



Chr. Hansen Holding A/S

Capital Markets Day

4 September 2013

Forward-looking statements

This presentation includes forward-looking statements that are subject to risks and uncertainties, including those pertaining to the anticipated benefits to be realized from the proposals described herein.

This presentation contains a number of forward-looking statements including, in particular, statements about future events, future financial performance, plans, strategies, expectations, prospects, competitive environment, regulation and supply and demand. Chr. Hansen has based these forward-looking statements on its views with respect to future events and financial performance. Actual financial performance of the entities described herein could differ materially from that projected in the forward-looking statements due to the inherent uncertainty of estimates, forecasts and projections, and financial performance may be better or worse than anticipated.

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Agenda

Time	Topic	Main speaker
10:00-10:05	Welcome	
10:05-10:30	Strategic direction	Cees de Jong, CEO
10:30-11:15	Fully leveraging the potential of CED	Knud Vindfeldt, EVP
11:15-11:30	Break	
11:30-12:15	Expanding the microbial solutions platform in HND	Cees de Jong, CEO
12:15-13:00	Lunch	
13:00-13.30	Driving a step change in innovation	Cees de Jong, CEO
13:30-14:00	Creating further value in NCD	Carsten Bennike, EVP
14:00-14:15	Break	
14:15-14:45	Generating fuel for growth	Klaus Pedersen, CFO
14:45-15:15	Closing remarks & Q&A	
15:30 - 16:30	Tour of culture facility	



Cees de Jong

1989-1998: Gist-Brocades (NL)

Different positions including Managing Director for the Industrial Pharmaceutical division. Gist-Brocades was acquired by DSM in 1998

1998-2000: DSM (NL)

President of the Anti-Infectives division

2000-2003: Campina (NL)

President for the Industrial Products Division

2003-2007: Quest International and ICI (NL/UK)

Group Vice President and member of the Board, Head of Flavour Division

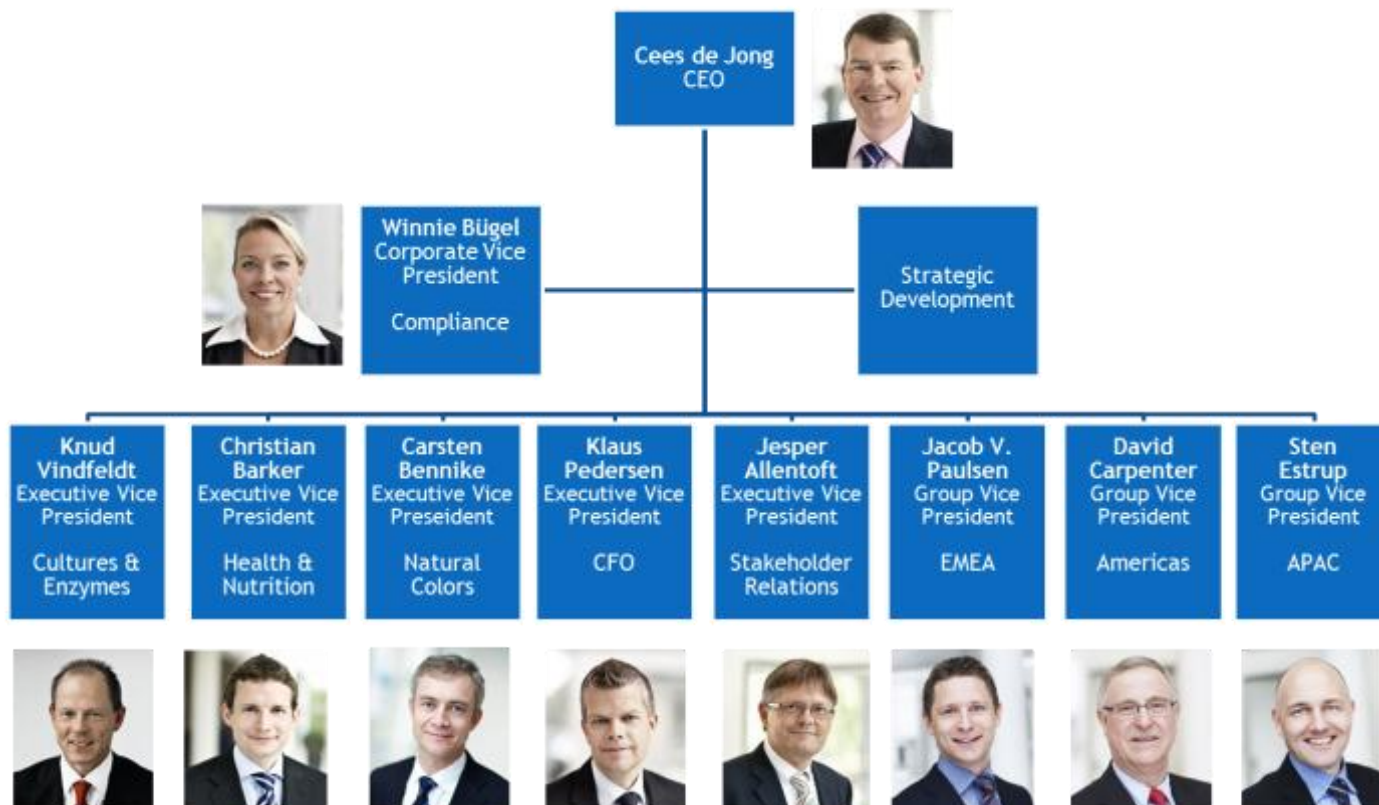
2007-2011: Crucell (NL)

Chief Operating Officer and member of the Board. Crucell was acquired by Johnson & Johnson in 2011

Education

Degree in Medicine from the Erasmus University in Rotterdam
MBA from the Rotterdam School of Management

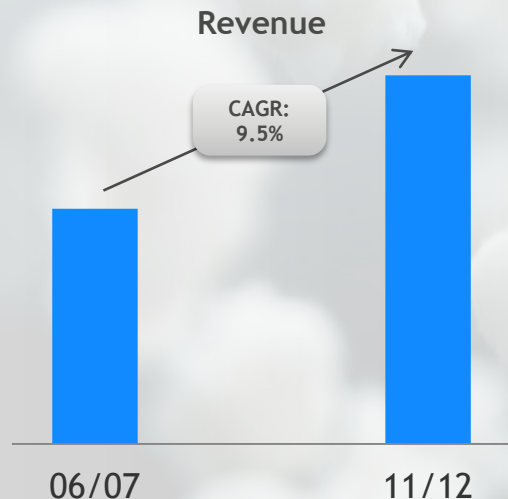
Corporate leadership team



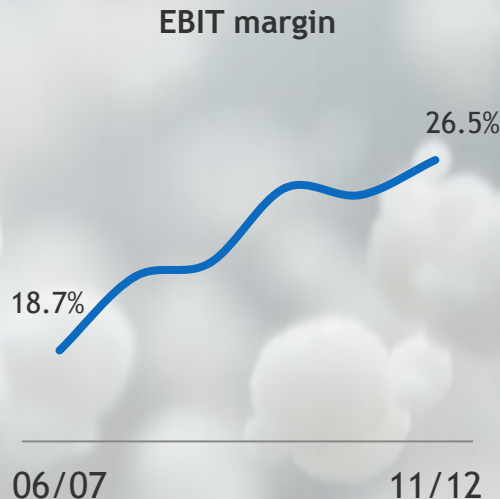
Strategic direction

A unique market position...

Attractive growth markets



Strong profitability

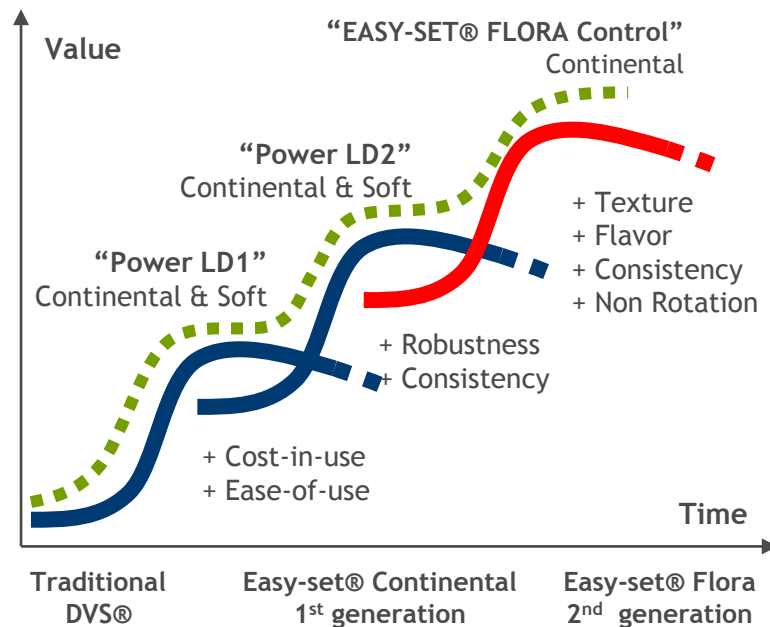
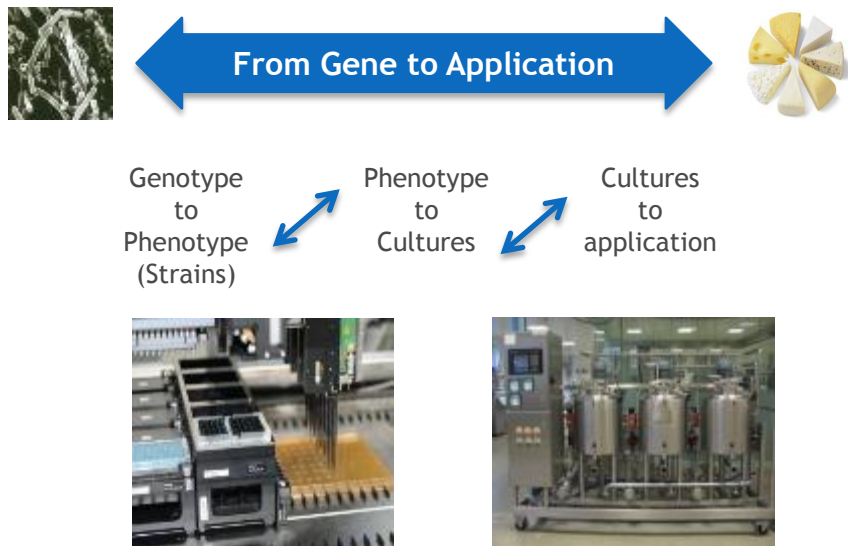


Unique value composition

- ▶ Strategic ingredients
- ▶ Strong R&D platform
- ▶ Up-scaling & large scale fermentation
- ▶ Application & customer intimacy
- ▶ Talent & Expertise

Strategic direction

Based on a solid science platform



Nature's 1
no.

