



Food Specialties

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ROYAL DSM
HEALTH NUTRITION MATERIALS



Safe harbor statement

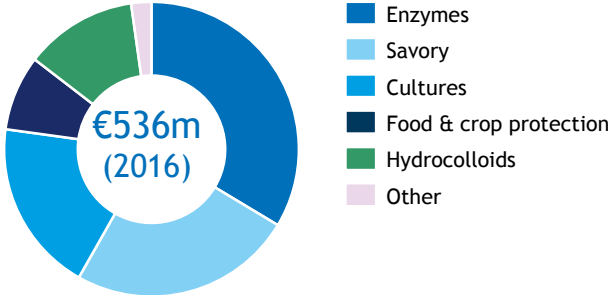
- This presentation may contain forward-looking statements with respect to DSM's future (financial) performance and position. Such statements are based on current expectations, estimates and projections of DSM and information currently available to the company. DSM cautions readers that such statements involve certain risks and uncertainties that are difficult to predict and therefore it should be understood that many factors can cause actual performance and position to differ materially from these statements. DSM has no obligation to update the statements contained in this presentation, unless required by law.
- A more comprehensive discussion of the risk factors affecting DSM's business can be found in the company's latest Annual Report, which can be found on the company's corporate website, www.dsm.com

Food Specialties: Enabling healthier food for everyone

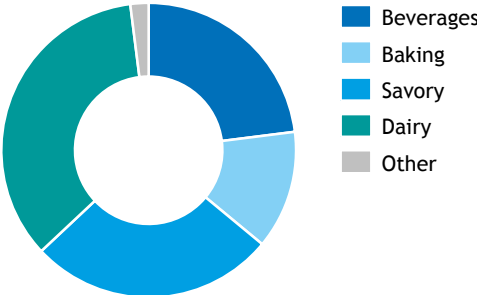
Food value chain



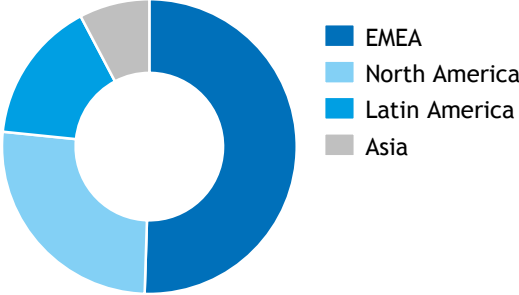
Sales related to ingredient (%)



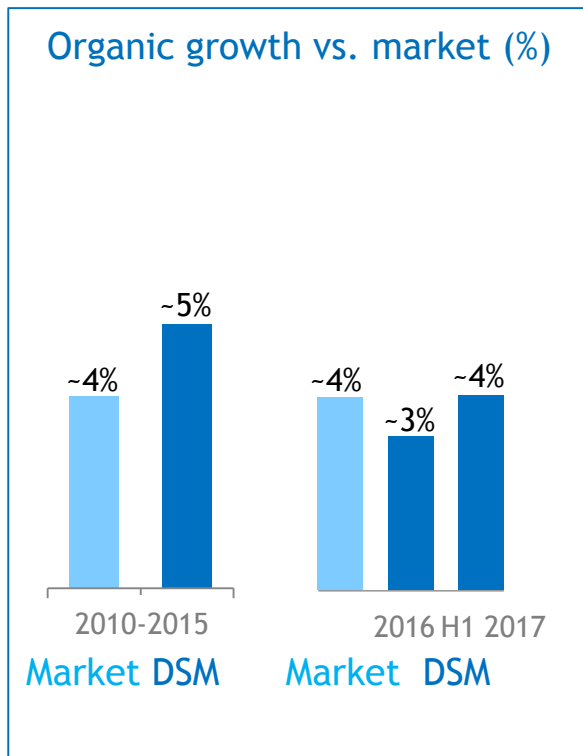
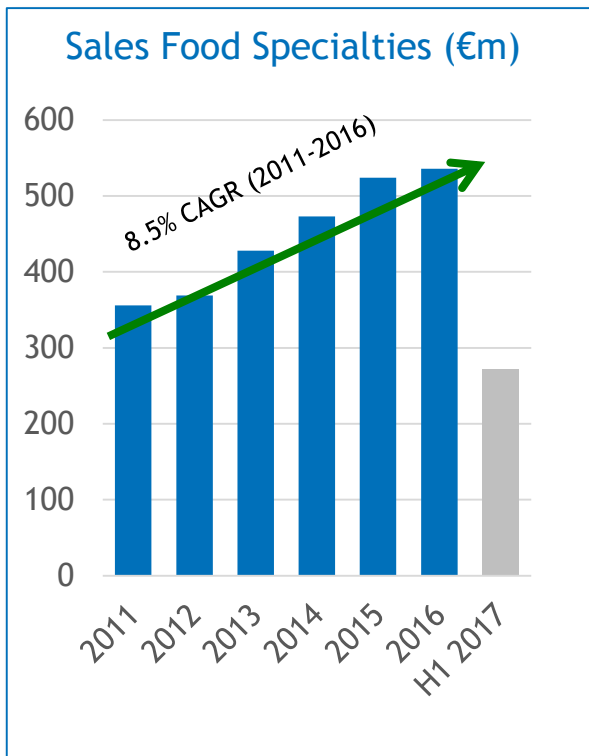
Sales by application landscape (%)




