



Evonik Nutrition & Care

22 November 2017

Exane Consumer Ingredients Conference

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Member of Management Board Nutrition & Care Segment

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Head of Business Line Personal Care

Implications of Evonik strategy for Nutrition & Care segment

Portfolio: “More balanced - more specialty”



Customer-focused
innovation

Open & performance-
oriented culture

Strategic focus on **growth engines**

Upgrading Nutrition & Care **portfolio**:
“More balanced - more specialty”

Drive **innovation** around more sustainable food chain
and “natural” trend in Health & Care

Strategic growth focus of Nutrition & Care

Addressing three growth engines as drivers for profitable & balanced growth

Growth
engines

NUTRITION & CARE



Health & Care



Specialty Additives



Animal Nutrition

RESOURCE EFFICIENCY



Smart Materials

Strategic growth focus of Nutrition & Care

Serving end markets with robust and resilient growth

End markets and growth rates¹

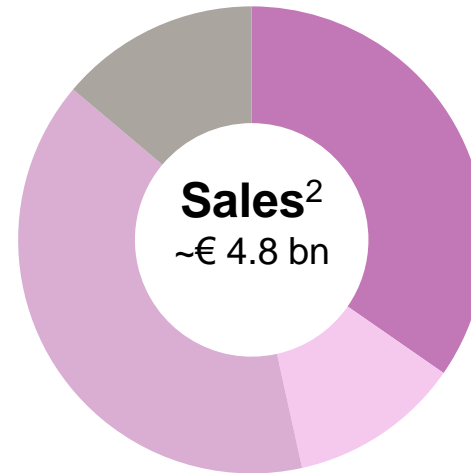


Animal Nutrition

Food and feed

Amino acids: ~6%
Aquaculture: >10%

Other



Health & Care

Consumer goods and personal care

Skin care: ~5%
Hair care: ~4%
Diapers: ~5%
Fabric care: ~3%

Pharma and health care

Pharma: ~5%

1. Expected end market growth rates p.a. according to industry reports and Evonik estimates

2. 2016 numbers; pro-forma including APD PM

Portfolio strategy

Growth strategy along the three growth engines

Organic growth projects

Bolt-on acquisitions

Growth engine
Specialty Additives



Specialty Silicones

Inauguration Shanghai,
September 2017

Growth engine
Animal Nutrition



New Lysine plant

Start-up Parana (Brazil),
July 2016



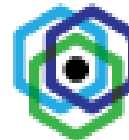
Methionine

Groundbreaking
Singapore, Oct. 2016



MedPalett AS, Norway

Advanced Food
Ingredients



Transferra Nanosciences, Canada

Healthcare Solutions

drstraetmans

Dr. Straetmans, Germany

Cosmetic Solutions

ECOBIO[®]

Norel Probiotics, Spain

Sustainable Nutrition

Growth engine
Health & Care



Portfolio development “Animal Nutrition”

