

Health, Nutrition & Care

Factbook 2022

HEALTH · NUTRITION · BIOSCIENCE



Health, Nutrition & Care – Keeping the world’s growing population healthy

- HNC’s vision is to keep the world’s growing population healthy through nutrition and care – *Where others see Products, we see Purpose*. Our strategy aspires to be the *end-to-end partner to our customers* across key consumer insights-led *health benefits & all the solutions* that come with that (products as special form, premix or market-ready solutions (MRS) and all the development, manufacturing/ supply chain and regulatory services
- HNC has defined 6 strategic priorities:
 - **Global products:**
 - Commercializing innovations and expanding the portfolio
 - **Local solutions:**
 - Leading on Premix
 - Scaling MRS profitably
 - Serving consumers directly (i-Health)
 - Accelerating growth in China
 - **Precision & Personalization:** Delivering personalized nutrition (Hologram Sciences)
- As well as **3 enablers**, i.e. **strengthening HNC’s solutions capabilities and HNC’s end-to-end supply chain**, and improving the collaboration between R&D, Segments and Regions to improve our **“innovation-to-market”** muscle



A €2.6 bn leader in Health, Nutrition & Care (HNC)

Serving consumers globally across 10 segments



Early Life Nutrition



Dietary Supplements



i-Health



Pharma



Medical Nutrition



Nutrition Improvement



Personalized Nutrition



Personal Care



Aroma



Biomedical

HNC: the End-to-End Partner for our customers across key consumer insights-led health benefits



YOUR END-TO-END PARTNER

PRODUCTS

CUSTOMIZED SOLUTIONS

EXPERT SERVICES

- *Delivering health benefits and solutions – based on customer and consumer insights ...*
- *... and all the services that come with that (products as special form, premix or Market-Ready Solutions and all the development, manufacturing/ supply chain and regulatory services) ...*
- *... by being a customer-centric organization with sustainability focus at its core*

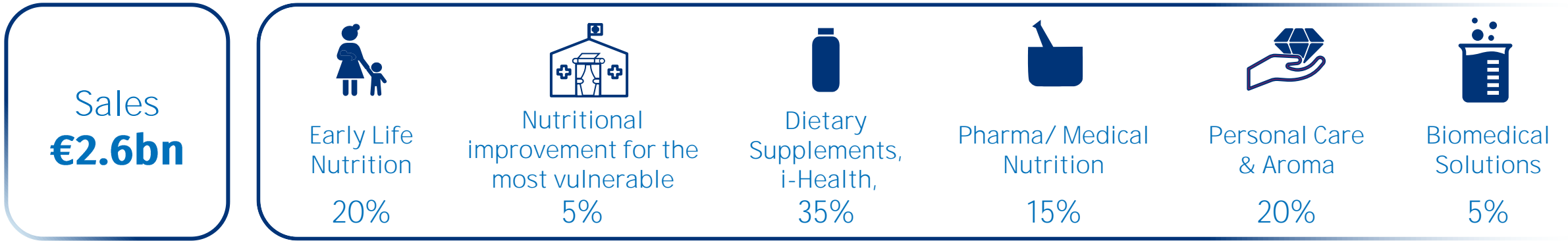
HNC's vision – We see success in keeping the world's growing population healthy through Nutrition and Care

Where others see products, we see purpose.



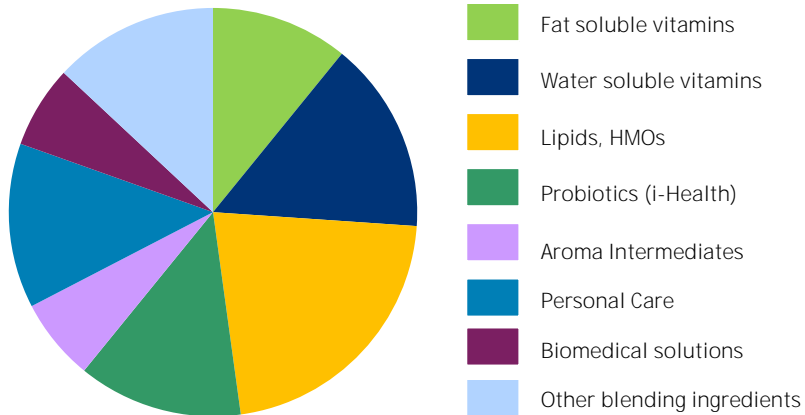
Health, Nutrition & Care – sales by key segment

Keeping the world’s growing population healthy



DSM offering broad range of ingredients ...

