sites (DSP Yushu, DFS Zhongken).



**Water consumption**

The graph in the next column shows DSM China sites' water consumption, split up into surface water, ground water and potable (tap) water. Total water withdrawal decreased from 7.00 million m<sup>3</sup> in 2011 to 5.70 million m<sup>3</sup> in 2012. (17% decrease.) This is the balance of reductions at some sites and increases at other sites. Specific water project at DSM Engineering Plastics (DEP) Jiangyin resulted in significant local reductions. Further reductions were achieved by the closure of DSP Zhangjiakou and shutdowns of large water-consuming production units at DNCC. The main increase was due to the new reporting sites, including DSP Yushu and DFS Zhongken.



**DEPJ adopting new technology and optimization projects to save water and reduce waste water discharges significantly**

In April 2012, DEP Jiangyin put into operation a new compounding production line which uses a new technology that reuses large parts of the process water within the system. Moreover, almost 100 percent of the vacuum pumping water is recycled during normal operation. Since the startup of the new line, water consumption has been reduced to just 5% compared to the old production line which was closed down. At this saving rate, the new production line will save the facility approximately 33,000 m<sup>3</sup> of water every year.

In the meantime, when the site planned increasing the number of production lines against the local government waste water discharges permit. DEP Jiangyin managed to reduce waste water discharges far enough to be able to go ahead with their expansion without exceeding the permit. The plant reduced annual waste water discharge by 26.4 percent in 2011 and by 45.5 percent in 2012, when compared to 2010.

**Water risk assessment (WRA)**

DSM aims to achieve a situation where its operations have no adverse effect on the quality and quantity of water in the regions where the company operates. In regions that face water scarcity, DSM actively analyzes the local impact of its operations, based on a watershed approach as part of a water risk assessment. In these water risk assessments, the focus is not only on reducing water consumption in DSM's own

operations but also on promoting an overall sustainable water management system in cooperation with other stakeholders in their watershed area and in the supply chain.

In 2012, a number of DSM sites in areas with extreme water scarcity as defined by the Global Water Tool- a free tool for companies launched by the World Business Council for Sustainable Development to map their water use and assess risks - executed a water risk assessment using a dedicated Sustainable Water Management methodology. The assessment included water governance capability, (local) stakeholder integration, business risks related to existing and future operations, and value chain and ecosystem impact.

#### DSM supports UN CEO Water Mandate

*"Sustainability is a core value and growth driver for DSM. Our mission is to create brighter lives for people today and generations to come. One of the essential elements in people's lives is water. It is becoming increasingly scarce and polluted. But increasingly water is also becoming too abundant due to natural effects, increased by climate changes and therefore threatening lives within our society. DSM truly values initiatives like the United Nations Global Compact CEO Water Mandate, to the principles of which I express my continued support. We need to keep each other focused on the essentials in life. The topic of water and sustainable water management has our full attention."*

*Feike Sijbesma, CEO of Royal DSM*

These water risk assessments provided additional insight into ongoing improvements, helping the company to achieve its 'no adverse effect' goal. While no violations were observed in regard to local permit conditions, water discharge in some individual cases was using up a significant part of the rivers' assimilation capacity.

Based on the results and insights gained, DSM updated its roadmap to sustainable water management. The company confirmed its overall water intensity target of reducing water withdrawal by 15 percent by 2015. In 2013 and 2014 the water risk assessment methodology will be applied to other sites of extreme water scarcity as well as to significant water withdrawers and significant polluters (including thermal pollution of once-through cooling). The impact studies on scarcity and pollution will set priorities for local mitigation actions (e.g. water reduction projects, local stakeholder participation and cooperation projects) as defined in business group roadmaps for 2015/2020.

Based on the water impact and risk assessments, DSM has created a transparent overview of its impact on water

scarcity and water pollution (COD, nitrogen, phosphorus) at specific locations. Further investigations will be conducted and mitigation measures will be taken where necessary. There are a number of small sites where water scarcity may occur for up to a few months per year in their area of operation, but their impact is relatively insignificant as they consume less than one percent of available fresh water resource. There are also a number of big sites where the risk of water scarcity is low but the potential impact is high. These sites have prepared local water consumption reduction plans in line with DSM's water aspiration.