Strategic direction

Evolution, not revolution (6 strategic themes)

1 Fully leveraging the potential of CED

- ▶ New innovation for yield & functionality
- ▶ Undisputed leadership in emerging markets
- ▶ Continued conversion
- ▶ Commercial excellence

2 Developing the microbial solutions platform in HND

- ▶ Expand existing business
- ▶ Pursue probiotic opportunities in emerging markets
- ▶ Commercial excellence

3 Creating further value in NCD

- ▶ Improve cost-in-use
- ▶ Drive emerging market conversion
- ▶ Continued conversion
- ▶ Commercial excellence

Strategic direction

Evolution, not revolution (6 strategic themes)

	1 Fully leveraging the potential of CED	2 Developing the microbial solutions platform in HND	3 Creating further value in NCD
4 Driving a step change in innovation	<ul style="list-style-type: none"> ▶ New innovation for yield & functionality 	<ul style="list-style-type: none"> ▶ Expand existing business ▶ Develop plant protection ▶ Explore human biome 	<ul style="list-style-type: none"> ▶ Improve cost-in-use ▶ New transformational technologies
5 Reinforcing position in emerging markets	<ul style="list-style-type: none"> ▶ Undisputed leadership in emerging markets 	<ul style="list-style-type: none"> ▶ Pursue probiotic opportunities in emerging markets 	<ul style="list-style-type: none"> ▶ Drive emerging market conversion
6 Generating fuel for growth	<ul style="list-style-type: none"> ▶ Drive scalability 	<ul style="list-style-type: none"> ▶ Reinvest in future growth 	<ul style="list-style-type: none"> ▶ Drive scalability
	<ul style="list-style-type: none"> ▶ Continued conversion ▶ Commercial excellence 	<ul style="list-style-type: none"> ▶ Commercial excellence 	<ul style="list-style-type: none"> ▶ Continued conversion ▶ Commercial excellence

Strategic direction

What we will **NOT** do

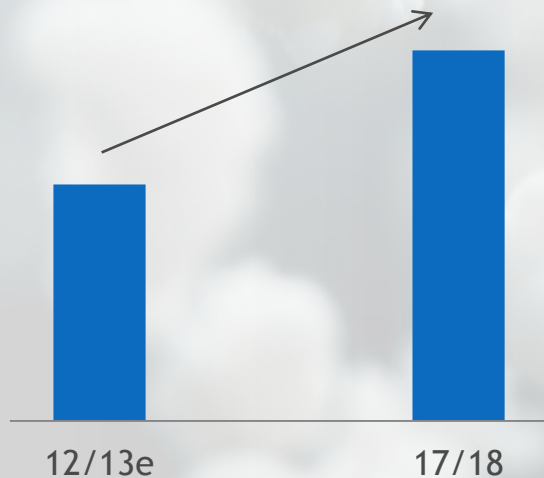
- ✗ Pursue acquisitions in unrelated areas
- ✗ Expand into products outside microbials/natural colors
- ✗ Attempt to become a full fledged pharma player
- ✗ Loose focus on cost control & operational efficiency



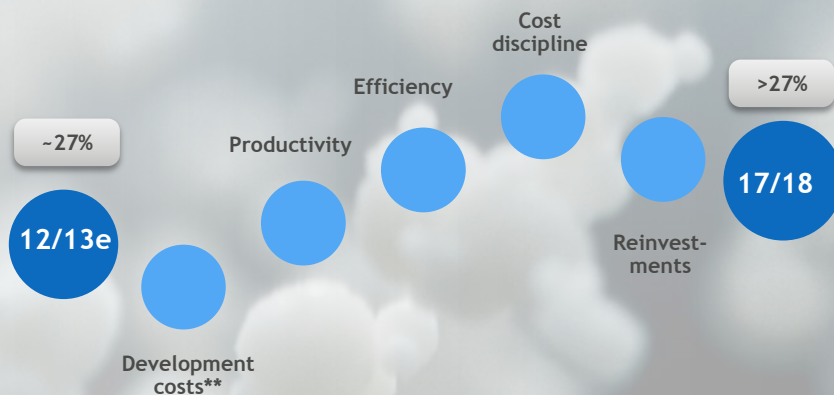
Strategic direction

Financial ambitions

Organic growth of 7-10% per year



Improved EBIT margin* over the period



Increased free cash flow before acquisitions and divestments

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Fully leveraging the potential of CED

The growth model for cultures & enzymes remains intact

Cultures & Enzymes

2011/12

Revenue EUR 420m

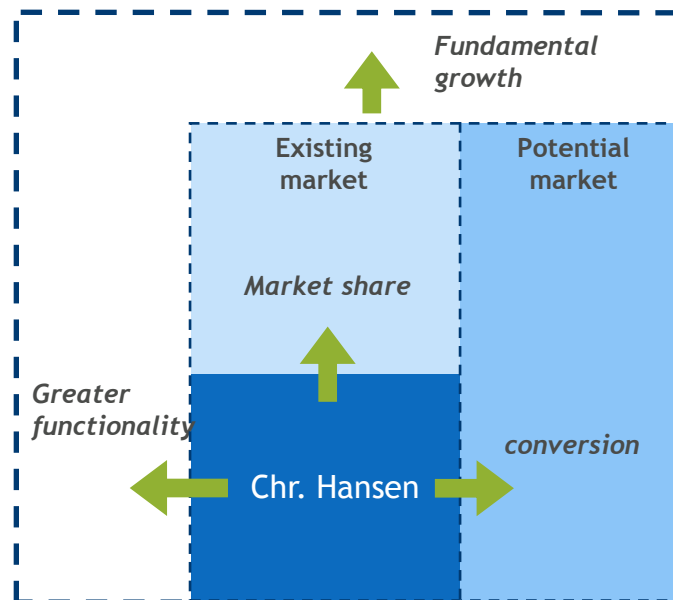
Organic growth 10%

EBIT margin 28.5%

ROIC* 31.8%

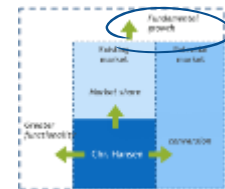
Cultures, enzymes and probiotics for the food industry, especially the dairy markets

The ingredients help determine the taste, nutritional value, health benefits and product shelf life of the end products



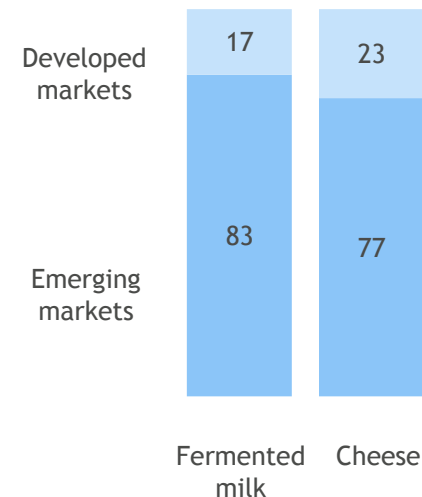
Fully leveraging the potential of CED

Fundamental growth in cheese and fermented milk



Region**	Fermented milk (m. tons 2012)	Fermented milk (CAGR 2010-12*)	Cheese (m.tons 2012)	Cheese (CAGR 2010-12*)
North America	3.0 (8%)	2.2%	3.8 (24%)	2.4%
South America	3.5 (10%)	6.5%	2.8 (17%)	4.3%
Europe	14.4 (40%)	2.4%	7.3 (46%)	1.5%
Africa & Middle East	6.5 (18%)	10.1%	1.2 (7%)	6.0%
APAC	8.9 (24%)	9.4%	0.9 (6%)	4.6%
Total	36.3 (100%)	5.2%	16 (100%)	2.4%

Share of global category growth***
2012-17 (%)