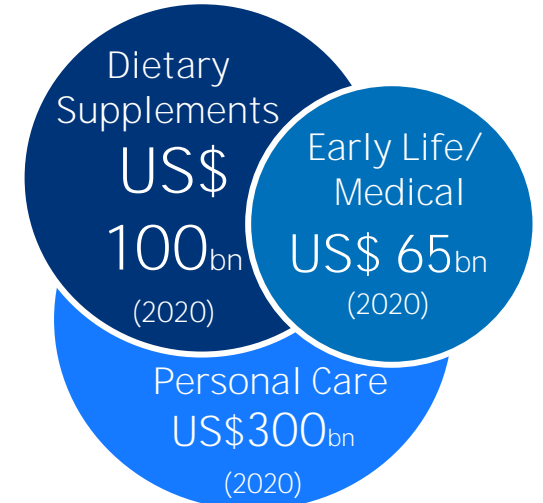
Split by ingredient category



... holding a strong market position ...

- Science leader in specialty nutritional and personal care ingredients and biomedical materials focusing on immunity, gut, brain and skin health, and solutions for orthopedics and cardiovascular
- **30%** market share in attainable specialty markets
- Strong B2C business (i-Health) with globally leading brands (Culturelle®, AZO®, Estroven®)
- **25%** of sales through solutions (premix, market-ready solutions, personalized nutrition solutions and B2C products)

... in attractive end-markets



Health, Nutrition & Care

Population growth & need for preventative and affordable nutrition and health drive growth

Key trends



Offering new opportunities ...

- Ingredients and solutions for improving immunity, gut, brain and skin health
- Fermentative/ advanced biotech technologies for replicating nature at scale and affordable cost in a sustainable way
- Advanced materials and proven solutions to improve orthopedic and cardiovascular interventions
- Opportunities for broadening the portfolio horizontally and vertically across the value chain
- Science-based, data-driven personalized nutrition & care solutions