Sales by region (%)




Sales since 2010 driven by strong growth in enzymes and hydrocolloids



Key events 2011-2016

 Added to growth

- Strong growth of enzymes and hydrocolloids businesses (2010-15)
- Acquisitions such as Cargill Cultures, Gellan gum and Andre Pectin (hydrocolloids)

 Impacted growth negatively

- Specialty higher-margin products taking up more capacity (2016-17)

Key trends enabling Food Specialties' segments to outgrow F&B market

Key trends driving growth for Food Specialties' segments

Macro-Economic

- Growing world population
- GDP per capita growth
- Emerging economies

Health & Wellness

- Healthier diets
 - Sugar, salt, fat reduction
 - Digestive health
- Better taste and convenience
- Drive for natural/ clean label

Sustainability & Productivity

- Sustainable food production (more natural, more efficient, less waste, reliable supply)
- Removal of undesired substances
- Affordable food for all

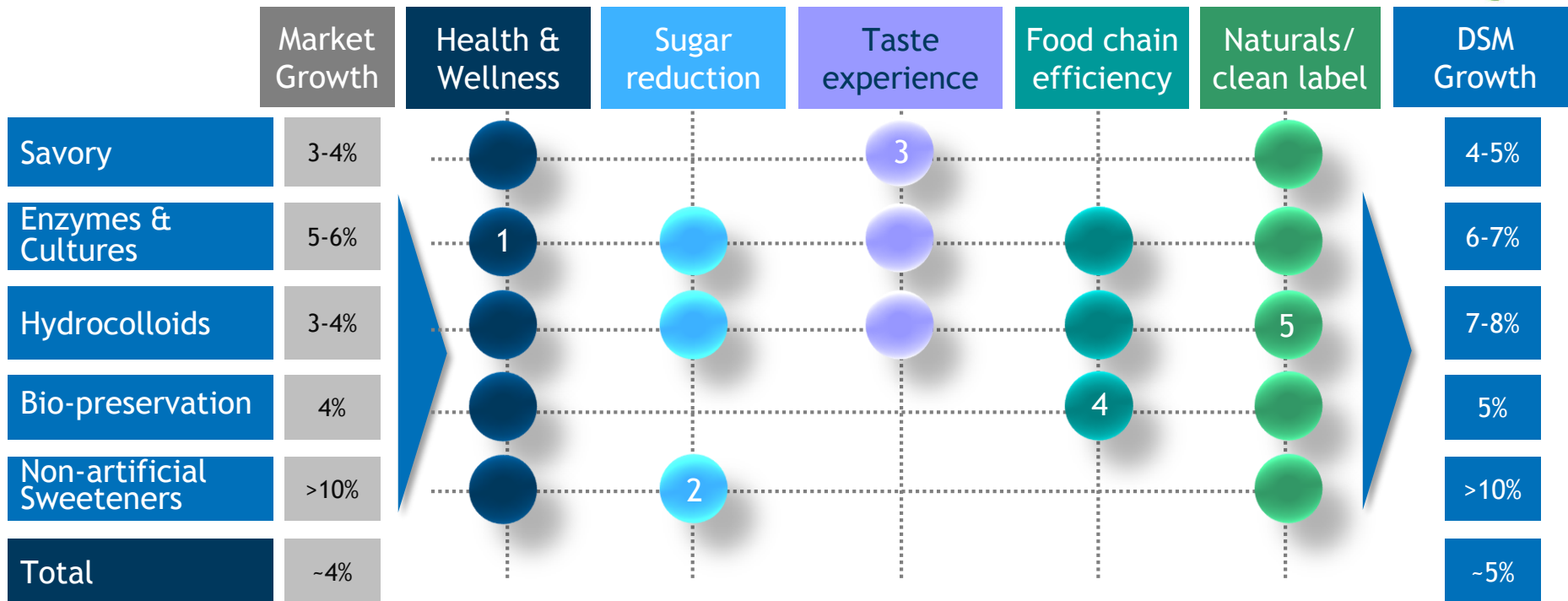
Global F&B market
growth: 1-2%

Food Specialties' segments growth: ~4%

Innovations driving above-market growth



INNOVATION-BASED GROWTH DRIVERS



1 Innovations driving growth: Maxilact® for lactose-free & low-sugar Dairy

- ✓ 'Lactose-free' and 'no added sugar' are two of the fastest growing segments in dairy with huge scope for further penetration
- ✓ Maxilact® breaks down lactose in dairy products, making them suitable for lactose-intolerant consumers. DSM was first to commercialize lactase
