DSM Capital Markets Day 2018

Animal Nutrition & Health

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Safe harbor statement

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- 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](http://www.dsm.com)
Animal Nutrition & Health significantly outperformed its organic growth in the last 3 years

1. Approximation using 2018E, based on underlying business corrected for best estimate of the temporary vitamin effect
Growth driven by leveraging our unique business model and initial wins from the Auctus strategy
Outgrowing the CFE\(^1\) market through premix, innovation and B2F, leveraging its unique business model

### Market growth (CFE\(^1\))

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<th>Animal Nutrition &amp; Health growth enhanced by</th>
<th>Geo presence/premix</th>
<th>Feed efficiency &amp; gut health</th>
<th>B2F</th>
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1. CFE = Complete Feed Equivalent
2. Based on underlying business, excluding the temporary vitamin effect

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acCElerate launched for sustainable organic growth above-market

2018

ELEVATE OUR AMBITION

Operating Model
✓ Align global-local to improve focus & execution

Baselining Regions
✓ Define metrics & assess performance

2019 - 2021

BUILD CAPABILITIES

Marketing & Sales Excellence
✓ Species marketing organization and strategies
✓ Competitive value propositions: products & services
✓ Price & margin management
✓ Specialized Sales force
✓ Key Account management

SUSTAIN THE GAINS

Culture
✓ Performance metrics
✓ Training

Customer Centricity & Agility
✓ End-to-end experience: supply chain & quality
✓ Institutionalized customer feedback loop (frontline NPS)
Core sustainability topics require radical innovation, resulting in new market opportunities for our Animal Nutrition & Health business.

Species
- Poultry
- Swine
- Ruminants
- Aqua
- Pet

Radical Innovation

Main ask:
- "More with less"
- "AGP-free" 
- "Improve fish-in fish-out ratio"
- "Reduce methane"

Core Sustainability topics requiring innovation
- Antibiotic Resistance & Gastrointestinal Functionality
- Improve Productivity / Feed Conversion & Environmental footprint

Topics:
- Overfishing
- Greenhouse gas emissions

1. AGPs = Antibiotic Growth Promoters

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Investing for organic growth through innovation & specialty sales force - M&A mainly for premix expansion, gut-health & go-to-market engine

New Solutions
- Invest in Eubiotics & Enzymes
- Invest in Specialized M&S organization

Core/Premix
- Further invest in market ‘white space’ and high growth economies

Species
- Invest in Specialized M&S organization
- Launch Veramaris
- Launch Clean Cow

B2F
- Further invest in China
- Explore New Business Models and enabling technology platforms

Gut-health ingredients with M&S engine
Premix expansion
Acceleration of innovation platforms
Service & data analytics
Expanding our leadership position in feed enzymes and eubiotics

**Feed Enzymes**
for improved Feed Utilization

- Alliance with Novozymes since 1998 (20 years)
- Market leader with ~25% market share
- Complete portfolio of
  - ✓ Phytases
  - ✓ Carbohydrases
  - ✓ Proteases
- Aggressive innovation pipeline to expand leadership position
- Market potential of €1bn, growing ~5% per year

**Eubiotics**
for improved gastrointestinal functionality and animal performance

- Existing portfolio of
  - ✓ Organic acids
  - ✓ Pro/pre-biotics
  - ✓ Natural extracts
- Portfolio expansion a strategic priority
  - ✓ New product launch planned for Q4 2018
  - ✓ A novel Enzyme from the Alliance with Novozymes
  - ✓ €60-80m sales potential per year
Veramaris, the JV with Evonik for sustainable EPA/DHA for fish feed is progressing well - Launch expected in H2 2019

### Veramaris JV
- JV organization established & operational
- Selling company HQ in The Netherlands: 50% business consolidation each (VOF)
- Producing company headquartered in the US: fully integrated in large manufacturing complex with direct access to raw materials
- Business support provided by the two mother companies

### New Facility (Blair/Nebraska)
- ~US$150-200m investment (50%:50%)
- Opening Mid-2019
- Annual capacity ~15% of current annual EPA/DHA demand for salmon

### Potential
- Focus on salmon (80%) & pet food use
- Concentrated customer base, but need for involvement of entire value chain (from feed producers to retailer) to drive transformation
- Both availability and sustainability as key triggers for adoption
- (Initial) facility in Blair, with ~€150-200m (50%:50%) sales potential per year
Clean Cow, a sustainable feed ingredient, reducing enteric methane emissions

- Animal proteins are key to nutrition and health, providing essential nutrients and affordable nutrition; cows are a major source of high-quality protein

- Unfortunately, the environmental footprint of cows presents a major challenge
  - Majority of impact comes from enteric (burped) methane emission; a potent greenhouse gas

- Trials with our feed ingredient Clean Cow (and subsequent peer-reviewed publications) show a >30% reduction in emissions

- Currently preparing for registration in key markets and building an ecosystem with partners and experts in nutrition, biology, chemistry, engineering and analytics

- Executing various trials in commercial settings

- Attractive market potential of ~€1-2bn with launch after 2019
Animal Nutrition & Health ambitions underpinning DSM’s 2021 Targets

Market growth estimated to continue at ~2-3%

Further growth by:
- Sustaining growth through Marketing & Sales excellence and Customer Centricity & Agility (acCElerate program)
- Radical innovation for core sustainability topics (e.g. DSM/Novozymes alliance, Veramaris, Clean Cow)
- Further invest in B2F and go-to-market capabilities

Continue to grow the business above market

~5% organic growth
BRIGHT SCIENCE. BRIGHTER LIVING.™