... for which DSM is uniquely positioned

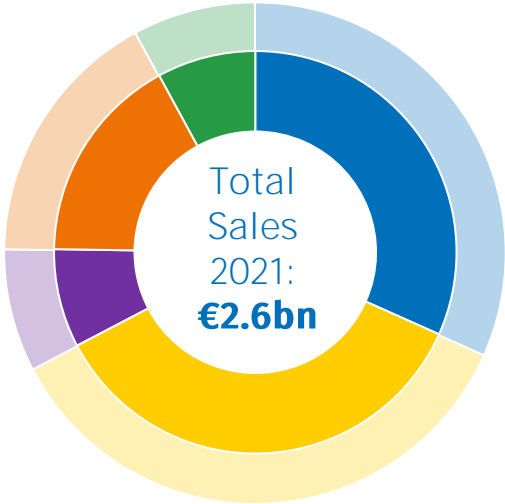
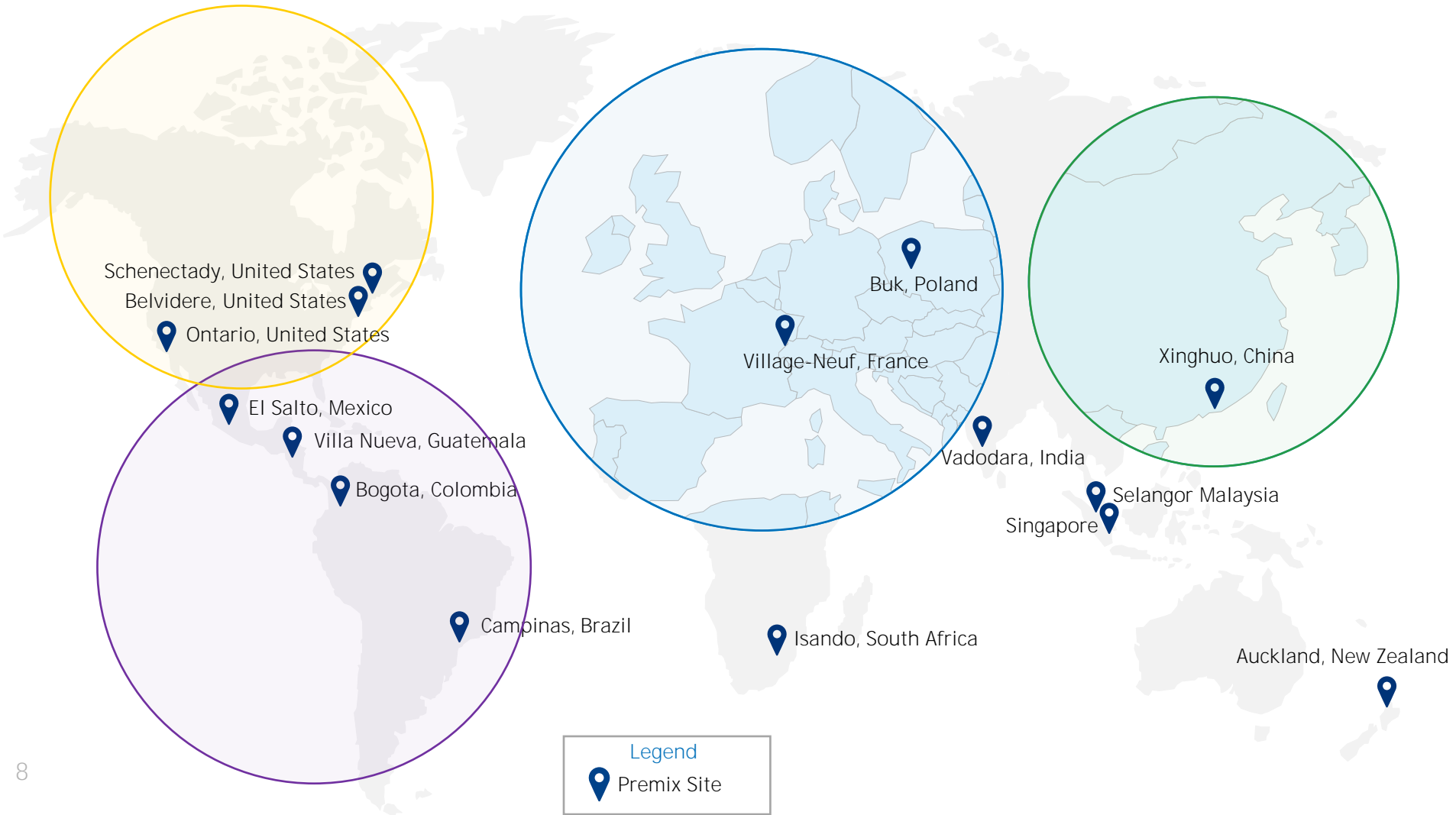
- Broadest science-backed portfolio of vitamins, lipids, pre- and probiotics, personal care & aroma ingredients, and natural materials for medical devices
- Leading player for fermentation/ advanced biotech solutions
- Truly global business and premix network and global market-ready solutions capability across all activities
- Nutritional improvement for most vulnerable, supporting growth outside traditional markets (e.g., Africa)
- Personalized Nutrition (Hologram Science, Analytical/diagnostic services)



Amyris
F&F ingredients



HNC has a well-balanced global presence



- EMEA (32%)
- North America (36%)
- Latin America (8%)
- APAC (17%)
- China (8%)



Most complete ingredients portfolio and global network, integrated along the value chain



Broadest Portfolio of Nutritional Ingredients



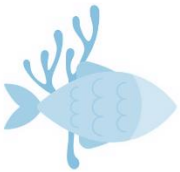
Vitamins

Vitamins – Broadest range of fat & water soluble vitamins; Essential ingredients required for growth and well-being ranging from fat-soluble vitamins (A, D, E, K) to water-soluble vitamins (C, all B vitamins, folic acid and pantothenic acid). Vitamins aid metabolism, growth and physical well-being