CED revenue CAGR 2009/10-11/12: 8.5%

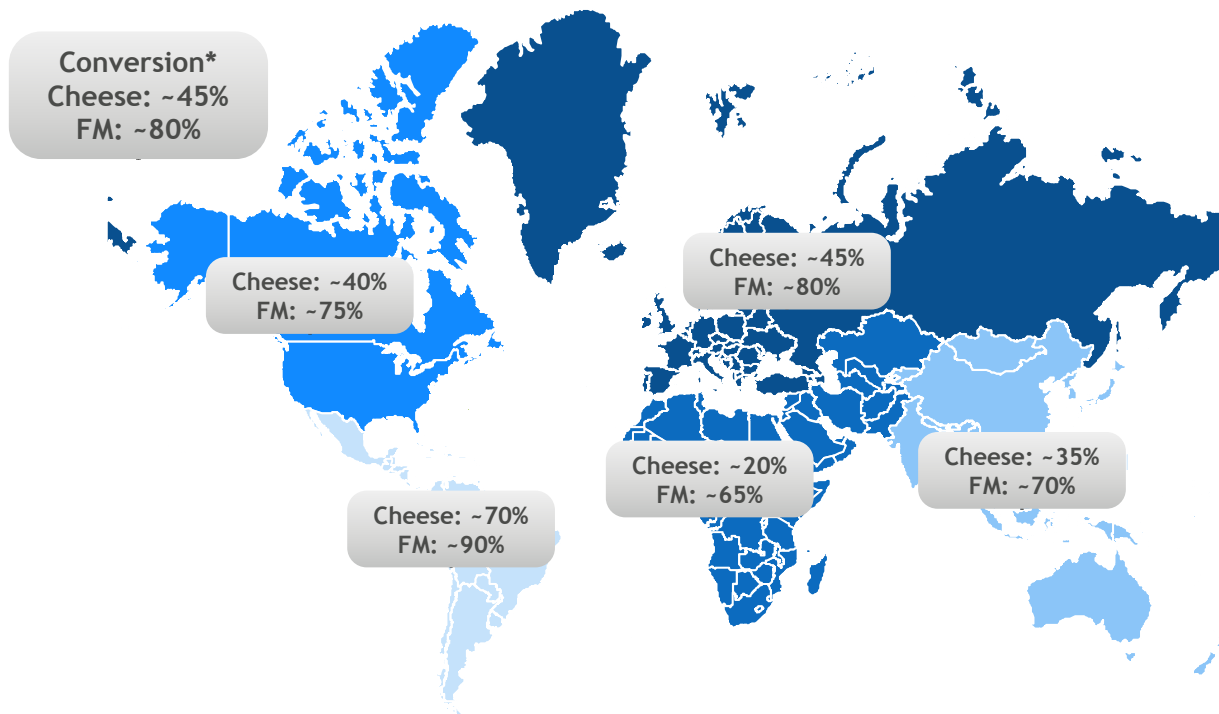
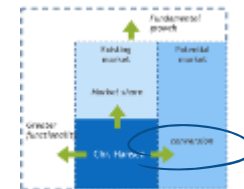
*Based on volume

**Source: Euromonitor, August 2013, management estimates

*** Source: Euromonitor, management estimates

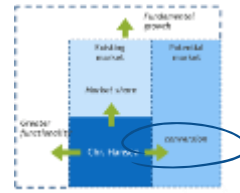
Fully leveraging the potential of CED

Conversion potential in cheese and fermented milk

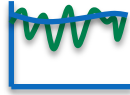


Fully leveraging the potential of CED

Conversion driven by multiple situations



- ▶ Secure consistent quality...



- ▶ ...from higher and more stable quality of cultures from Chr. Hansen

- ▶ To mitigate production interruptions...



- ▶ ...through access to backup DVS® solution and application team

- ▶ Realize full potential of production facilities..



- ▶ ...by reducing/eliminating inefficiencies i.e. using high solid milk

- ▶ Lower Capex for new/continued production...



- ▶ ...by avoiding investments in new bulk starter equipment and facilities

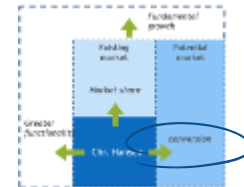
- ▶ Capture high-value opportunities without affecting scalability ...



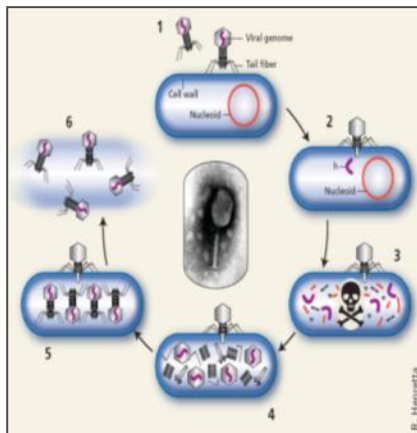
- ▶ ...through advantage of smaller production runs i.e. reduced salt while keeping the existing taste profile

Fully leveraging the potential of CED

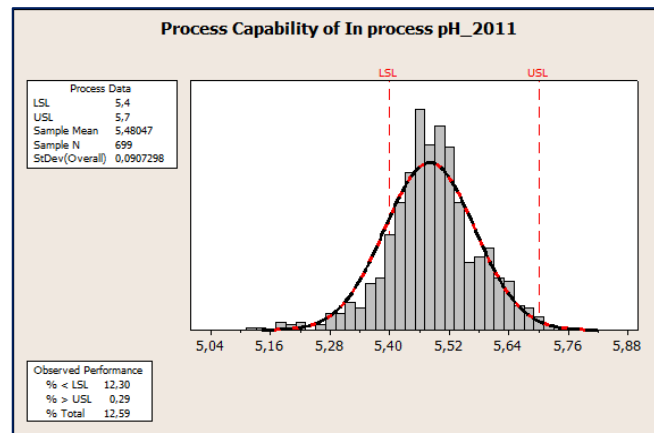
Example: DVS® deliver consistency



- ▶ One fundamental driver for conversion is phage attacks on bulk starter..



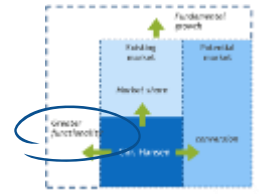
- ▶ .. leading to inconsistent acidification over production runs, larger variation in moisture percentage, cheese quality and increased “give away”



DVS® and EASY-SET® typically improving cheese makers gross margin by up to 5% due to increased yield and moisture

Fully leveraging the potential of CED

Innovation is key to drive growth through greater functionalities



Greater functionality

Addressing consumer needs

- ▶ Low sugar, lactose and fat
- ▶ Distinctive texture & flavors
- ▶ Low salt
- ▶ Local taste preferences

Addressing customer needs

- ▶ Improve yield
- ▶ Improve efficiency

YoFlex®Sweet



SaltLite™

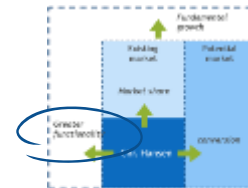


FreshQ®

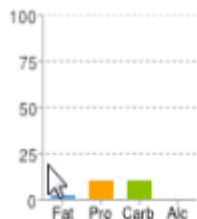


Fully leveraging the potential of CED

High sugar levels in fruit/flavored yoghurt is an increasing issue...



Nutritional value of fruit yogurt



Good attributes

- ▶ Low in cholesterol
- ▶ Low in sodium
- ▶ High in calcium
- ▶ High in Vitamin C

Less good attribute

- ▶ High in sugar

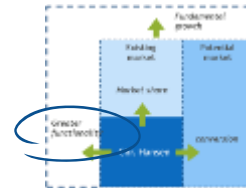
- ▶ High sugar content pulls down the otherwise excellent nutritional profile of fruited and flavored yoghurt

- ▶ Calorie impact from sugar in fruit yoghurt is often on par with a soft drink

- ▶ Milk sugar (lactose) already present in milk is not sweet however adds to calorie and carbohydrate content

Fully leveraging the potential of CED

...which YoFlex®Sweet helps dairies to address



	Carbohydrates	Reference yoghurt	YoFlex®Sweet yoghurt
Plain yoghurt No sucrose added	Lactose	3.3	<0.5
	Glucose	0.0	2.0
	Galactose	0.7	2.2
	Sweetness index	74	220
Fruit yoghurt sucrose added	Sucrose	8.0	6.5
	Total sugars	12.0	10.7
	Total calories	48	42.8
	Sweetness index	874	874

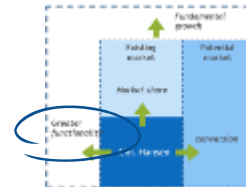
Make low lactose yoghurt
by YoFlex®Sweet and
replace use of lactase

Make plain yoghurt
3 times sweeter

Reduce total sugar by 10%
Reduce added sugar (sucrose) by 20%
In standard fruit yoghurt

Fully leveraging the potential of CED

Regulators concerned about salt content in food



WHO guideline:

Maximum

5,000 mg salt/day

Daily consumption

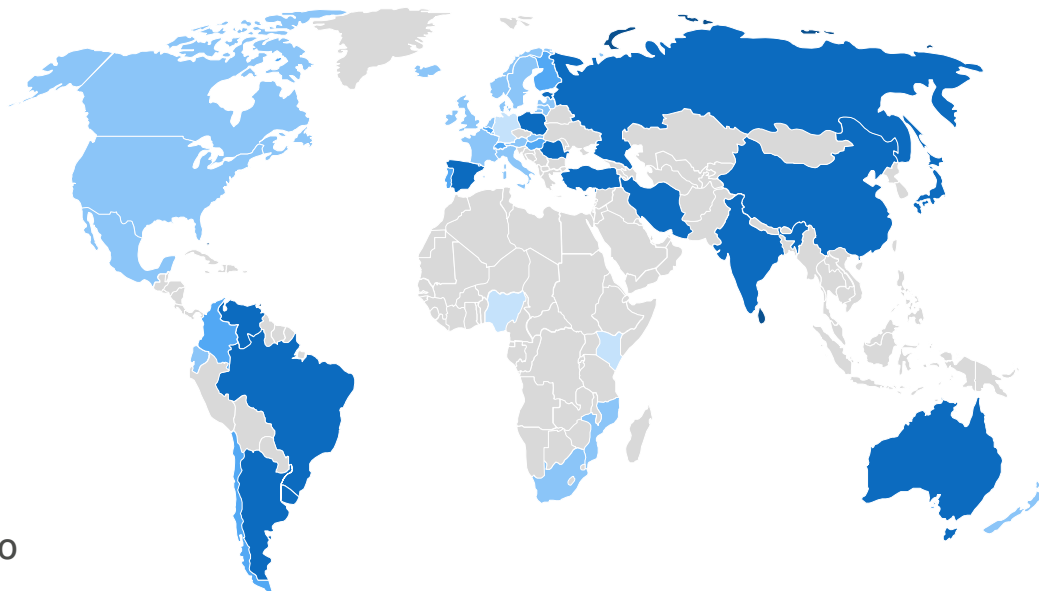
<7,500 mg

7,500-10,000 mg

10,000-12,500 mg

>12,500 mg

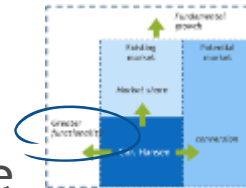
Information not available



25-65% reduction in salt consumption is needed to meet WHO guidelines

Fully leveraging the potential of CED

SaltLite™ is a natural solution for salt reduction of up to 50% in cheese



Salt in Cheese

Salt plays an important functional role in cheese, influencing three primary characteristics