Strengthening position as innovative partner & reliable supplier

Major market trends

Efficiency

- Low-cost feed formulation
- Efficient use of nutrients

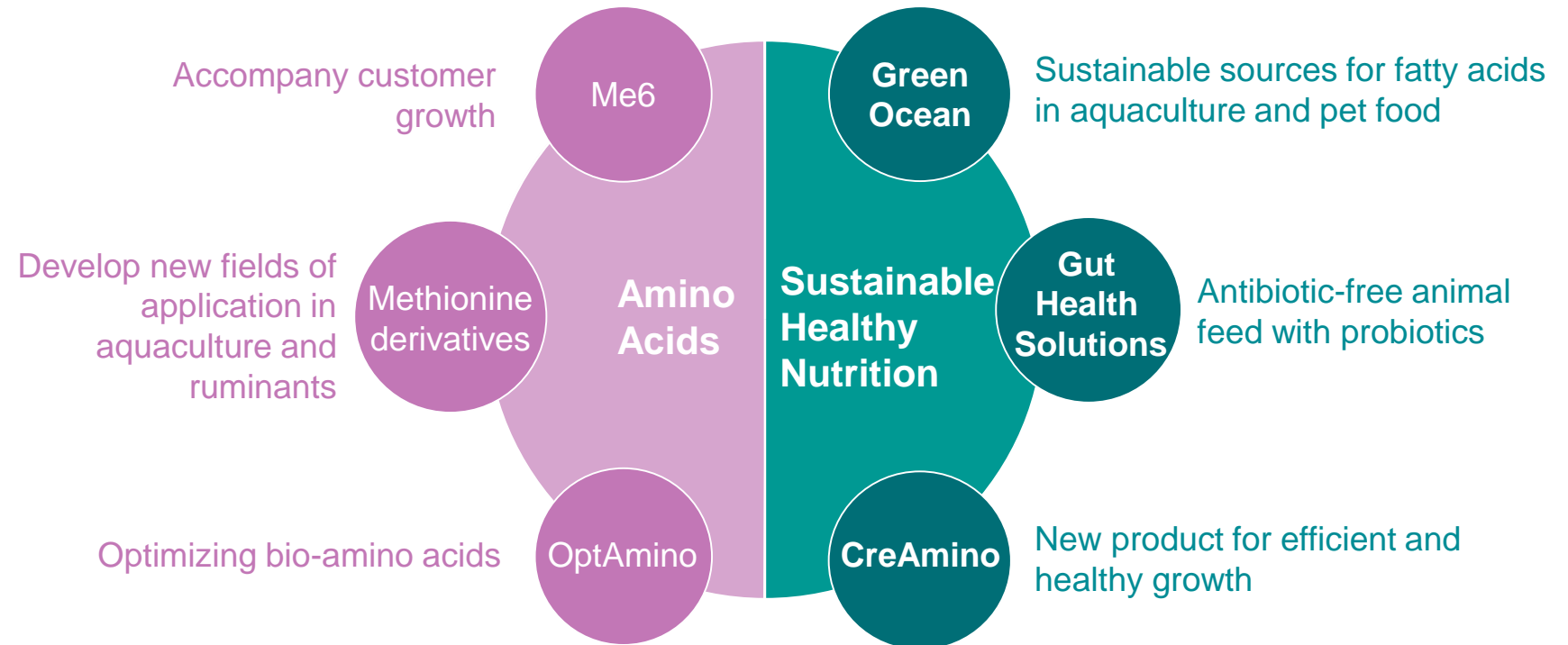
Ecology

- Modern nutritional concepts
- Improved livestock farming

Food safety and quality

- Animal health
- Safer and healthier food

Portfolio Animal Nutrition



Portfolio development “Health & Care”

Expansion plans for most attractive growth areas

Strategic growth areas

Health Care



- Further expansion of attractive drug delivery business

Food Ingredients



- Expansion via own developments and targeted bolt-on acquisitions
- Establish a consumer sales platform

Personal Care



- Portfolio shift towards higher share of specialties

Innovation

Nutrition & Care products with direct impact on sustainability

Sustainable food chain

Helping to ensure a **sustainable food chain** for 9 billion people ...

GutCare® PY1

... by reducing the ecological footprint in **food protein production** (e.g. GutCare PY 1 probiotic)

Veramaris™
Omega 3 fatty acids

... by lowering risk of **over-fishing** as demand for seafood rises (e.g. Veramaris JV for high value omega-3 fatty acid products produced from natural marine algae)

... with **natural compounds** for advanced food ingredients (e.g. MEDOX dietary supplement)



Sustainable products

Addressing the need for **more sustainable products** ...



... by responding to the overall **“natural” trend in cosmetics** (e.g. TEGO® Solve 55, naturally based solubilizer)



... by enabling the commercial viability of **biosurfactants** (e.g. for Ecover cleaning products)



... by reducing the **ecological footprint** to meet new standards in various industries (e.g. textile, agrochemicals, adhesives)



EVONIK

POWER TO CREATE



Evonik Personal Care The Soul and Science of Beauty

22 November 2017

Exane Consumer Ingredients Conference

Dr. Tammo Boinowitz

Head of Business Line Personal Care

Evonik Personal Care: Our business in 30 seconds

We hold more than

300

products in our portfolio

We deliver in over

100

countries worldwide

We tailor our products
for more than

1,000

direct customers
worldwide

< 0.2%

product quality complaint rate

20%

innovation rate

More than

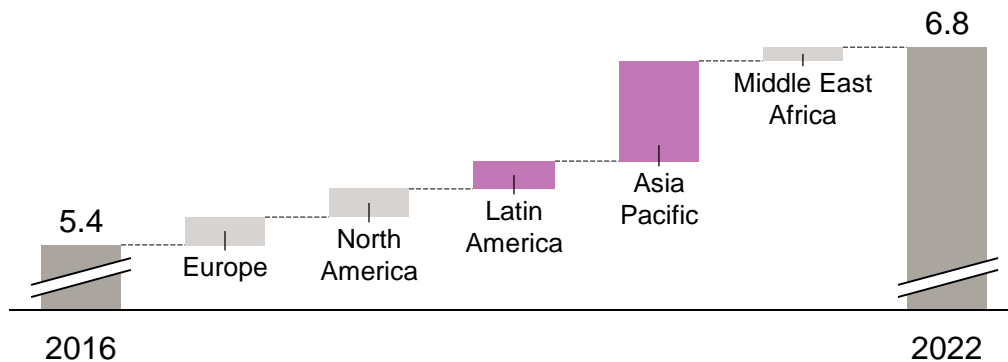
100

employees for technical support

Evonik Personal Care has been successful in an attractive market

Relevant market development (€bn)