Carotenoids

Natural source & natural-based beta carotene, lutein, zeaxanthin; In addition to vibrant colors, **carotenoids** will give your products healthy benefits. Certain carotenoids work as antioxidants in the body to protect cells, tissues and organs against the damaging effects of free radicals, which may contribute to the development of disorders such as cancer, heart disease and eye diseases



Nutritional Lipids – Omega's

DSM is the global leader in providing **nutritional lipid solutions (ARA/EPA/DHA)**, with a portfolio that includes market-leading products in both fish and algal-source omega-3s, as well as ARA (arachidonic acid), the primary omega-6 fatty acid, important for optimal growth and development of the infant brain



Enzymes & Cultures

DSM offers solutions for digestion support through optimal nutrient breakdown. Digestive enzyme are designed to have optimal activity within the stomach's harsh conditions.

Broadest Portfolio of Nutritional Ingredients



Probiotics,
Prebiotics

Gut health goes beyond issues with digestion, but also relates to many aspects of overall health. The role of the gut microbiome is of great importance. There is a clear potential for the landscape of gut health products, including [prebiotics and probiotics](#). **DSM's Culturelle (i-Health)** is the no 1 probiotic brand in the US



HMOs

[Human Milk Oligosaccharides \(HMOs\)](#) are a collection of carbohydrate structures, naturally occurring in breast milk, and the third most abundant solid component of human milk after lipids and lactose.. HMOs help to develop the desired microbiota by serving as a food source for the good bacteria in the intestine. HMO supplements may help support immunity and gut health, with a potential role in cognitive development, which may open future innovation opportunities.



Nutraceuticals

[Nutraceutical ingredients](#), such as Fruitflow®, OatWell®, resVida®, Reducose®, ALL-Q™, deliver the optimal balance of microflora in the gastrointestinal tract enabling consumers to perform at their peak, as well as helping cope with future health concerns such as cardiovascular disease and weight management



Cannabinoids
(CBD)

DSM's innovative [Cannabinoids \(CBD\)](#) market-ready and customized premix solutions are addressing top consumer health concerns like immunity, stress & mood and sleep and be at the forefront of CBD innovation.. CBD is the second most prevalent cannabinoid and is non-psychoactive



Active
pharmaceutical
Ingredients

[Vitamins and Lipids for pharmaceutical applications](#). **DSM's** commitment to delivering a sustainable supply of high-quality APIs, together with **DSM's** unique innovation expertise, make **DSM** the ideal partner for the development of over-the-counter products and prescription medications

HNC - Offering a broad range of (premix) solutions

DSM is more than an ingredients supplier – DSM is the preferred partner in all stages of the product life cycle



Customized blends of desired functional ingredients in one single, efficient, homogenous **premix**. DSM delivers more than nutrition. DSM offers an advantage in every phase of product development and processing DSM can combine two, ten or even dozens of nutritional ingredients in a single premix, sourcing from more than 1,400 ingredients – each carefully tested, qualified and researched specifically for your needs



One-stop-shop service. DSM can streamline the product development process and deliver **fully-finished goods**, ready for the retail shelf



Health and well-being remain crucial concerns as chronic disease levels rise globally and the world **population ages**. DSM's **Health Benefit Solutions** help customers to develop successful, innovative **nutritional products that address major consumers' health and lifestyle trends**



DSM is seen as a clear thought leader in Personalized Nutrition. With a strong heritage in **science-based nutritional solutions** and with global footprint, DSM connects dots in the Personalized Nutrition value chain through collaboration with companies, such as MixFit, Panaceutics and Biozoom

Across the value chain, HNC faces a diverse competitor set

65% of HNC's sales are sold as single nutritional ingredients, while 35% are (premix, MRS) solutions or B2C



Market Segment	Core/Ingredients Portfolio (60%)	Premix (20%)	Market-Ready Solutions (5%)	B2C (15%)
Health & Nutrition				
PC & Aroma	<p>100% ingredients</p>			
Bio-medical	<p>100% ingredients</p>			