SaltLite™ Solution

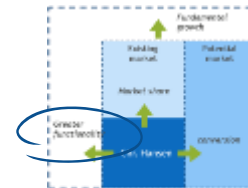
Innovative concept of specific DVS® cheese cultures combined with the coagulant CHY-MAX® M to improve flavor, texture and reduce bitterness

Cross-functional solution

- ▶ DVS® adjunct cultures; improved flavor
 - ▼ Bland flavor counteracted by production of organic acids
- ▶ CHY-MAX® M; improved flavor and texture
 - ▼ Lower proteolysis activity results in reduced production of bitter peptides (taste) and counteracts weak pasty body (texture)

Fully leveraging the potential in CED

Dairies and retailers are looking for help to maximize value



Scrap

Scrap at production:
due to yeast & mold

Scrap: Products being
spoiled or expired

Operations
and logistics

Operations: Savings in
ability to operate with
longer production runs

Logistics: Better picking and
handling improves efficiency.
Longer geographical reach

Brand value

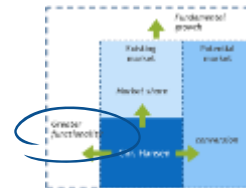
Brand value: Minimize
complaints, recalls and bad
consumer experiences

CHR HANSEN

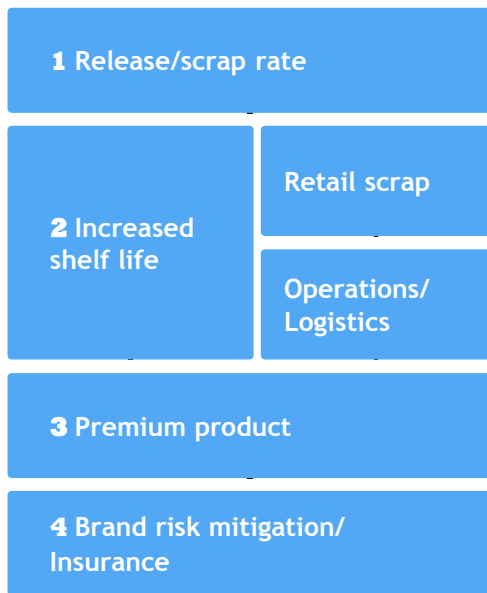
Improving food & health

Fully leveraging the potential in CED

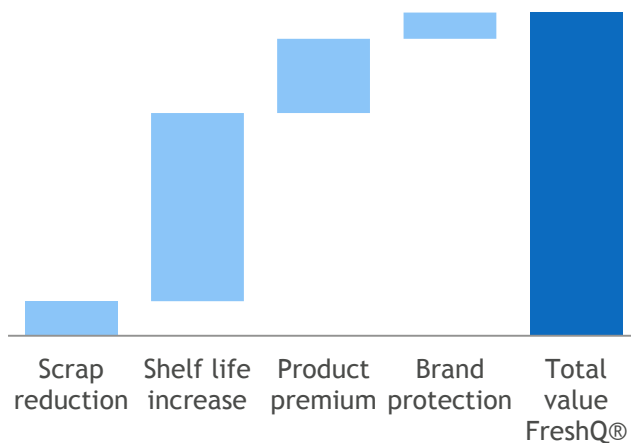
FreshQ® can deliver value optimization



Focus on 4 critical drivers



Value addition from FreshQ®



P. crustosum growth (36 days storage)

Reference

7°C 12°C 22°C



FreshQ®

7°C 12°C 22°C



CHR HANSEN

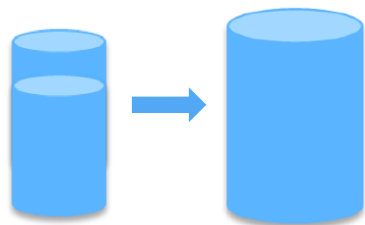
Improving food & health

Fully leveraging the potential in CED

Focus on scalability continues

Plant expansion progressing as planned

- ▶ Moving to larger fermentors



- ▶ Investment in fermentation approx. EUR 25 million
- ▶ Expected inauguration during summer 2014
- ▶ Positive margin impact expected end of 2014/15

Future expansion

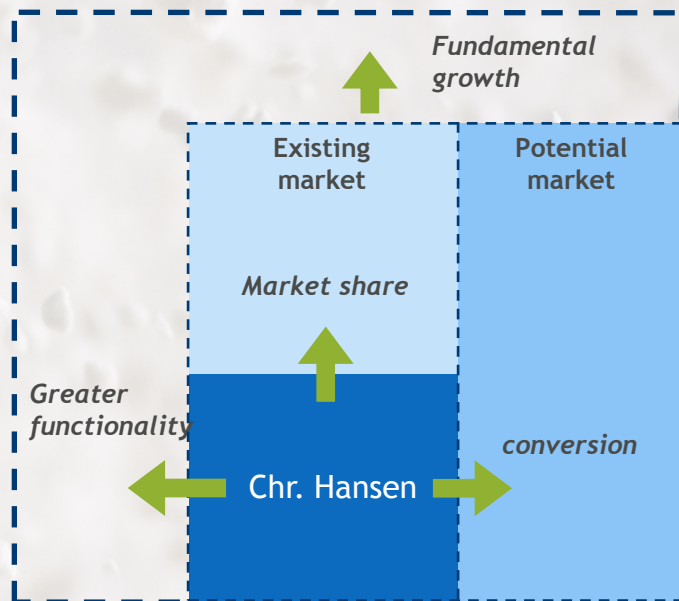
- ▶ Investments down stream de-bottlenecking (e.g. freeze drying)
- ▶ Further fermentation capacity needed in ~5 years

Other scalability enablers

- ▶ Focused supply & foot print strategy
- ▶ Strong cost control
- ▶ Re-invigorating lean in manufacturing
- ▶ Yield improvements
- ▶ Waste minimization via world class quality processes
- ▶ Further optimization in our logistic flows

Fully leveraging the potential in CED

Growth and scalability model intact



Financial ambitions (5 years)

- ▶ Average annual organic growth rate between 7-8%
- ▶ Increased EBIT margin over the period

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Expanding the microbial solutions platform

Strong platform to expand, develop and explore new opportunities...

Health & Nutrition

2011/12

Revenue EUR 107m

Organic growth 13%

EBIT margin 35.0%

ROIC* 39.1%

Products for the dietary supplement, infant formula and animal feed industries

The key offering is probiotic cultures with a documented health effect

Increasing relevance of microbial solutions

- ▶ Attractive, high growth markets in microbials
- ▶ Growing health focus
- ▶ Productivity squeeze in global agriculture
- ▶ Reduced chemicals/ antibiotics usage
- ▶ Academic breakthroughs - innovation potential in microbials greater than ever

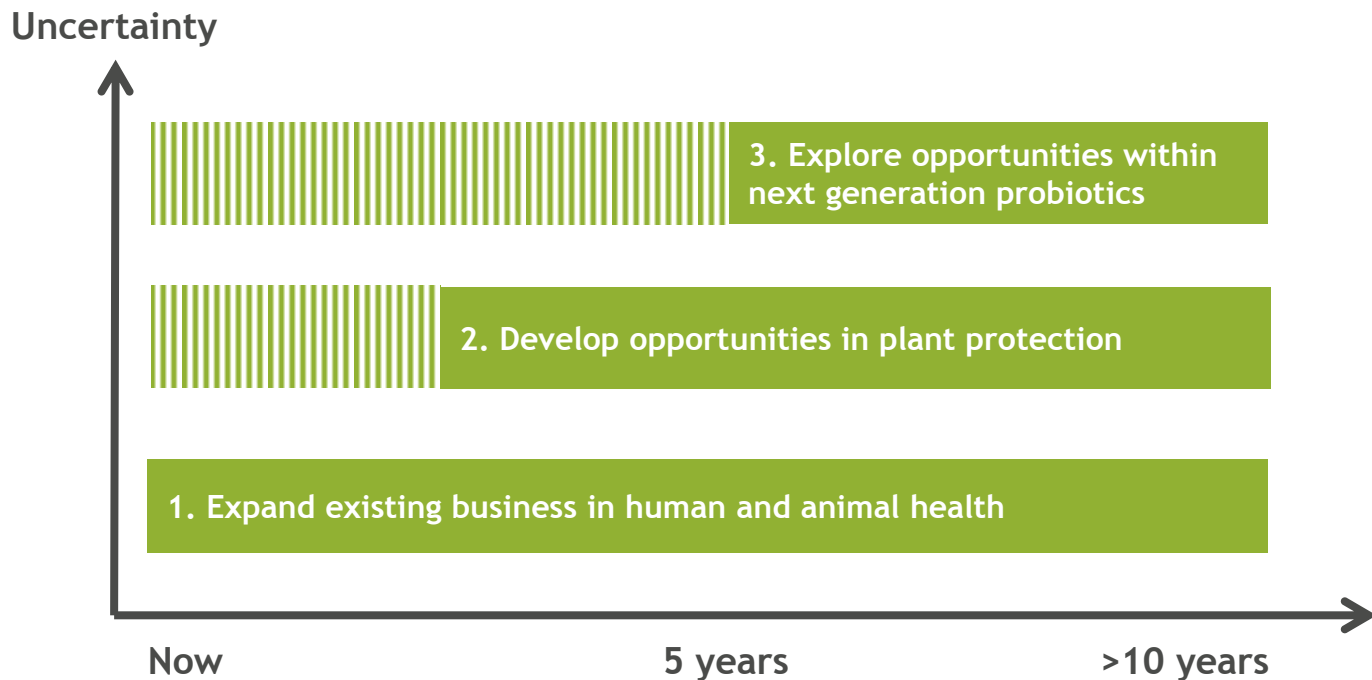
Distinctive Chr. Hansen competencies

Development, documentation, and supply of "good bacteria"

- ▶ Strain library (16,000+ strains)
- ▶ Screening & optimization
- ▶ Up-scaling
- ▶ Large scale manufacturing
- ▶ Clinical documentation of probiotics