Robust Market growth: 4-5%



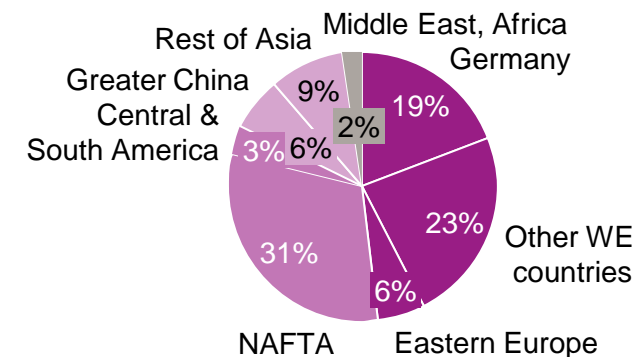
Market dynamics

- Strong growth in emerging countries, especially in China and Brazil, i.a. driven by rising consumer income and wellbeing trend
- Demand for Active Ingredients in Skin Care cosmetics – anti-aging, anti-wrinkle, sunscreens, especially in developed markets
- Innovations needed by cosmetic manufacturers for brand differentiation

Evonik Personal Care KPIs

- **Sales growth 2014-2017e with ~6% above market growth** (5% without acquisitions)
- Substantial EBITDA and margin improvement during recent years
- **Market share: ~7%**