Having leadership position in attractive stable markets

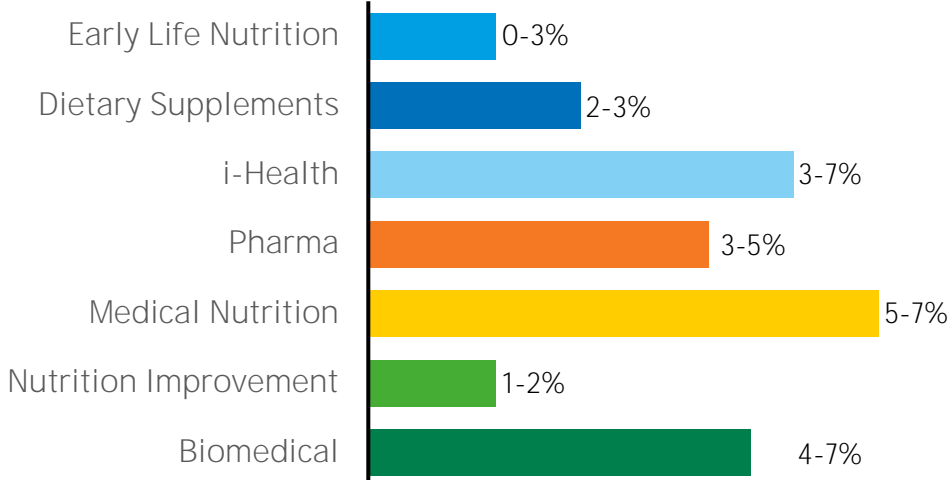
DSM Sales
€2.6 billion



Market Served by DSM HNC
~€10 billion



Market Growth (%)