In 2012, DSM China sites of Xinghuo, Laiwu, Zibo, and DNCC have been included in the priority list of corporate because they are located in the scarcity area or because they are main contributors in terms of water withdrawal or water discharge of COD, nitrogen, phosphorus. All these sites will finish WRA by the end of 2014 and detailed WRA plan will be finalized. In 2012, impact analysis has been started and finished in Xinghuo and Laiwu site. The on-site WRA will be implemented in May 2013 in Xinghuo to have a full picture of water risks in order to define a detail water road map soon.

#### DNCC earns certified emission reduction credits by installing N<sub>2</sub>O abatement facility

Nitrous Oxide (N<sub>2</sub>O) is a potent greenhouse gas which contributes 310 times as much to global warming as Carbon Dioxide (CO<sub>2</sub>). Reducing N<sub>2</sub>O emissions is thus an important contribution to the worldwide fight against climate change. In September 2012, DSM Nanjing Chemical Company Ltd. (DNCC), which produces the nylon-6 precursor caprolactam, celebrated the inauguration of a new N<sub>2</sub>O abatement facility.

The new facility is the first N<sub>2</sub>O abatement system installed in a caprolactam plant, and thus marks an important milestone in DSM's ongoing quest for sustainable development. The company had started constructing the abatement facility in 2012, and successfully started up the system in August 2012. The new facility now removes 550 tonnes of N<sub>2</sub>O every year, equivalent to 170 kilotonnes of CO<sub>2</sub> or the annual emissions of 30,000 cars.

The facility has also been officially registered by the United Nations as a Clean Development Mechanism (CDM) project. The CDM is a market-based mechanism within the UN's Kyoto Protocol that requires industrialized nations to limit or reduce their greenhouse gas emissions. The CDM allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one tonne of CO<sub>2</sub>. These CERs can be traded and used by industrialized countries to meet a part of their own emission reduction targets under the Kyoto Protocol. The mechanism thus globally stimulates sustainable development. To DSM, it provides an opportunity to earn additional revenue through trading its CER credits while reducing its own environmental footprint.



*"It's very inspiring and motivating to me that the products and industries I have been working with at DSM are all closely related to Climate & Energy, and with China's development!"*

YU Ming, Business Development Manager of Emerging Business Area, together with a growing team, has made great efforts to make DSM from totally scratch to being recognized as the leading and independent supplier of anti-reflective coatings in the solar industry.

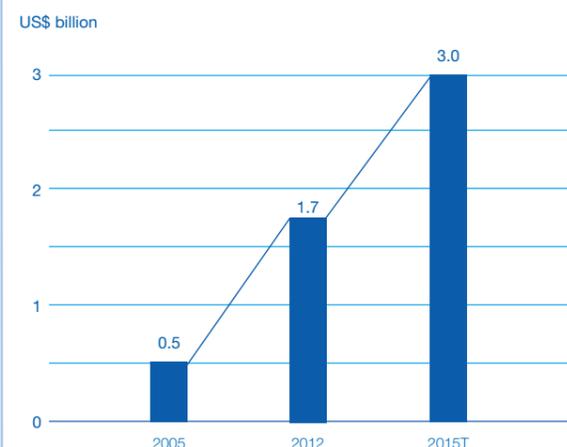
# Profit in 2012

In 2012 DSM China sales achieved USD 1.7 billion. DSM in China has a very solid foundation in the market, with its business portfolio both in Life Sciences and Materials Sciences areas, covering the market demand well.

The sales target for 2015 amounts USD 3 billion. To support its strategic growth DSM is investing USD 1 billion in China during the current strategy period 2011-2015.

Part of that investment is being made in an expansion project to double the caprolactam capacity of DSM Nanjing Chemical Company, a partnership with Sinopec Nanjing Chemical Industries, to 400 kilotons per year. The new facility is due to come on stream at the end of 2013 and is expected to operate at full capacity in early 2014.

Sales in China achieved US\$1.7 billion in 2012  
Sales target of China by 2015 : > US\$ 3 billion  
US\$ 1 billion investment in China 2011-2015



## Yushu opening

DSM Sinochem Pharmaceuticals (DSP) opened a new 6-APA intermediate plant in Yushu, Jilin Province. The construction of the plant started in Q2 of 2010 and was declared mechanical complete in Q1 of 2012.

The application of world class enzymatic technology, latest insights in design and state of the art environmental technologies in this plant will boost the sustainable development of anti-infectives in the pharmaceutical industry.