Expanding the microbial solutions platform

...within human, animal, plant and next generation probiotics



Expanding the microbial solutions platform

Strong growth opportunities from existing business



Key drivers - Human

- ▶ Strong growth in emerging markets
- ▶ Aging population
- ▶ Increasing consumer awareness
- ▶ Large pharma / consumer health companies driving market through new products launches & marketing

Key drivers - Animal

- ▶ Fundamental growth from population and wealth growth, especially in emerging markets
- ▶ Increasing productivity challenge
- ▶ Rising concerns on antibiotic usage
- ▶ Penetration of probiotics still low (<15%)

Focus areas

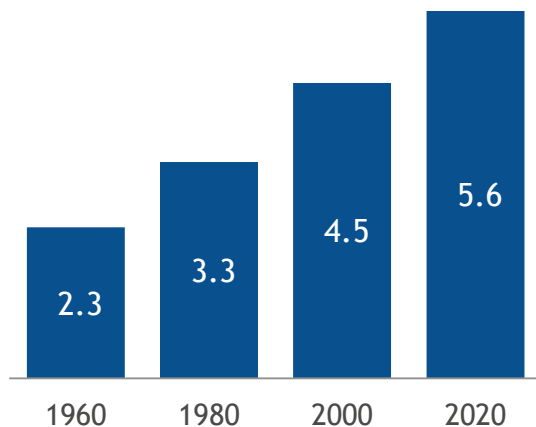
- ▶ Documentation
- ▶ Emerging markets (especially Asia)
- ▶ Operational excellence

Expanding the microbial solutions platform

The agricultural industry needs to improve productivity...



Number of people fed
per hectare land*



Key drivers

Demand

- ▶ Population growth - 9.2 billion people in 2050
- ▶ Urbanization - 70% of 2050 population
- ▶ Per capita calorie consumption increasing

Supply

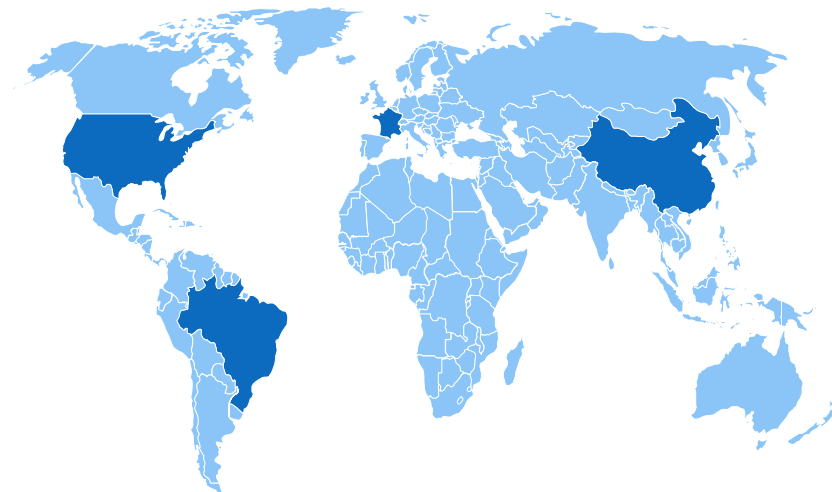
- ▶ Slowdown in agricultural productivity gains
- ▶ Climate change leading to lower productivity
- ▶ Arable land degradation - 20% already degraded

Expanding the microbial solutions platform

...and regulators push for biological solutions...



- ▶ **Brazilian government target:**
10% biologics market share by 2015
- ▶ **US Registration time:**
Synthetics, up to 10 years
Biologics, 2-3 years
- ▶ **French government initiative:**
Reduce pesticides by 50% by 2018
- ▶ **Chinese government intent:**
Increase biopesticides vs. synthetics for
crop protection



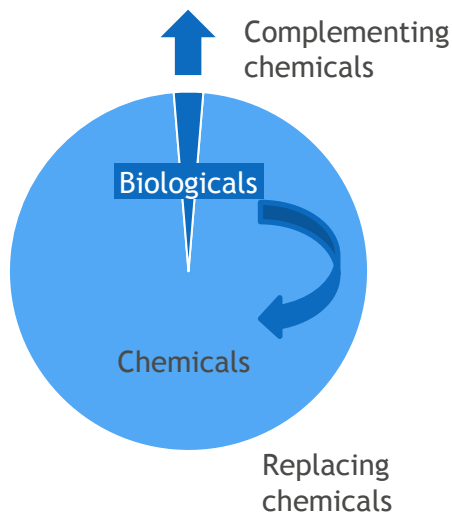
Expanding the microbial solutions platform

...opening up a significant growth opportunity...



Biologics

A EUR 1 billion market with growth >10% p.a.



Biological plant productivity - value proposition

Complementing chemicals

- ▶ Avoid chemical resistant pests
- ▶ Reduce chemical application levels
- ▶ Can be effective where chemicals are not

Replacing chemicals

- ▶ Alternative when regulation prohibits chemicals
- ▶ Competitive in efficacy
- ▶ Environmentally friendly
- ▶ Meets consumer/customer organic requirements
- ▶ Minimizes human contact with chemicals

Expanding the microbial solutions platform

...through new innovative products...



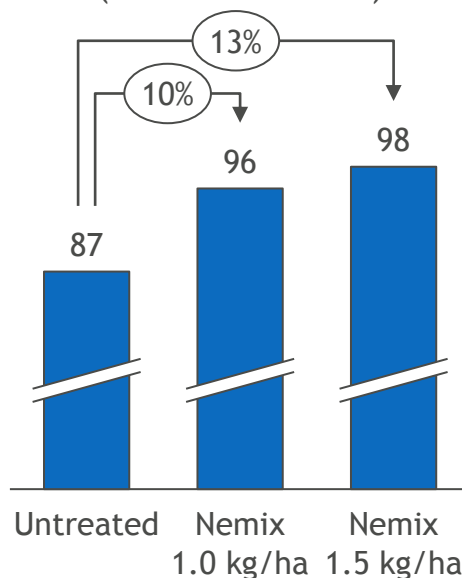
Sugar cane market in Brazil



- ▶ ~9 million hectares of sugar cane
- ▶ ~USD 8-900 million sugar cane chemicals market

Nemix C yield improvement*

(Yield increase to/ha)



Nemix C

A unique biological product based on two complementary *Bacillus* - which enhances growth and yield through enhanced root development and protection

First commercial launch expected in Brazil October 2013

Expanding the microbial solutions platform

...and in partnerships with access to application know-how and route-to-market



Chr. Hansen

Chr. Hansen competences

- ▶ Strain library
- ▶ Screening & optimization
- ▶ Up-scaling
- ▶ Large scale manufacturing

Focus area

- ▶ Enter market with well documented and competitive solutions, initially with niche focus (e.g., sugar cane)
- ▶ Developing partnerships with established plant protection players

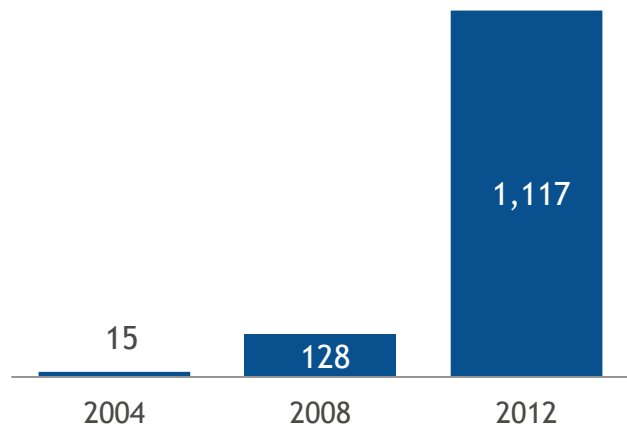
Expanding the microbial solutions platform

Research creating new insight on possibilities of bacteria



Research activity

No. of research publications on microbiome*



The human body contains 10x more bacteria cells than human cells

Key insights on microbiome

- ▶ Bacteria play an important role in human health and disease
- ▶ Connection between microbiome and indications such as diarrhea, IBS, obesity, and diabetes is subject of intense investigation
- ▶ "Proof of concept" generated for C. Difficile where bacterial transplants are emerging as a promising cure
- ▶ However, time frame is long and uncertainties are high

Expanding the microbial solutions platform

Breakthroughs could create long term commercial opportunities

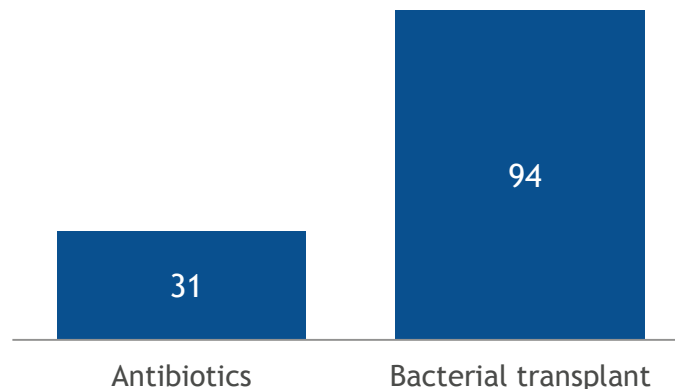


C. Difficile - a major health challenge

- ▶ C. Difficile is a bacteria causing infection of the colon - patients on antibiotics more likely to become infected
- ▶ Globally ~500,000 affected annually
- ▶ ~14,000 deaths annually linked to C. Difficile in the U.S. alone
- ▶ Historically there has been no effective cure
- ▶ Bacterial transplants - of stool from other humans - has emerged as most effective treatment