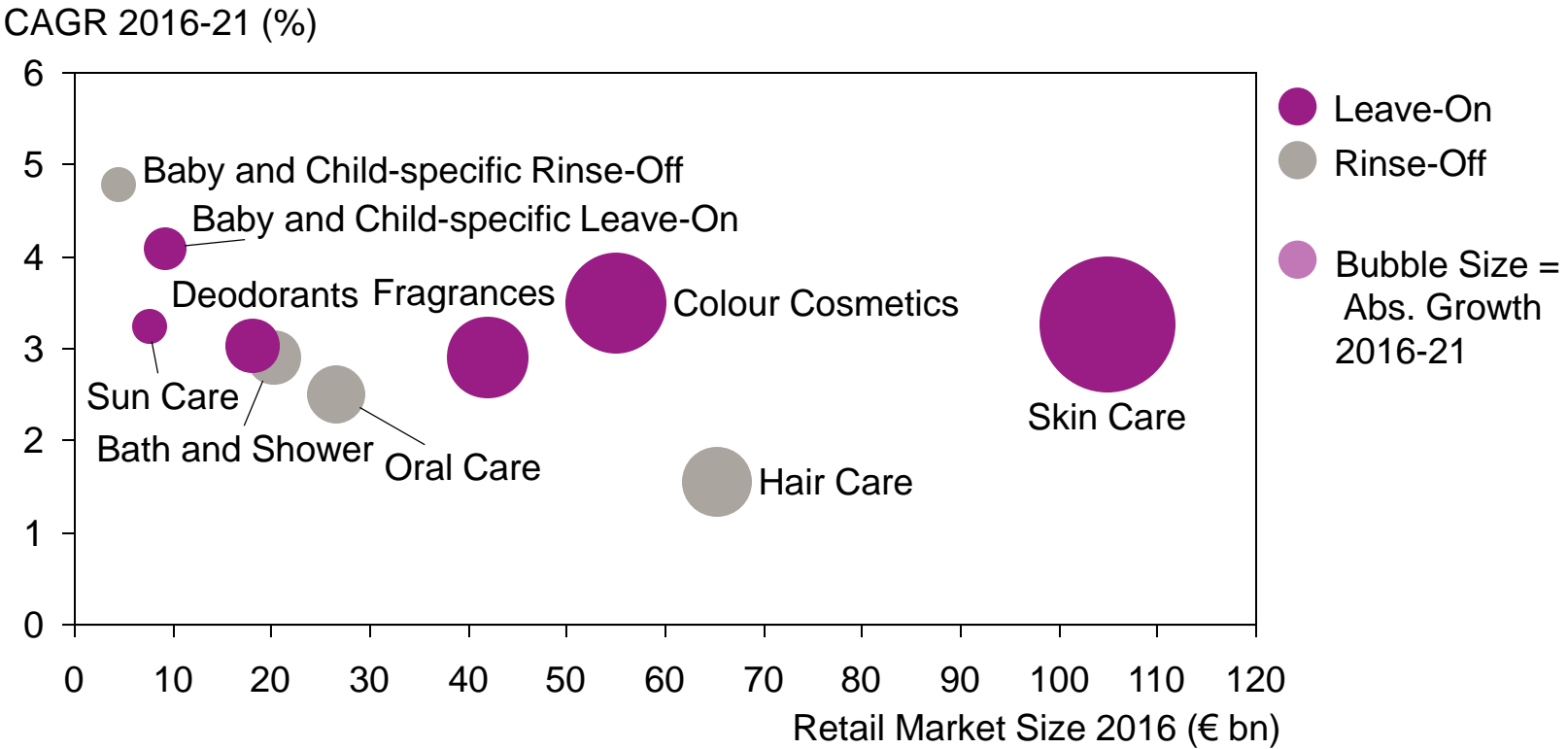
Regional sales split – 2016



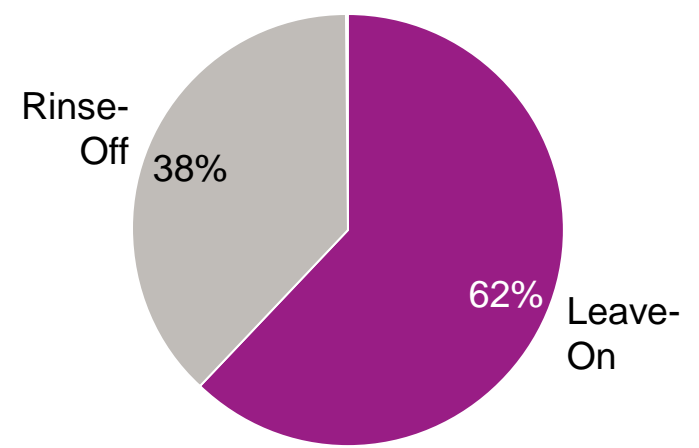
Leave-On is the larger and stronger growing category

Evonik participates with key product groups

Retail Market Size and Growth by Application - 2016



Retail Market Size by Category - 2016









Total w/o Fragrances: €320 bn

Source: Euromonitor Passport Database, retail market size at constant prices, 2016 fixed exchange rate, Evonik Personal Care relevant applications only

* Actives are mostly used in Leave On applications

Personal Care offers key Ingredients for all main cosmetic applications

Overview of BL setup

Cosmetic Ingredients Market		Skin Care	Sun Care	Deodorants	Color Cosmetics	Hair Care	Bath & Shower
	Main Applications						
	Market Trends & Growth Drivers	<ul style="list-style-type: none"> ▪ Strong growth in emerging markets backed by increasing disposable income ▪ Growth demand for anti-aging products backed by demographic development ▪ Trend towards natural and sustainable products ▪ Increased regulatory hurdles 					
	Ingredients Market Size 2016 / CAGR '16-'22e	€3.1 bn 4-8%				€2.3 bn 3-5%	
Evonik	Evonik Categories	Leave-On				Rinse-Off	
	Product Groups	<ul style="list-style-type: none"> ▪ Active Ingredients ▪ Emulsifiers ▪ Emollients ▪ Performance Additives 				<ul style="list-style-type: none"> ▪ Surfactants ▪ Conditioners ▪ Performance Additives ▪ Emollients ▪ Active Ingredients 	
	Sales Growth (CAGR '14-'17e)*	~6%				~5%	

Recent Evonik Innovations building on broad technology portfolio



AP/Deo

TEGODEO® PY 88 G

The highly effective, ECOCERT approved odor absorber.



Skin care

ABIL® EM 180

High performance emulsifier for challenging W/O emulsions.



Hair care

VARISOFT® EQ 100

100 % active conditioning agent with improved sustainability profile.



Sun care

TEGO® Care PBS 6

Versatile PEG-free O/W emulsifier for challenging fluid emulsions.

Personal care applications



Color cosmetics

TEGOLON® 12-10

Ultrafine polyamide powder for use in color cosmetics.



Body wash

TEGO® Betain P 50 C

The cost efficient, concentrated surfactant based on palm kernel oil.