Yushu plant uses DSM's advanced biotechnology base and allows DSM to make a very positive contribution to the ambition to improve the environmental footprint of this industry. With this investment DSM Sinochem Pharmaceuticals manifests

its global leading position on sustainability and leadership position in the industry of anti-infectives active pharmaceutical ingredients.

*"We are very happy and appreciate that DSM Sinochem Pharmaceuticals has a presence in Jilin and we will make every effort to support the smooth operation of this plant. It will greatly benefit the development of the local economy and also advances the high end technological development of our economic zone. We look forward to further strengthening our cooperation in the future."*

Wang Rulin, Governor of Jilin province



DSM Sinochem Pharmaceuticals opened new 6-APA intermediate plant in Jilin Province in June 2012.

## Investing in Tsing Capital

DSM has invested in the 4th China Environment Fund of Tsing Capital in China. This is DSM's first venture capital fund investment in Asia. The China Environment Fund is a series of four funds, managed by Hong Kong based Tsing Capital.

This investment in a clean tech fund in China is in line with DSM's Strategy "DSM in motion, driving focused growth" with an increased focus on China emerging economies. Backed by Tsinghua University, Tsing Capital's deal flow covers a range of activities in both Life Sciences and Materials Sciences sectors, including sustainable agriculture, food processing, bio-based materials and renewable energy.

Over the past years, Tsing Capital has established an outstanding reputation, track record and credibility in China's Venture Capital market. By participating in this fund, DSM gains access to a significant deal flow for investments in life sciences and materials sciences in China and has created an opportunity for an excellent strategic return in addition to the potentially attractive financial return that this fund offers.

*"As a member of the DSM sales team, I really enjoy the process of guiding and influencing our customers to use Rovimix® Premix products. I believe my work will contribute to the sustainable development of China's stockbreeding."*

HUANG Zhigang, Senior Sales Representative of DSM Nutritional Products China, commits himself to the sales and promotion of premix products. By providing customized solution to customers together with the animal nutrition technical team and doing it in an innovative way, he sets a good example on providing value added solution to customers and got business eventually.

# Bright sciences into brighter living - Business cases

At DSM, innovation is about turning 'Bright Science' into 'Brighter Living'. This 'Bright Science' is not just about great ideas, state-of-the-art technology and high-tech laboratories. It is about finding and integrating the best sustainable and commercially viable solutions to market and customer needs in order to create profitable growth.

DSM creates solutions that nourish, protect and improve performance, using its unique competences in Life Sciences and Materials Sciences. This way DSM helps create a healthier, more sustainable and more enjoyable way of life.

In the following report, eight business cases are presented illustrating that DSM is making efforts to create innovative and sustainable solutions to our customers in China to meet the local market needs.

## Plastic air bag container for more fuel-efficient cars platform

DSM's Engineering Plastics enable customers to produce lower-drag, lighter-weight and therefore more fuel-efficient cars. Akulon® has been chosen for several China passenger air bag containers to replace metal since 2010. A newly commercialized grade is for the biggest platform of the biggest passenger car manufacturer in China which is called A-Entry platform covering most of the A class car models in China, with the total annual output close to 1 million vehicles.

Plastic airbag containers using Akulon® helped customer not only for weight saving but also part integration and design freedom. The customer will also use this design for another China platform which will be commercialized in the end of 2013.

Akulon® has been chosen as a preferred material solution by almost all global and local accessories manufacturers for their plastic airbag container. DSM's more than 15 years track record gives the confidence to our customers.

## Guaranteed green and recyclable membrane for outdoor clothing

All around the world, established brands in outdoor clothing are looking for ways to make garments that offer the right performance and bring comfort to the wearer. At the same time, they strive to use materials and processes that have the lowest possible impact on the environment.

The spotlight is currently focused on avoiding the use of perfluorinated compounds (PFCs) that make materials resistant to stain, oil, and water. But, once disposed of, they keep lingering in the environment as persistent organic

pollutants. Outdoor clothing can be made waterproof and highly breathable with ultra-thin membranes made from DSM's Arnitel® VT product line which has been used in clothing for many years. The material contains no PFCs and is 100% recyclable.

Strategically collaboration with a local partner in China resulted in a new green and recyclable membrane, Easy Tex™, being developed for outdoor clothing. Easy Tex™ is a waterproof, windproof, breathable and recyclable membrane for high-tech functional materials in clothing, footwear, accessories and technical applications. The collaboration between the two companies has led to a drastic reduction of the carbon footprint in the polymer production process compared to the conventional membranes.