Our markets are driven by clear mega-trends

Consumer

Preventive health & care

Personalization & digital/engaging formats

Clean products & labels

Emerging markets

Customer

Dynamic customer base

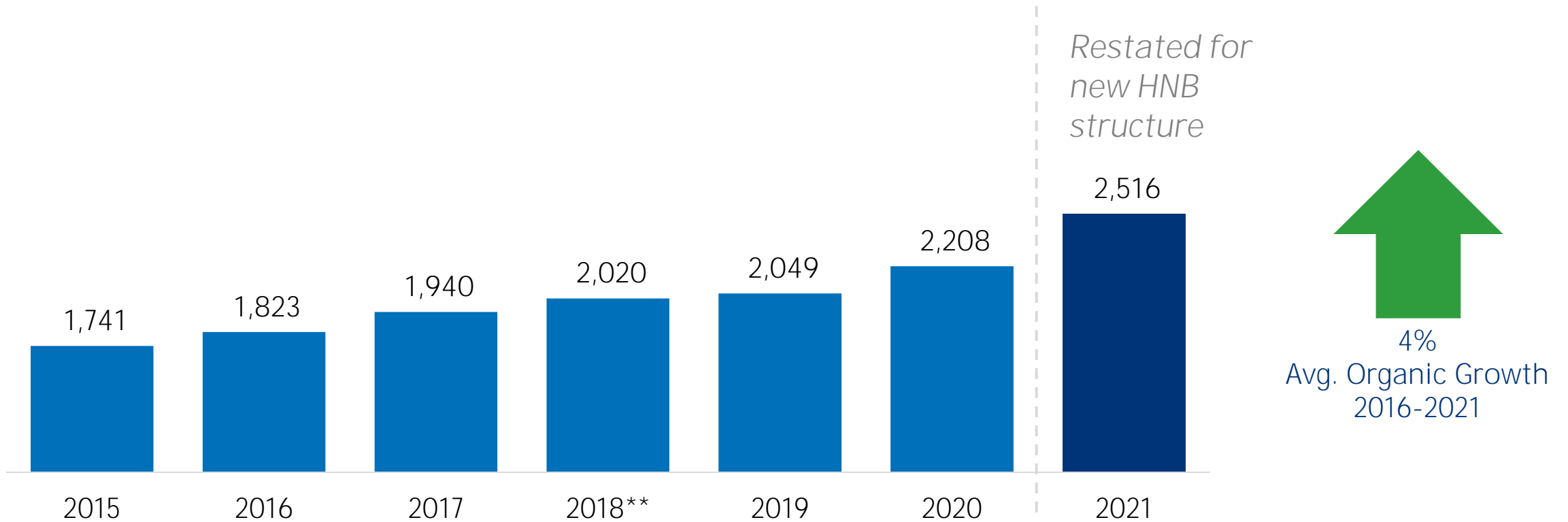
Demand for total solutions

Faster innovations

Sustainability

HNC has a strong record delivering above-market organic growth

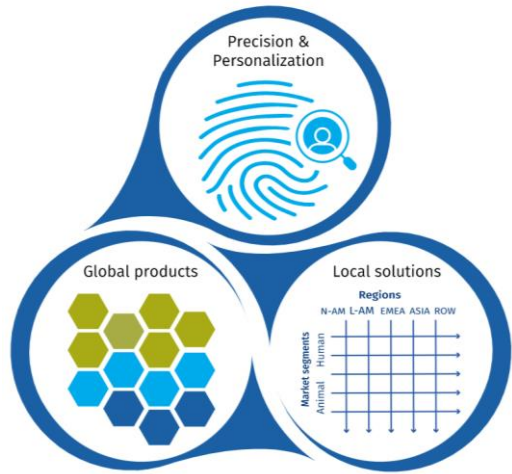
Sales* (€ million)



* 2015-2020 sales is HNH sales (incl F&B DNP, excl BMM, PC&A), 2021 is HNC restated

** 2018 sales of the underlying business corrected for DSM's best estimate of the 2018 temporary vitamin effect due to exceptional supply disruptions in the industry in the first nine months of 2018/

Strategy – 6 key priorities to deliver MSD growth



... while growing the core ...

Growing along the value chain & regional penetration



Target mid single digit organic sales CAGR 2022-2025

HNC's Business model enabling delivery through 6 key priorities

HNC is a market leader with unmatched portfolio breadth and strong scientific backbone



(Innovation) portfolio expansion:

Commercialize innovations and further expand product portfolio, addressing customer needs and target health benefit solutions, backed by scientific evidence and claims

1 Commercializing innovations & expanding portfolio

HNC plays across the full route-to-market spectrum



Value chain extension:

Address customer and consumer needs, leveraging our high market share in ingredients and further growing share and capturing value by moving further in the value chain

- 2 Leading on Premix
- 3 Scaling MRS profitably
- 4 Serving consumers directly
- 5 Delivering personalized nutrition & care

HNC has a global presence and scale in our business with integrated production and supply chains



Regional penetration:

Capture critical geographic “white spaces” across segments, while defending and growing our core (ingredient) business