Men's care

SPHINGONY®

Naturally occurring, skin-identical molecule termed hair cycle balancer.

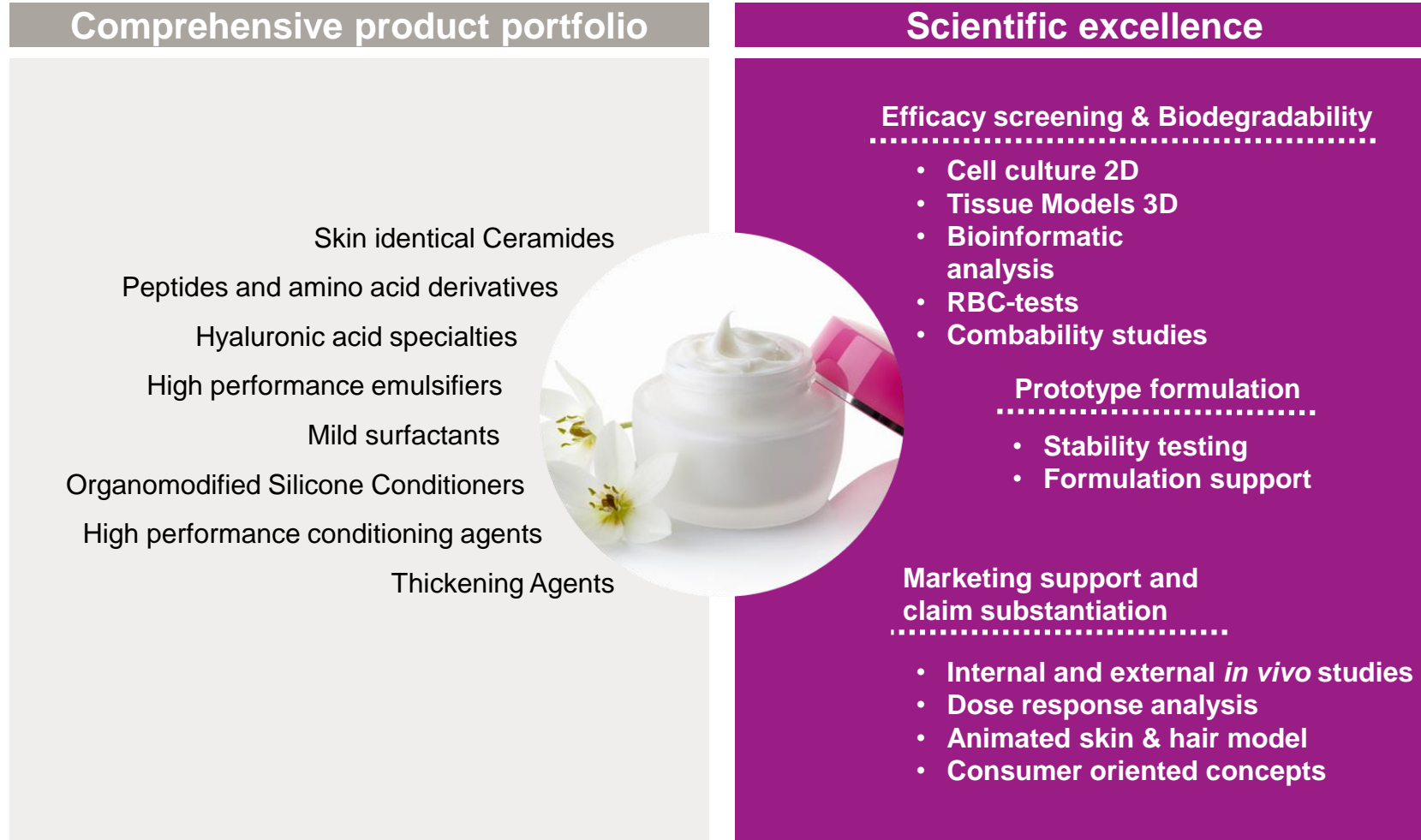