Outdoor clothing can be made waterproof and highly breathable with ultra-thin membranes made from DSM's Arnitel® VT product line.

## Healthy and strong livestock animals with Eubiotics

It is well documented that a long-term exposure to antibiotics can cause increasing numbers of antibiotic-resistant pathogens and also antibiotic residue problems in animal products, which will negatively affect human beings because of the transmission of antibiotic-resistant bacteria to human. Therefore, with the increasing concern of food safety and drug-resistant pathogen in our day life, consumers are frequently requesting antibiotics-free meat or seafood due to the possible negative health effects. This demand is consequently driving a great attention to the production of animal feed without antibiotics growth promoter. In 2006, the European Union has already banned the use of antibiotics as growth promoter in livestock. Several countries in Asia are also currently working on legislation that will eventually ban the use of in-feed antibiotics for growth-enhancing purposes. Therefore, offering an alternative the antibiotics growth promoters is both beneficial to the livestock and human being.

DSM offers Eubiotics products, which are considered as the best replacement for antibiotics growth promoters in animal feed. Eubiotic products work as modulators of the intestinal gut flora in order to keep it in a stable and healthy condition. Eubiotics help to reach a healthy balance of the micro-flora in the gastrointestinal tract of livestock, and subsequently optimize nutrient absorption and growth performance. Thus, with the use of Eubiotics, the use of antibiotics can be reduced to a minimum level, which is reducing the incidence of antibiotics-resistant pathogen and antibiotics residue problem in meat, eggs and fish. Overall, it is reasonable to conclude that a health and better life could be created with the use of Eubiotics in the world.

VevoVital® is one of our solutions to replace antibiotics in animal feed. It is an ultra-pure grade of benzoic acid developed specifically by DSM for use as an additive in pig feed. It helps, to reduce the presence of certain pathogens and improve the nutrient utilization, which greatly enhanced growth rate of pigs. Moreover, the addition of VevoVital® to the pig diet could reduce the ammonia emissions from pig barns, which is also creating a positive impact on the environment for the animal and the farmers.

CYLACTIN® is another solution to replace antibiotics. It is a probiotic product containing a lactic acid producing strain which fosters rapid metabolic activity in the intestine. Therefore, it acts as a stabilizer of the gut micro-flora and limits the growth of pathogens, which would greatly help to reach the Eubiosis in the animal. This systematic stabilization of the gut flora helps to prevent stress-related disorders, which would increase the growth rate and reduces mortality in livestock.

Therefore, with the use of Eubiotics product, the lower use of antibiotics would bring a lot of benefit effect to the animal, which would help us to create a healthier and better life.

## Successful weight management by adopting Fabules™

Weight management is a very personal issue that affects people every day. Drastic or extreme dieting is difficult to follow through in the long run. Additionally the weight management market is currently dominated by supplements many of which offer false hopes of quick and lasting weight loss. DSM provides a clear alternative by offering innovative ingredients which support small but sustainable weight management successes, as well as micronutrients that safeguard adequate vitamin and mineral intakes.

For example, DSM's Fabules™ is a patented, natural oil-in-water emulsion that can be incorporated into dairy or supplement products. Its fine oil droplets are made from palm oil, coated with galactolipids from oat oil. Fabules™ triggers the natural appetite control mechanism by delaying the hunger signals that the body normally sends out a few hours after a meal. A global famous nutrition and weight management company uses Fabules™ as a key ingredient of their protein powder product which is marketed in China. It is designed to provide essential vitamins, minerals and nutrients to busy people who often just eat on the go.

## Rich taste and less salt with the yeast extract products

DSM works closely with customers worldwide in order to help them find solutions to produce delicious snacks, soups, meals and other savoury foods adapted to any possible local taste. Many consumers aim to reduce salt in their diet without compromising on the rich savoury taste of the food they like to eat. Yeast extract helps to achieve this. DSM's experience with yeast dates back to 1867, and today around 500 scientists at the DSM Biotechnology Center are committed to finding natural, authentic food ingredient solutions, many of them based on yeast.

Our Multirome® yeast extract has been used by many of our customers some of whom involve us in their whole product development process. Derived from primary baker's yeast, the product is highly concentrated and only requires half the yeast dose compared with other basic yeast extracts. It is 100% natural, kosher and halal certified and contains no allergens. One customer using Multirome® as an ingredient has been able to differentiate his noodle soup into a premium product with a particularly intense taste, enabling him to tap new, more profitable markets. Multirome® also creates a rich mouthfeel in combination with a deep umami taste and stronger taste sensation for other food such as patties, chips, cheese sauces or dressings.