6 Accelerating growth in China

Health Nutrition & Care growth path towards 2025

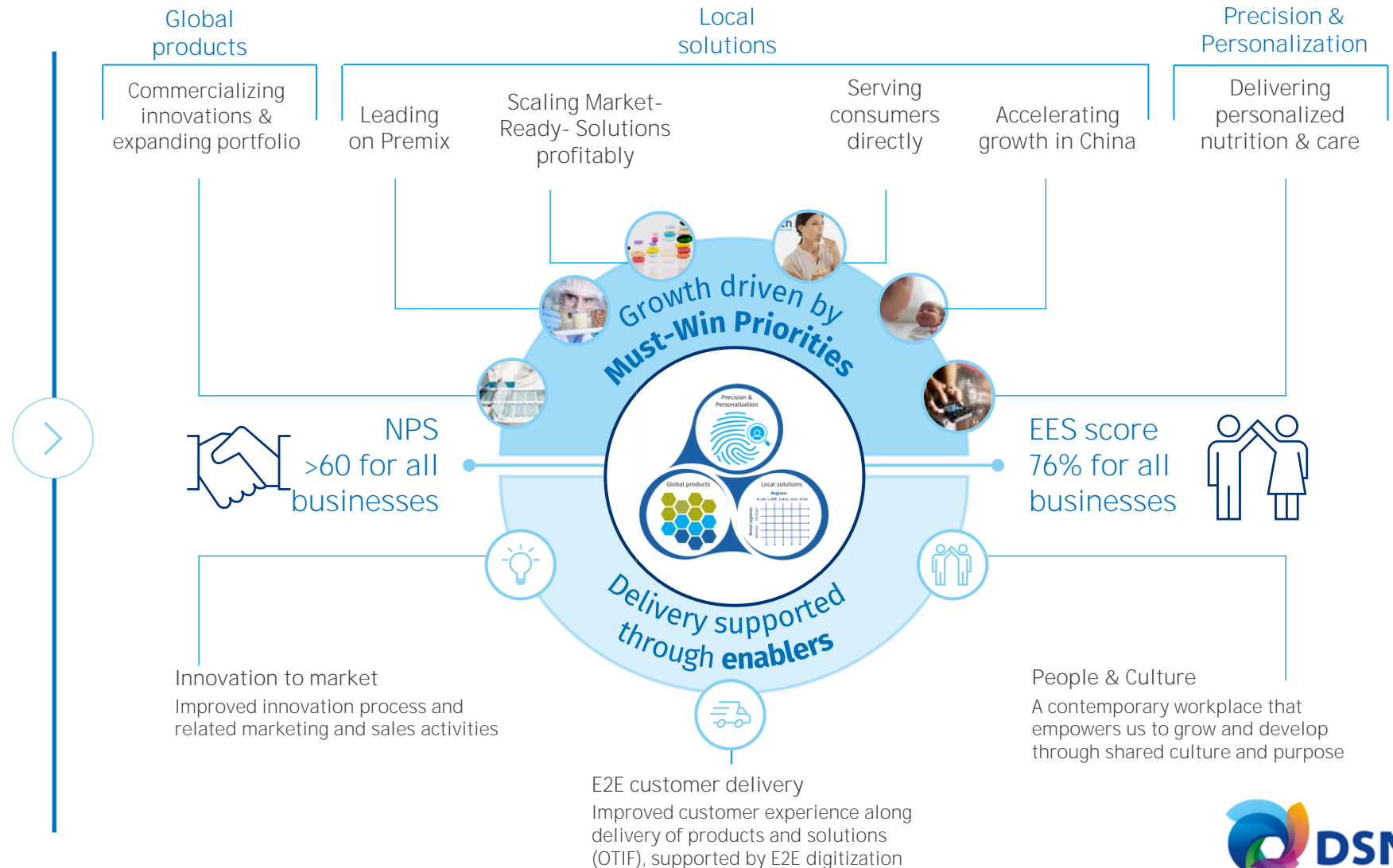
As HNC, we use bright science to create brighter lives for all

With that, HNC contributes to health for people, health for the planet and healthy livelihoods

We are our customers' E2E partner ...

... delivering health benefits and solutions, based on customer and consumer insights

... across 10 segments and 5 regions within the nutrition, personal care, aroma and biomedical business



Health Nutrition & Care, a key contributor to DSM's long-term, purpose-led profitable growth

Changing **consumer preferences** shape **customer expectations**, creating both **opportunities** and **challenges** for us to tackle

Consumers



Preventive health & care



Personalization & engaging formats



Clean products



Emerging markets

Customers



Dynamic customer base



Demand for total solutions



Faster innovations



Sustainability

In this environment, we see success in **keeping the world's growing population healthy** through Nutrition & Care

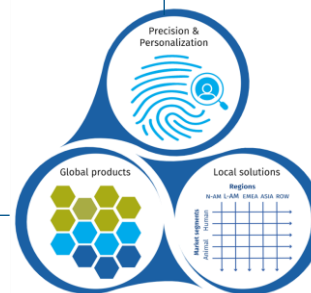
We see success in keeping the world's growing population healthy through Nutrition and Care

Where others see products, we see purpose.



To live our purpose and address customer needs, we have set **clear strategic priorities** in line with the DSM business model ...