Face care

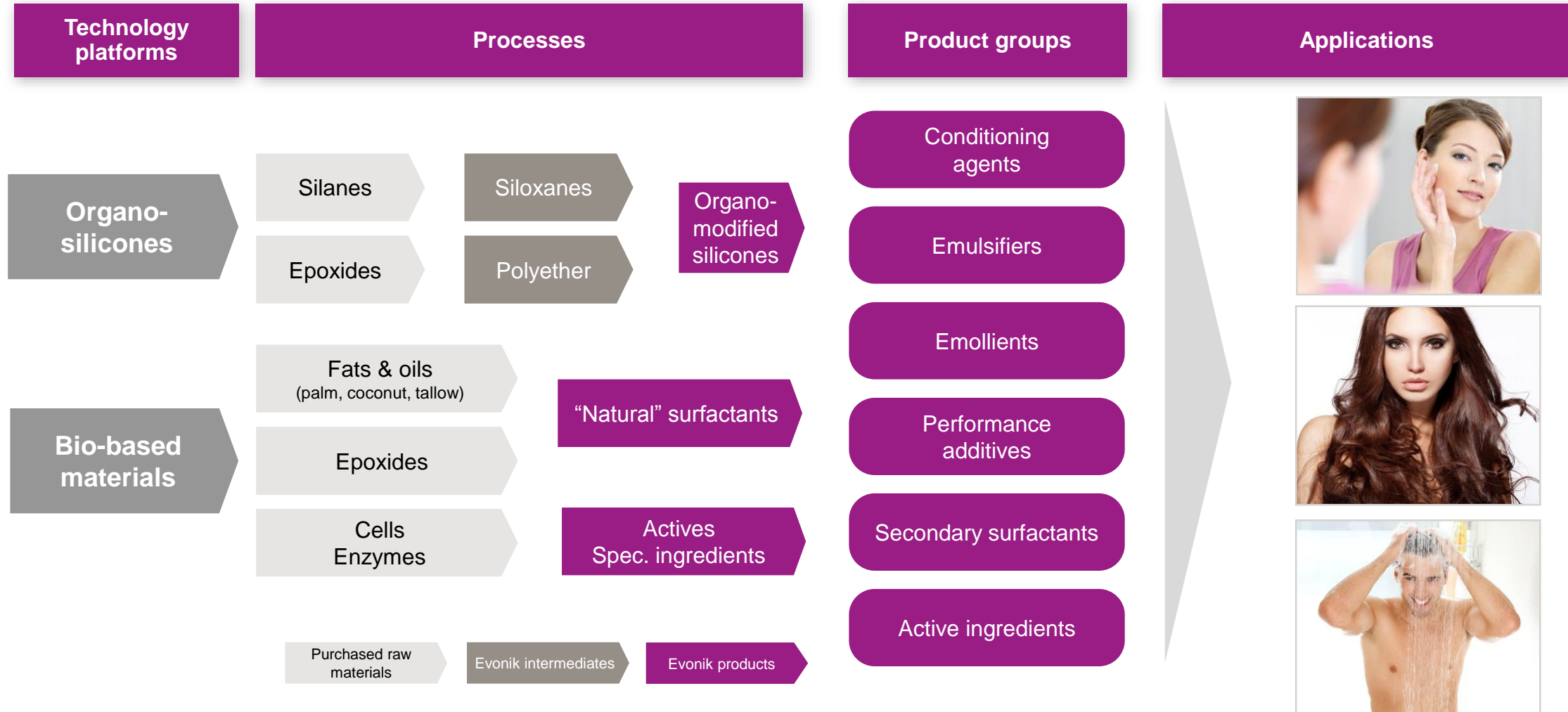
CERAMIDE III

High purity skin-identical lipid to regenerate affected skin.