- ✓ Maxilact® delivers natural sweetness with a clean, fresh taste and no off-flavors. Its natural sweetness also enables dairy producers to reduce sugar in dairy products by 20-50%
- ✓ New generations deliver optimized application performance

DSM well positioned in Dairy

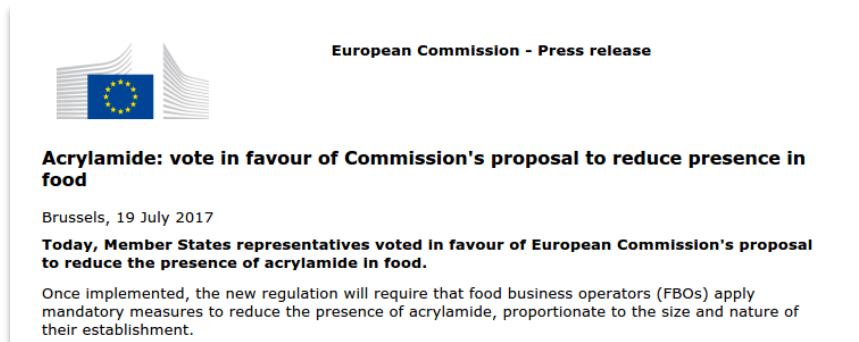
- Global leader in lactase
- Broadest portfolio in nutritional ingredients, enabling broad solutions offering for Dairy
- DSM's global network in Dairy



Market growing >10% per year

1 Innovations driving growth: PreventASe® preventing acrylamide formation

- ✓ Acrylamide is an unwanted substance that can be formed during high-temperature processing of foods



- ✓ PreventASe® enzyme reduces acrylamide up to 90% in a wide range of food products and processes, without impacting taste, appearance or texture
- ✓ PreventASe® provides Food Manufacturers peace of mind in terms of adhering to regulatory standards and consumer health concerns

DSM well positioned

- Enzyme innovation & development capabilities
- Broadest portfolio in Nutritional ingredients, enabling broad solutions offering
- DSM's global network in Foods



2016 market potential for PreventASe® expected to grow to ~€100m in 5 years

2 Innovations driving growth: Sugar reduction through fermented stevia

DSM's development program for fermentation-derived steviol glycosides well on track:

- ✓ Unique process to cost-efficiently produce steviol glycosides, unlocking full sugar reduction potential
 - Great taste and calorie-free
 - Enables advanced sugar reduction - up to 100%
 - Produced with lowest environmental impact
 - Providing a consistent, reliable supply
- ✓ Regulatory submissions on track with GRAS status in US expected early 2018
- ✓ Prototyping and sampling ongoing with targeted major customers
- ✓ Commercial availability expected in 2018, ramp-up to full-scale production expected in 2020

DSM well positioned for Stevia

- Strong strain engineering and fermentation process development capabilities
- Uniquely environmentally friendly process
- DSM's global network in Food & Beverages



Very large market potential for steviol glycosides of €2bn by 2025

Innovations driving growth: Specialty taste & natural flavor solutions

- ✓ **Salt reduction (in market):**
 - Market leader in advanced taste enhancing yeast extracts
 - Labeled as natural flavors
- ✓ **Taste modulation (recently introduced):**
 - ModuMax® range improves mouthfeel & masks off-notes in reduced salt/fat/sugar products
 - Labeled as natural flavor
- ✓ **Flavoring by Foodstuffs (launch Q2 2018):**
 - Proprietary-technology-based flavor ingredients labeled as known 'kitchen cabinet' ingredients: tomato, onion, garlic, soy sauce
 - Replacing flavor ingredients on label

DSM well positioned in Savory

- High-end flavoring solutions through unique biotechnology toolbox incl. yeasts & enzymes
- Unique process flavor and flavoring through foodstuffs technology
- Strong market position



Fastest growing segments in ~€1bn (2016) yeast extracts & process flavors market and potential to replace non-natural flavors

- Expanding the natural preservation market space by replacing synthetic preservatives such as sorbates and benzoates for **clean label** solutions
 - ✓ Protective cultures, non-synthetic food preservation products against bacteria, mold and yeast
 - ✓ Preservation systems based on natamycin and nisin
 - ✓ Further development of novel bio-preservatives

DSM well positioned

- Global leadership position in bio-preservation
- Biotechnology innovation & development capabilities
- DSM's global network in Food & Beverages



2016 market for natural preservation ~€400m, total preservatives opportunity ~€2bn, growing ~5%/year

Innovation driving growth: Gellan gum replacing texturants considered non-natural and less healthy

- ✓ Gellan gum is a natural, multi-functional polysaccharide produced by a sustainable fermentation process
- ✓ Used as a suspension, stabilization, structuring and texturing agent in food jellies, beverages, dairy drinks, plant protein drinks, yoghurts, yoghurt drinks, and drinking jellies
- ✓ Sustainable fermentative naturally-occurring alternative stabilizer replacing for instance carrageenan:
 - Natural solution, clean label, wholesome image
 - Affordable, healthy and “feel-good” solution
 - Stable solution at constant and predictable quality

DSM well positioned

- Biotechnological competences
- Application breadth and agility
- Access to DSM’s global Nutrition network
- Recognized reputation for quality



2016 gellan gum market ~€130m, with double-digit annual growth rate

Innovation powered by our leadership in biotechnology

DSM Biotechnology

Center approx. **400**

access to 1200
scientists worldwide



Nutritional Sciences

First-class in finding, making
and applying microbial and
enzymatic solutions

1.2 patents per
million € R&D

industry standard: 0.6



R&D and Innovation
capabilities dedicated to
Food and Beverage industry

100+ years experience in
fermentation technology
combining expertise in yeasts,
cultures *and* enzymes



Analytical Sciences

Global external & internal
network of biotech
specialists

Confident of continued good organic growth in coming years

- Well-positioned in dynamic growth segments - organic growth supported by ~4% market growth, and ...
 - ✓ Geographic expansion of core business
 - ✓ Commercial excellence, making use of our unique strong global nutrition network & customer intimacy at leading (global and local) food companies
 - ✓ Manufacturing excellence: resolving capacity limitations in order to enable us to fully capture growth opportunities
 - ✓ Commercialization of biotechnology-based innovation pipeline

Enabling ~5% organic growth in Food Specialties



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