Offering personalized nutrition & care (Hologram Sciences)



Growing along the value chain with localized solutions (Premix, MRS, i-Health, China)

... **Strongly contributing to DSM's long term purpose-led, profitable growth**



EES score >76% for all businesses



NPS >60 for all businesses



MSD % organic sales growth
HSD % annual adj. EBITDA growth
Adj. EBITDA margins >>20%



Premix



MRS



i-Health



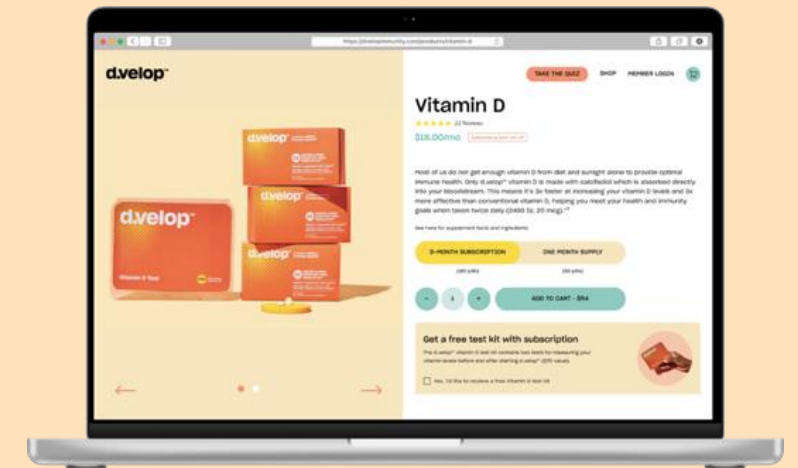
Hologram

Solutions from 25% to 35% of sales



Accelerating nutritional support for immunity

- The global public health crisis triggered by COVID-19 has highlighted the need for easily accessible dietary solutions that support proactive immune health
- **DSM's customers need to go to market faster than ever before, delivering formats that can easily be integrated into consumers' dietary routines**
- **With DSM's end-to-end capabilities, such as customized premix solutions, regulatory support and market-ready solutions, we are meeting this unprecedented need**



Happier, healthier lives with better early-life nutrition incl. HMOs (Human Milk Oligosaccharides)

- Identical in structure to oligosaccharides in mother's milk
- Easily incorporated into food formulations and solutions
- Supporting immunity, gut health and cognitive development
- Environmentally friendly, cost-effective production



Next-generation vitamins/ minerals – Good, Better, Best



Base Vitamins / minerals
Quali™
Ampli™



The 'big shift' from fish- oil to sustainable algae-derived lipids

Bio-Equivalence



Vs.



What can we claim



... at standard
GO/BO daily dosage, all existing science applies

New Science



- Brain and cognition
- Immunity
- Heart & Metabolism



CBDs – Think CBD. Think DSM.

Interest is building in the CBD space, primed for high growth.

That's where we come in.

DSM, in partnership with Brains Bioceutical and Mile High Labs, delivers the quality, purity, reliability and traceability the industry demands.

BRAINS

- GMP-compliant
- MHRA-approved
- Products accepted under PIC/S and MRA settlements
- Certified API ready for use in clinical trials and CBD-based early drug development



- Scientific and clinical research expertise
- Regulatory expertise and global reach
- Advanced formulation expertise
- Global sales and marketing capabilities

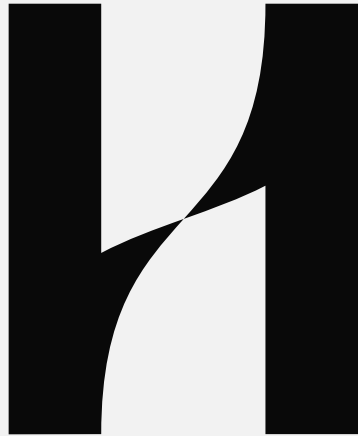


- Hemp sourcing and extraction expertise
- Robust quality systems/regulatory compliance
- Phyto-cannabinoid extraction and purification technologies
- Phytochemistry expertise
- MRS manufacturing



Your partner for CBD innovation

Hologram Sciences Inc. – Expanding our digital capabilities in personalized nutrition



Helping companies validate personalized nutrition opportunities

- Research and development of consumer brand concepts
- Focus on new product formulations supported by diagnostics and digital services
- Provides DSM customers alternative to in-house innovation and access to early-stage M&A
- Team ex-Fitbit, Instagram, Uber combined with DSM experts, located in Boston and owning equity
- 100% funded by DSM



BRIGHT SCIENCE. BRIGHTER LIVING.™