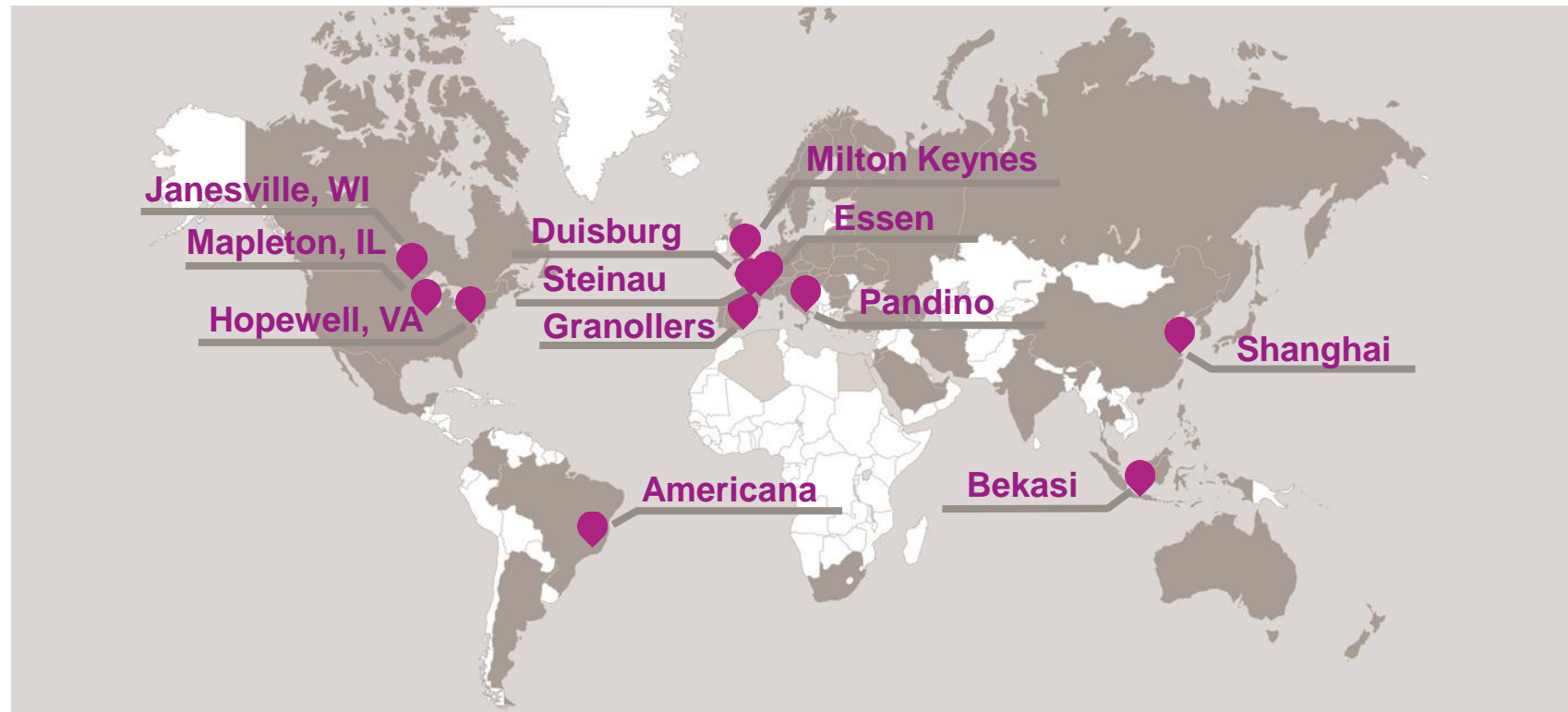
Our business model






Our products are based on Silicone-, Oleo- & Biochemistry



We are where our customers are



Our recent acquisitions have strengthen our specialty business

	Alkion	PMD Personal Care	Dr. Straetmans
			
Location & no. of employees	Tours, France 7	Schluechtern, Germany 13	Hamburg, Germany 65
Products & Services	<ul style="list-style-type: none"> ▪ Botanical Extracts ▪ Development service 	<ul style="list-style-type: none"> ▪ Polymeric and Liposome delivery systems 	<ul style="list-style-type: none"> ▪ Alternative preservatives ▪ Formulation service
Competitive Edge	<ul style="list-style-type: none"> ▪ Cell growth technology is independent from seasonality and sourcing of plants ▪ Batch to batch reproducibility 	<ul style="list-style-type: none"> ▪ Claims substantiated by advanced tests and panel studies ▪ Customers include leading international manufacturers 	<ul style="list-style-type: none"> ▪ Strong customer intimacy, tailor made customer solutions ▪ Products and formulations for the “natural” consumer trend

Evonik Personal Care.

As a specialist in ingredients and concepts for effective skin, hair and body care products, we combine scientific excellence with passion. That means we always work according to the highest ethical and scientific principles – and we always put our hearts into our work.

**That's what we call:
The Soul & Science of Beauty.**



EVONIK

POWER TO CREATE

Segment overview

What our businesses have in common

Structural growth trends



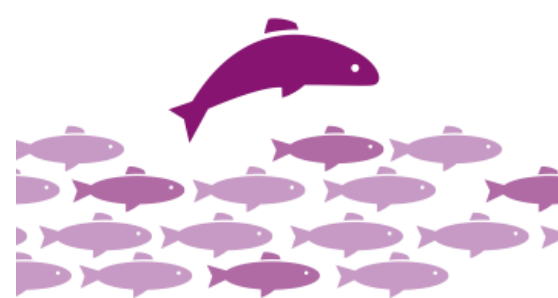
We serve growth markets fueled by megatrends with a direct and immediate link to our business.

Globalization



We fulfill basic human needs in a globalizing world.

Differentiation



Our common strategic goal is to strive for differentiation.