To our customers aiming to bring innovative low-salt products to the markets, we supply a Multirome® low-sodium variety that delivers the same taste benefits with 30% less salt content.

**Innovative solution for deep-sea aquaculture made from ICD's Trevo™ fibre**

In recent years, the rapid expansion of ports and industry projects along China's coast has become an increasing threat to the offshore aquaculture environment, and has led to declining quality of the seafood harvested from aquaculture farms in the sea. In order to cope with this situation, farmers are gradually extending their seafood breeding into deeper seas far away from the coast. This trend has increased demand for large, strong and durable deep-sea cage nets which can withstand harsh conditions.

Experience has shown that traditional farming nets or cages made from polyethylene or nylon are not suitable for deep-sea farming due to their low tenacity, high weight and poor abrasion resistance. Shandong ICD High Performance Fibre Co, Ltd. (ICD), majority-owned by DSM, and two partners have therefore developed a super-large aquaculture cage net made from ICD's Trevo™, an ultra-high-molecular-weight polyethylene (UHMWPE) fiber. Trevo™ is an ultra-strong fiber, offering strong wear-and-tear resistance, while being lightweight. This makes it the ideal material for a deep-sea cage net.

ICD's partners are Dachen Island Aquaculture Company and the East China Sea Fisheries Research Institute. The three partners together developed the concept design and a trial plan of the 200 m-circumference cage, the largest aquaculture net in China.



A super-large aquaculture cage net made from ICD's Trevo™ which is an ultra-strong fiber, offering strong wear-and-tear resistance, while being lightweight.

**Higher broadband speed, better living**

In early 2012, with the "Broadband China Strategy" (the first national strategy for Broadband) on the agenda, Ministry of Industry and Information Technology rushed the full launch of the broadband popularization and speed acceleration project, setting the goal of 2012 as: over 35 million more families with access to FTTH (Fiber to the home), over one-half consumers using 4M and above broadband service and over 20 million new fixed broadband service subscribers.

With the China's broadband market booming, more than half of the global optical fiber was produced and consumed in China in 2012. Because of this, DSM has forged a close relationship with China's leading manufacturers of optical fiber to deliver faster and more reliable broadband access across the country.

In 2012, DeSolite® Supercoatings technology was used by leading domestic and overseas fiber producers to make their fiber product lines for the FTTH deployment of China Telecom, China Unicom and China Mobile. Optimized for customers' fiber design and fabrication process, DeSolite® Supercoatings are helping their fiber last longer. In fact, with the help of DSM, China's leading network service providers are laying the most reliable solution for long-haul, metro and access fiber and are protecting their investments for the future.

*"Deep-sea aquaculture represents the way of the future. Fish farmers are encouraged by governments to expand offshore into the deep open sea. Trevo™ fiber will offer a great solution to companies like Dachen due to its high strength and low weight."*

*Shi Jiagao  
East China Sea Fisheries Research Institute.*

This innovative solution helps enhancing product quality and yield as well as improving the environment. It not only provides aqua farmers with new work opportunities and increases their harvest and revenue, but also promotes the aquaculture industry as a part of sustainable development in China.



DeSolite® Supercoatings are helping optical fiber last longer.

**A safer work place for the workers in electronics production with water-based peelable coatings**

DSM has a strong focus on sustainable technologies. One example is a new, waterborne peelable coating film developed by DSM. This product, called NeoPac® E-251, is more environmentally friendly than traditional solvent-borne polyethylene (PE) films. For example, it emits less volatile organic compounds (VOC) some of which have adverse health effects or harm the environment. NeoPac® E-251 is thus very safe for the workers who handle peelable coatings which are used as temporary protection of valuable items during production processes. It is used in the production line of the iPad®, a tablet computer of US Company Apple Inc.

Moreover, NeoPac® E-251 has excellent physical and mechanical properties, such as toughness, high elasticity and high resistance to water and other chemicals. NeoPac® E-251 also provides excellent peel-off ability from both plastic and metal substrates. It can therefore easily replace traditional PE films or masking tapes for temporary coatings on many different kinds of surfaces.