Bacterial transplants proven to work*

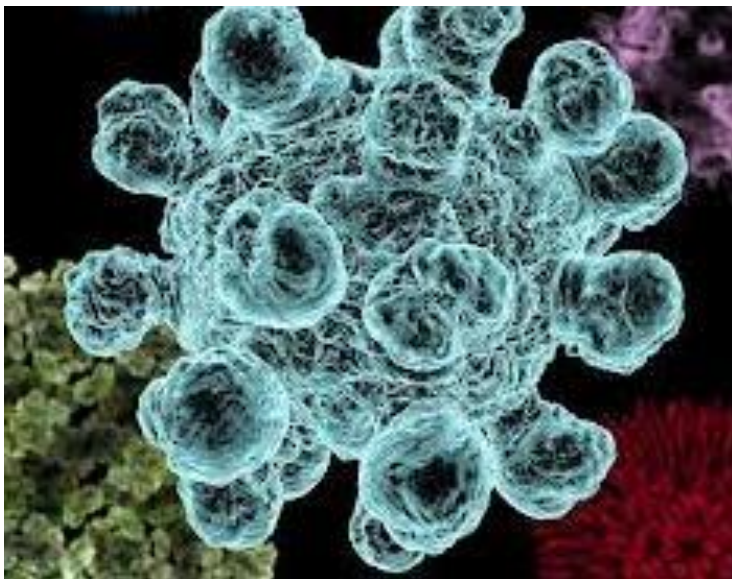
Cure rate (%)



Clinical trial was stopped midway - unethical not to offer all participants bacterial transplants

Expanding the microbial solutions platform

A long term growth option - but significant uncertainties involved



Focus area

- ▶ Limited investments ("incubator environment") to strengthen relevant competences in the plan period
- ▶ Prepared to adapt approach given the technological, regulatory, and commercial uncertainties involved

Expanding the microbial solutions platform

Conclusion



Financial ambitions (5 years)

- ▶ Average annual organic growth rate above 10%
- ▶ Plant protection is expected to add additional growth from the end of the period
- ▶ As a consequence of the increased investment level in future growth opportunities EBIT margin is expected to be around current levels during the period

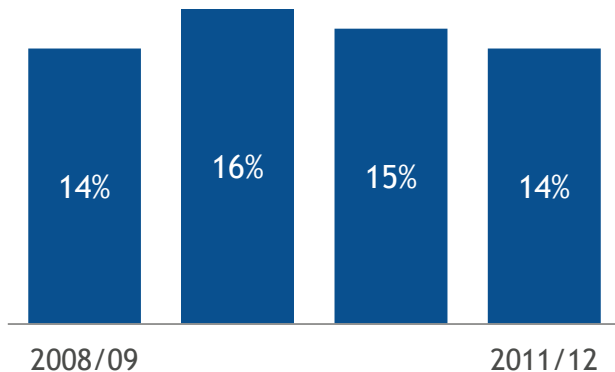
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Driving a step change in Innovation

Improvements in innovation are essential to drive growth

Innovation index*



Key focus areas

- ▶ Solutions for customer & consumer needs
- ▶ Productivity improvements in fermentation
- ▶ Clinical studies
- ▶ Plant protection
- ▶ 2nd generation probiotics

*Revenue generated from products developed within the last three years



Driving a step change in Innovation

Learning points from clinical studies on GI

Primary endpoints for the full population of the studies not met i.e. decision not to file an EFSA application (March 2013)

Further analysis of the 3 million data points obtained from the studies:

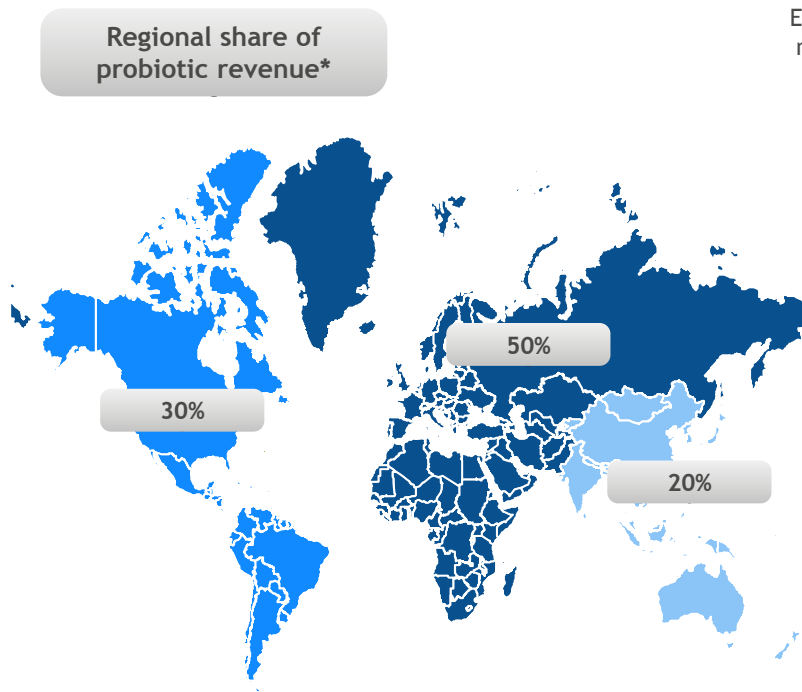
- ▶ The data confirm the beneficial effect from BB-12® on defecation frequency in certain subgroups
- ▶ The new studies add to the totality of evidence that consumption of BB-12® has a beneficial effect on the bowel function

Driving a step change in Innovation

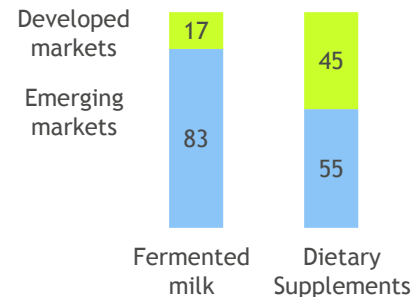
New clinical data valuable in growth markets

BB-12® status maintained as one of the world's best documented probiotics with more than 140 clinical studies backing the effect

- ▶ The results can be used by brand owners to defend consumer trust in Bifido with BB-12® the best documented Bifido
- ▶ In certain countries, such as Australia and Brazil the study results can potentially contribute to regulatory approvals



Share of global category growth**
2012-17 (%)



Driving a step change in Innovation

Future clinical study approach

- ▶ Documentation of Chr. Hansen's strains remains the most robust across the category
- ▶ Continue to differentiate through documentation
- ▶ To reinforce our position in emerging markets investments in future clinical studies will focus on countries outside EU
- ▶ Chr. Hansen will seek to conduct specific clinical studies in cooperation with larger customers
- ▶ Continue efforts to unlock the challenge of obtaining an EU health claim

Driving a step change in Innovation

Step change based on a strong technology platform & understanding customer needs



Genotype
to
Phenotype
(Strains)



Phenotype
to
Cultures

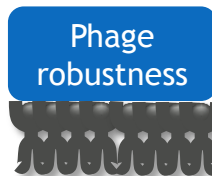
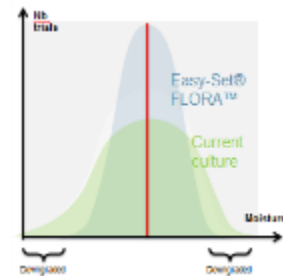
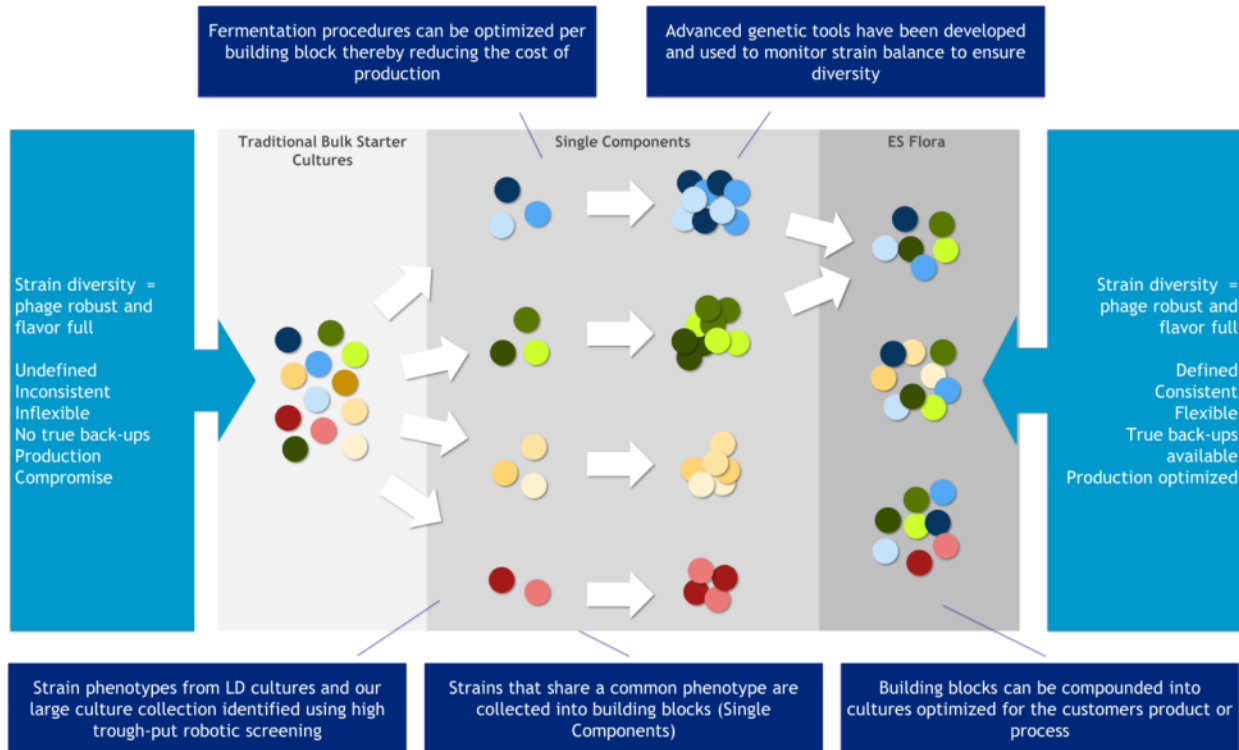


Cultures
to
application



Driving a step change in Innovation

Deep understanding of strain properties can resolve industry needs...