# External recognitions in 2012

Various DSM sites across China are being recognized for their exemplary work in sustainability, for example in the field of Safety, Health and Environment. Local DSM units are being recognized by their host governments as models for safety, innovation or environmental protection. Listed below are the awards received by DSM in China.

## Product / Innovation Award

DSM (China) Ltd. was named as "2012 Optical Network Contribution Enterprise Award of China Communication Industry" granted by 2012 China Communication Industry Summit and the 7th China Communication Technology Conference.

DeSolite® Supercoating, DSM China's latest fiber optic materials was awarded the 2012 Editor's Choice - Excellent Optical Fiber Coating Product by People's Post and Telecom Newspaper.

DSM (China) Ltd. was ranked No.10 of "The top 10 brand competitiveness enterprises of the optical communications field in China market during 2011-2012" from Network Telecom Magazine.

## Sustainability and Corporate Social Responsibility Award

DSM (China) Ltd. was named as 2012 Best Company in Sustainability by China Cities Economy Sustainable Development Committee.

DSM (China) Ltd. was named as 2012 Award of MNCs' Charity Contribution in China by the Organizing Committee of Multinational Corporations Leaders Roundtable.

DSM Vitamins (Shanghai) Co., Ltd was granted with 2012 Corporate Social Contribution Award by Shanghai Spark Development Zone for the third consecutive year.

## Safety, Health and Environment Award

In 2012, DSM Engineering Plastics (Jiangsu) Ltd. in Jiangyin won a few awards related to safety performance and cultural cultivation, including the honor title of 2012 Wuxi Model Company of Safety Cultural Development granted by Wuxi Municipal Government, the honor title of 2012 Jiangyin Excellent Company of Work Safety by Work Safety Committee of Jiangyin Municipal Government, as well as the prize of 2012 Excellent Company of Fire Fighting Management by Jiangyin Hi-Tech Industrial Park.

In 2012, DSM Nanjing Chemical Company Ltd. was named as the Grade 2 Company of Safety Standardization appraised by Nanjing Administration of Work Safety; the Up-to-standard Company of Work Safety by Nanjing Municipal Government; the Jiangsu Model Company of Safety Cultural Development; the Grade-Blue Company of Environmental Performance and Nanjing Excellent Safety Training Enterprise by Nanjing

Administration of Work Safety; the Third-class Merit of Corporate Security granted by Nanjing Municipal Public Security Bureau.

Jinling DSM Composite Resins Company was named as 2012 Up-to-standard Company of Work Safety and 2012 Excellent Safety Training Enterprise in Nanjing by Nanjing Administration of Work Safety.

DSM Eternal Resins (Kunshan) Ltd. was named as Grade 2 Company of Safety Standardization appraised by Jiangsu Administration of Work Safety and 2012 Kunshan Model Enterprise of Work Safety by local administration.

DSM Vitamins (Shanghai) Co., Ltd was named 2012 Safety Advanced Corporation of Fengxian District.

Zhejiang DSM Zhongken Biotechnology Co., Ltd. was named as 2012 Safe Production Enterprise by local government.

## Other Government Awards to the Company

DSM Engineering Plastics (Jiangsu) Ltd was named as 2012 Jiangyin Star Enterprise by local government.

DSM Vitamins (Shanghai) Co., Ltd was named as Fortune 100 of Fengxian District in 2012.

DSM Eternal Resins (Kunshan) Ltd. was awarded the Excellent Enterprise of Basic Statistics Work by Kunshan Bureau of Statistics.

DSM Vitamins (Shanghai) Co., Ltd was granted with the title of the 1st Batch of Model Unit on Measuring Energy (2010-2011) by Shanghai Municipal Bureau of Quality & Technical Supervision.

DSM SinoChem Pharmaceuticals Zibo site was named as High & New Technology Company by Department of Science and Technology of Shandong Province.

DSM SinoChem Pharmaceuticals Zibo site was named as Top 30 Companies by Management Committee of Zibo High-Tech Industrial Development Zone.

DSM SinoChem Pharmaceuticals Zibo site was named as 2012 Excellent Project Construction Company by Management Committee of Zibo High-Tech Industrial Development Zone.

The Project of SCALA Intelligent Management Information System of Zhejiang DSM Zhongken Biotechnology Co., Ltd was named as Informatization Model Project of Tongxiang and won a 200000-Yuan government bonus.

## Other Government Awards to Employees

Gu Guiguo, Site Manager of DSM SinoChem Pharmaceuticals

## External recognitions in 2012

Zibo site was named as Excellent Entrepreneur of Zibo.

Hans Overkamp, Site Manager of Jinling DSM Composite Resins Company was named as 2012 Excellent Safety Production Individual.

Yang Zhiping, SHE Manager from DSM Nanjing Chemical Company was awarded Safe Production Individual by Nanjing Municipal Government.

Yuan Yong, General Manager of the DSM Engineering Plastics (Jiangsu) Ltd., was named as 2012 Excellent Entrepreneur of

Jiangyin by local government.

Yang Bo, SHE Supervisor of DSM Engineering Plastics (Jiangsu) Ltd. was named 2012 Excellent Fire Control Individual by Jiangyin National

Three employees of DSM Engineering Plastics (Jiangsu) Ltd. were named as 2012 Excellent Work Safety Individuals by Jiangyin Municipal Government. They are Zhao Bing (Blending Plant Manager), Tang Xinyi (Polymerization Plant Manager) and Chen Kai (SHE Manager of Greater China).

# What still went wrong in China 2012

DSM strives to continuously improve its performance in the field of safety, health and environment. However, there is always the possibility of something going wrong. The following list summarizes the most important things that went wrong in 2012 and we tried our best to share and learn from incidents in order to prevent it from happening again in the future.

In line with DSM's reporting policy the overview also contains some serious near-misses. These are incidents that did not result in an injury, illness or damage but had the potential to do so and are therefore used as a learning opportunity.

## Q1

- At DSM Nutritional Products in Harbin City, Heilongjiang province an employee was seriously injured in a traffic accident while on a business trip.
- At DSM Nanjing Chemical Company Ltd., one operator found some water on the running belt flaker. He tried to wipe off the water, which caused skin injuries to three fingers of his right hand.
- At DSM (China) Co. Ltd. Nanjing office, a group of employees encountered a food quality incident during a team dinner. Ten of them had to undergo medical treatment.

- A staff member from Jinling DSM Composite Resins Co. Ltd. in Nanjing took a taxi which was then hit by a bus. The employee's soft tissue was slightly injured, so he went to hospital to have it checked.

- A financial staff at office of DSM Composite Resins Co. Ltd poured boiling water from a boiler over his hand as

the boiler's lid was not closed properly. His left hand got burned by the boiling water.

## Q2

- At Jinling DSM Composite Resins Co., Ltd. in Nanjing, a fire broke out in a laboratory which caused financial damage, but injured no one.

## Q3

- At the DSM Nutritional Products Animal Nutrition Sichuan site in Chengdu, one quality control (QC) officer hurt his thumb when using a glass volumetric flask to do a quality test, when suddenly the neck of the flask broke. The QC officer had to undergo medical treatment.
- At the Dyneema Shandong ICD site, one employee's left hand got hurt when he was using a knife to cut the surface of a cable during a socket installation.
- At DSM Food Specialty in Yixing, about 7 kilograms of ammonia leaked from a valve pipeline. Workers at the site immediately evacuated to the assembly point. Nobody was injured.
- At DSM Food Specialty in Tongxiang, some ethanol spilled over from a buffer vessel as the operator didn't close the valve properly during some procedures. Nobody was injured.

## Q4

- At DSM Trading Company in Shanghai, a contracted warehouse was completely burnt down, destroying the enzyme product that was stored there.

# Explanation of some concepts and ratios

## PEOPLE

### FI

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

### People+

DSM's People+ strategy will deliver measurably better solutions to improve the lives of people. The company has defined a new People+ framework based on broad stakeholder analyses. The dimensions of health, comfort and well-being, working conditions and community development have been identified as distinct and instrumental categories to measure People+ impact at product level. Based upon the stakeholder input DSM has designed a measurement tool, which will be further developed in collaboration with The Sustainability Consortium, customers and other stakeholders.

### SHE

Safety, Health and Environment.

### United Nations Global Compact

A strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment and anti-corruption.

## PLANET

### Carbon footprint

The impact of a certain activity in terms of the emission of nonrenewable CO<sub>2</sub> to the atmosphere.

### Circular economy

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

### CO<sub>2</sub>

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.

### Cradle to Cradle®

A holistic economic, industrial and social framework that seeks to create solutions that are not only eco-efficient but also essentially waste free throughout their lifecycle.