CHR HANSEN

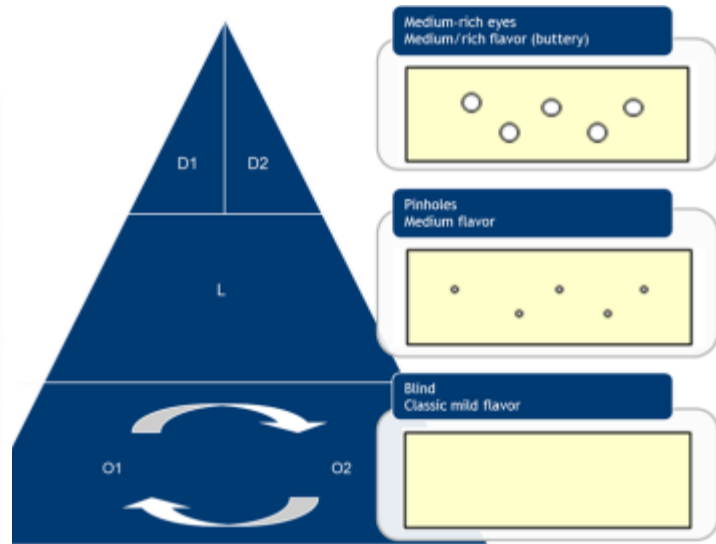
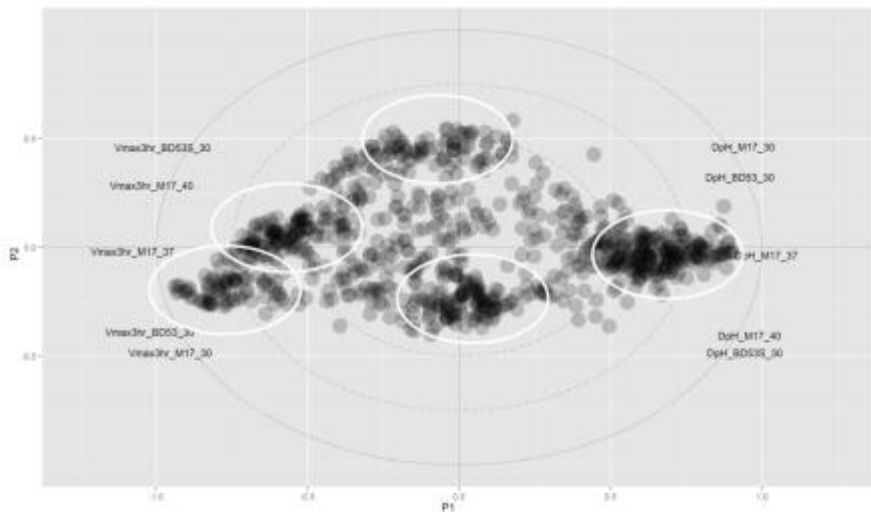
Improving food & health

Driving a step change in Innovation

...as with new Easy Set Flora solutions for continental cheese production

Strains that share a common phenotype are collected into building blocks...
(Single Components)

...which can be compounded into cultures optimized for the customers product or process



CHR HANSEN

Improving food & health

Driving a step change in Innovation

Conclusion

Key focus areas

- ▶ Utilize strong platform in driving solutions addressing customer & consumer needs
- ▶ Unlock further productivity improvements in fermentation
- ▶ Focused approach to clinical studies
- ▶ Increased investments in plant protection and 2nd generation probiotics

R&D budget

- ▶ R&D investments are expected to be around 7% of revenue

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Creating further value in NCD

Natural Colors Division

2011/12

Revenue EUR 172m

Organic growth 2%/12%

EBIT margin 16.0%

ROIC 40.5%

World leader in natural color solutions to the food & beverage industry

The colors are extracted from natural sources such as fruits, vegetables, berries, roots and seeds

Key drivers

- ▶ Conversion from synthetic to natural solutions
- ▶ Underlying category growth

Themes

- ▶ Raw materials availability and price volatility
- ▶ Application stability
- ▶ Affordability

Focus areas

Increase conversion rate to natural solutions:

- ▶ Capture emerging market conversion opportunities
- ▶ Improve cost-in-use
- ▶ Enhance product offering, e.g. coloring foodstuffs
- ▶ Deliver new transformational technologies

Creating further value in NCD

Strong conversion potential in food and beverages...

2012 Est. global food & beverages color market
(EUR millions)

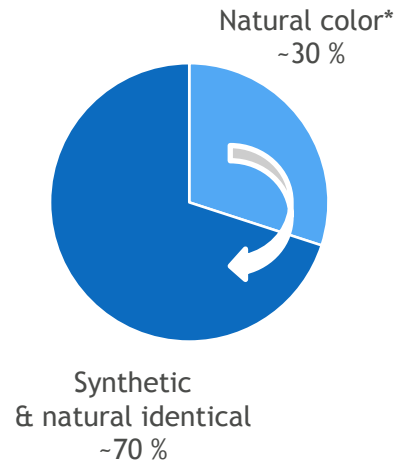


Natural
Colors*



Synthetic
& natural
identical

2012 Est. natural color
penetration
(Volume)



Natural color*
~30 %

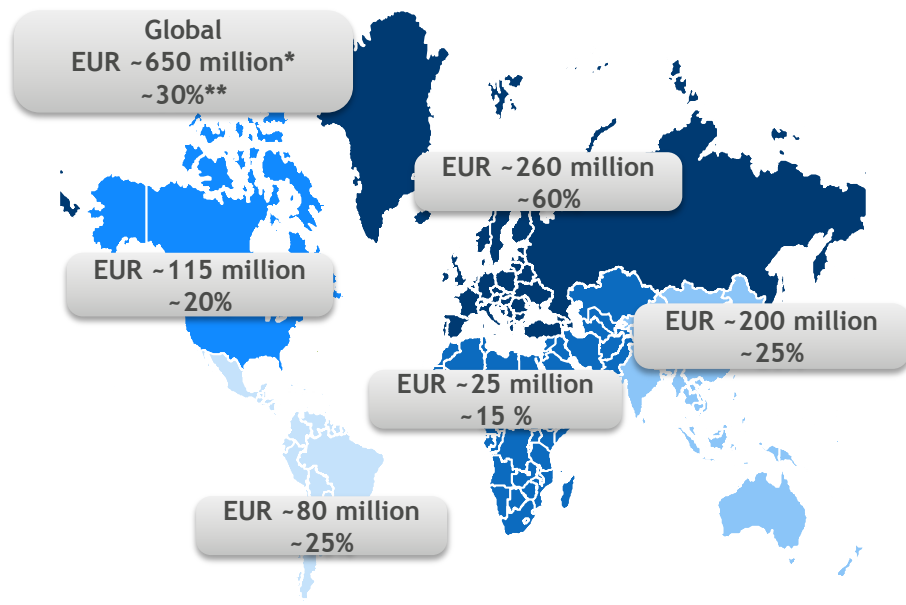
Synthetic
& natural identical
~70 %



Creating further value in NCD

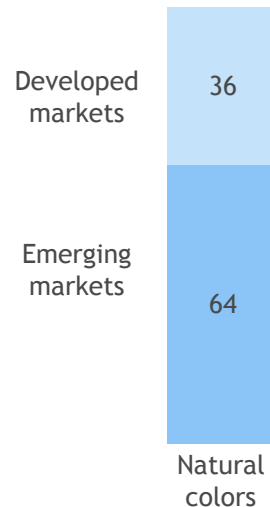
Capture the large potential in emerging markets

Current natural color market and conversion rate



Share of global category growth***

2012-17 (%)



Focus areas

- ▶ Strengthen customer intimacy
- ▶ Adapt product offering to local preferences
- ▶ Strengthen footprint in Asia (sourcing, application, production)

* 2012 Estimated global food & beverages color market for natural colors & coloring foodstuff. Management estimate

** Conversion rate measured in volume. Management estimate

*** Source: Euromonitor, management estimates

Creating further value in NCD

Improved cost-in-use solutions will speed up conversion



Focus area for value

Strategic initiatives

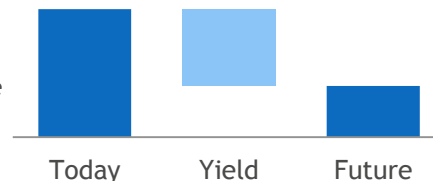
Results (illustrative)

Agronomy

- ▶ Pigment optimization through natural crop breeding programs

- ▶ External partnerships
- ▶ Internal competence building

Cost-in-use

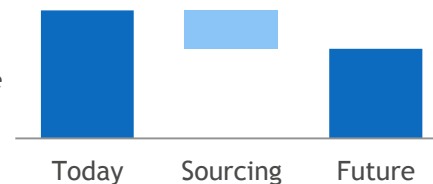


Sourcing

- ▶ Global reach, multiple suppliers, long term contracts and bundling of raw-material specifications

- ▶ Strategic sourcing partnerships
- ▶ Procurement optimization

Cost-in-use

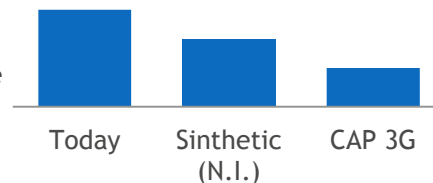


Formulation

- ▶ Enhance the color properties through e.g. encapsulation, milling and emulsion techniques Red

- ▶ Innovation drive, e.g. CAP 3G, Ultra Stable Red

Cost-in-use

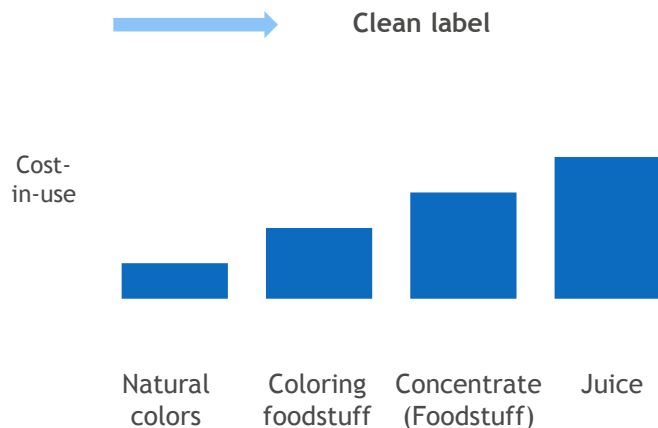


Creating further value in NCD

...as will enhanced product offering, e.g. within Coloring Foodstuff

Clear consumer preference for fewer additives has accelerated demand for coloring foodstuffs globally