### Chemical Oxygen Demand (COD)

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

### ECO+

ECO+ solutions are products and services that, when considered over their whole life cycle, offer clear ecological benefits (in other words, a clearly lower eco-footprint) compared to the mainstream solutions they compete with. These ecological benefits can be created at any stage of the product life cycle – from raw material through manufacturing and use to potential reuse and end-of-life disposal. ECO+ solutions, in short, create more value with less environmental impact. The qualification ECO+ is based upon internal expert opinions where various impact categories are evaluated. For a growing number of products these expert opinions are supported by Life Cycle Assessments.

### Eco-efficiency

Eco-efficiency is a concept (created in 1992 by WBCSD) that refers to the creation of more goods and services while using less resources and creating less waste and pollution through out their entire life cycle. DSM applies the concept to its ECO+ program. In the context of DSM's SHE targets, eco-efficiency relates specifically to the reduction of emissions and energy and water consumption, relative to the production volumes of DSM's plants.

### Greenhouse-gas emissions (GHGE) reduction over volume related revenue (VRR)

The GHGE definition is according to the Kyoto Protocol and includes carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride, hydrofluoro carbons and perfluoro carbons. VRR is net sales adjusted for changes in selling prices, exchange rates and the impact of acquisitions and divestments. GHGE/VRR is one of the ratios in the Long-Term Incentive part of the Managing Board remuneration and relates to a three-year period.

### LCA

Life Cycle Assessment (LCA) identifies the material, energy and waste flows associated with a product or process over its entire life cycle to determine environmental impacts and potential improvements; this full life cycle approach is also referred to as 'Cradle to Grave'. It is also possible to assess a partial life cycle of a product or process with the most common type being 'Cradle to Gate' which assesses the environmental impacts of a manufacturing process without accounting for use phase or end of life impacts. There are many different environmental impact categories that can be assessed using LCA; at DSM the standard approach is to evaluate the carbon footprint and eco-footprint.

## Explanation of some concepts and ratios

### N

Nitrogen. A mostly inert gas constituting 78% of the earth's atmosphere, nitrogen is present in all living organisms.

### N<sub>2</sub>O

Nitrous oxide. A gas that is formed during combustion. When emitted to the environment, it contributes to global warming.

### NO<sub>x</sub>

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

### Renewable resources

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).

### SO<sub>2</sub>

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

### VOC

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

## PROFIT

### General

In calculating financial profitability ratios, use is made of the average of the opening and closing values of balance sheet items in the year under review. The financial indicators per ordinary share are calculated on the basis of the average number of ordinary shares outstanding (average daily number). In calculating Shareholders' equity per ordinary share, however, the number of shares outstanding at year-end is used. In calculating the figures per ordinary share and the 'net profit as a percentage of average Shareholders' equity available to holders of ordinary shares', the amounts available to the holders of cumulative preference shares are deducted from the profits and from Shareholders' equity.

### Capital employed

The total of the carrying amount of intangible assets and property, plant and equipment, inventories, trade receivables and other receivables, less trade payables and other current liabilities.

### Capital expenditure

This includes all investments in intangible assets and property, plant and equipment as well as the acquisition of subsidiaries and associates and related cash flows.

### Cash flow

Cash flow is net profit plus depreciation, amortization and impairments.

### Core earnings

Core earnings represent profit or loss from continuing operations excluding exceptional items and excluding amortization of intangible assets recognized from the application of purchase accounting for business combinations.

### Disposals

This includes the disposal of intangible assets and property, plant and equipment as well as the disposal of participating interests and other securities.

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

EBITDA is the sum total of operating profit plus depreciation and amortization.

### Earnings per ordinary share

Net profit attributable to equity holders of Koninklijke DSM N.V. minus dividend on cumulative preference shares, divided by the average number of ordinary shares outstanding.

### Operating working capital

The total of inventories and trade receivables, less trade payables.

### Return on capital employed (ROCE)

Operating profit as a percentage of weighted average capitalemployed.

### Total shareholder return (TSR)

Total shareholder return is capital gain plus dividend paid.



## **DSM China**

No. 476 Li Bing Road,  
Zhangjiang Hi-Tech Park, Pudong New Area  
Shanghai, 201203, China  
Tel: + 86 21 6141 8188

[www.dsm.com](http://www.dsm.com)  
[www.dsm.com.cn](http://www.dsm.com.cn)  
<http://weibo.com/dsminchina>