Coloring foodstuff delivers clean label but increases cost in use
(illustrative)



Strategy

Position Chr. Hansen's proprietary coloring foodstuff range, FruitMax™, as the preferred industry solution

Focus areas

- ▶ Develop full product offering for focus industries
- ▶ Optimize crop and pigment yield, e.g. carrots and potatoes, to improve cost-in-use
- ▶ Enhance stability of pigments (e.g. ultra stable anthocyanin)
- ▶ Ensure stable and plentiful supply

CHR HANSEN

Improving food & health

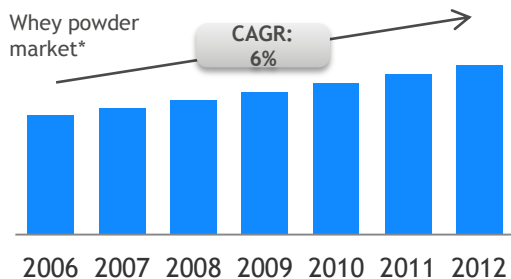
Creating further value in NCD

Innovation to deliver higher value added solutions...

Whey today

Whey is a bi-product from cheese production with high protein content

A market of approx. USD 7.5 billion



Whey potential

~50 % of all whey colored today due to use of e.g. annatto in cheddar cheese production

- ▶ Colored whey unsuitable for high-end whey products (e.g. infant)
- ▶ Baby-food manufactures not allowing annatto traces in whey going forward



Creating further value in NCD

.. Such as the DairyMax™ solution

DairyMax™

A patented solution allowing dairies to sell colored whey for infant products

- ▶ Reduced color transfer to the whey
- ▶ The whey can be used for baby food as color is beta carotene naturally occurring in milk
- ▶ Significant value creation for the dairy (whey for infant-products with a price premium of x15)



Creating further value in NCD

New technology such as fermentation can transform Natural Colors

Existing color fermentation production technology

- ▶ Open/uncontrolled fermentation (ex: Spirulina)
- ▶ Controlled fermentations of microorganisms naturally producing relevant pigment (ex: Beta carotene)
- ▶ Not commercialized
 - ▼ metabolic engineering
 - ▼ GMO plant systems

Producing carmine through a controlled fermentation process

- ▶ Project initiated in 2011 in collaboration with two Danish Universities
- ▶ Genome of Cochineal sequenced and candidate genes identified
- ▶ Work ongoing for proving concept of strain fermenting Carmine
- ▶ Potential commercialization >3 years

Creating further value in NCD

Conclusion

Focus areas

Increase conversion rate to natural colors through:

- ▶ Emerging market conversion opportunities
- ▶ Improve cost-in-use
- ▶ Enhanced product offering
- ▶ New transformational technologies

Financial ambitions (5 years)

- ▶ Average annual organic growth rate above 10%
- ▶ Increased EBIT margin over the period.

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Generating fuel for growth

Secure growth by investing into:

- ▶ Innovation with R&D ~7% of revenue
- ▶ Emerging markets
- ▶ Exploration of new growth opportunities within
 - ▼ Animal health
 - ▼ Plant protection
 - ▼ Second generation human health solutions

Generating fuel for growth:

- ▶ Productivity
 - ▼ Expansion of fermentation capacity
 - ▼ Insourcing of freeze dried culture capacity
 - ▼ Further optimization of production footprint
- ▶ Efficiency
 - ▼ Further strengthening global processes
 - ▼ Continued optimization of yield and scrap rates
- ▶ Cost discipline

Generating fuel for growth

Financial ambitions

Organic growth of 7-10% per year



Generating fuel for growth










Change in capitalization level of development projects

IAS 38, Intangible assets Recognition criteria's

Expenditures on internal development projects shall be capitalized if

- ▶ Future economic benefits will flow to the company
- ▶ Cost can be measured reliable
- ▶ Specific recognition criteria are satisfied

Chr. Hansen approach

Technical likelihood	Commercial likelihood		
	High	Medium	Low
High			
Medium			
Low			

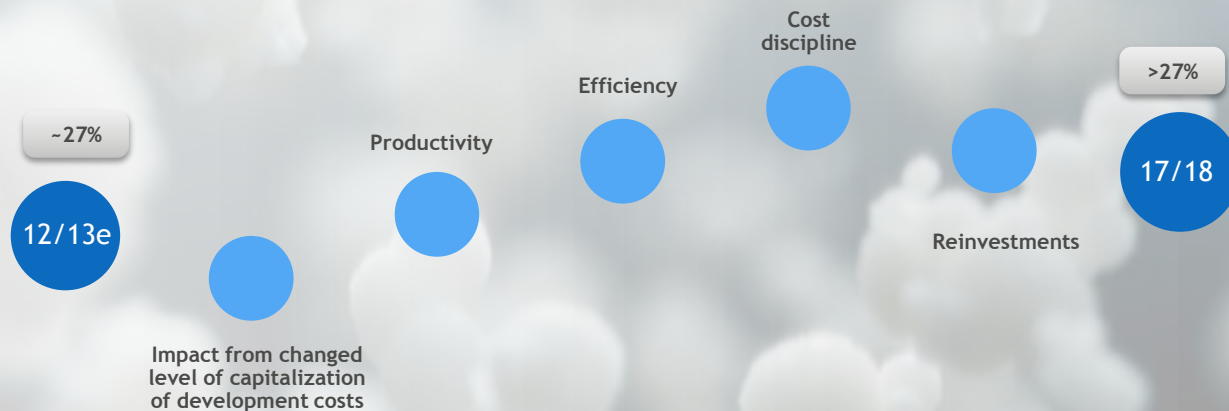
Impact from changed level of capitalization

- ▶ Negative impact on EBIT margin especially in the first years of the period
- ▶ No cash flow effect
- ▶ No impact on R&D ratio

Generating fuel for growth

Financial ambitions

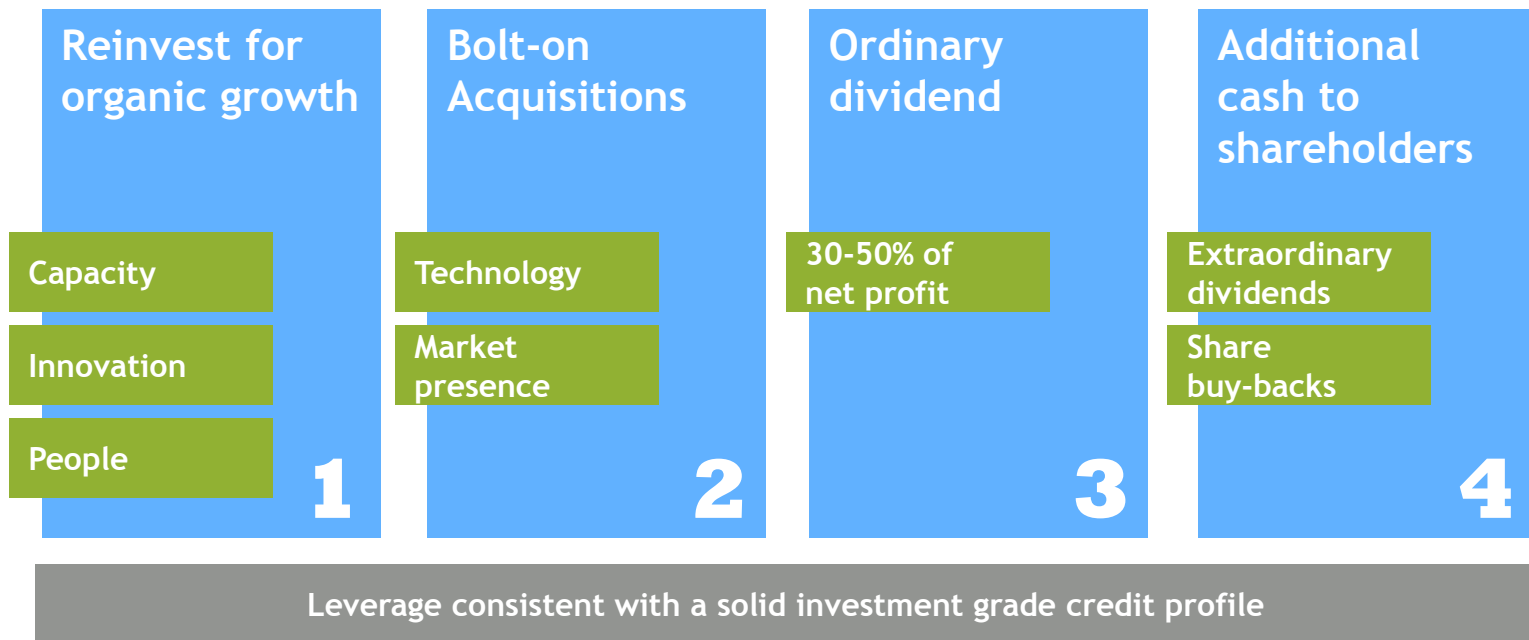
Improved EBIT margin* over the period



Increased free cash flow before acquisitions and divestments

Generating fuel for growth

Capital allocation priorities



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Conclusion

- 1 Fully leveraging the potential of CED
- 2 Developing the microbial solutions platform in HND
- 3 Creating further value in NCD
- 4 Driving a step change in innovation
- 5 Reinforcing position in emerging markets
- 6 Generating fuel for growth

Financial ambitions

Organic revenue growth of 7-10% per year

Improved EBIT margin* over the period

Increased free cash flow before acquisitions and divestments

Nature's **1**
no.