Future success



We are a group of businesses with an equally promising future.

Segment overview

Portfolio of seven Business Lines

Nutrition & Care Business Lines

Growth
Core



Animal
Nutrition



Health & Care



Specialty
Additives

Business
Lines

Animal
Nutrition



Health
Care



Comfort &
Insulation



Baby
Care



Personal
Care



Interface &
Performance

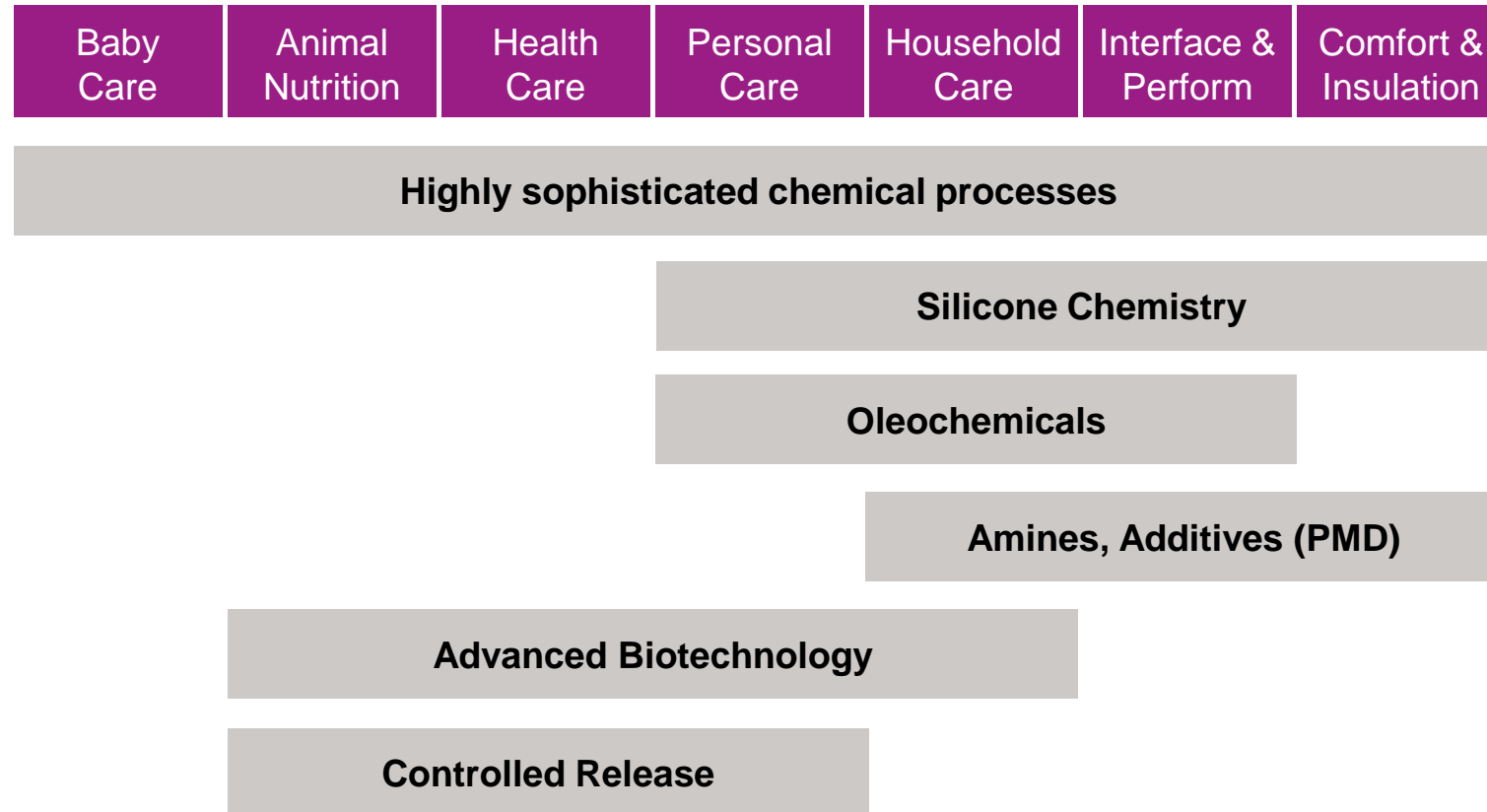


Household
Care



Our shared technology platforms are the backbone for innovation and growth

Nutrition & Care shared technology platforms



Nutrition & Care:

We are the home of strong technology platforms

We can create extraordinary solutions from a huge and diverse skill set

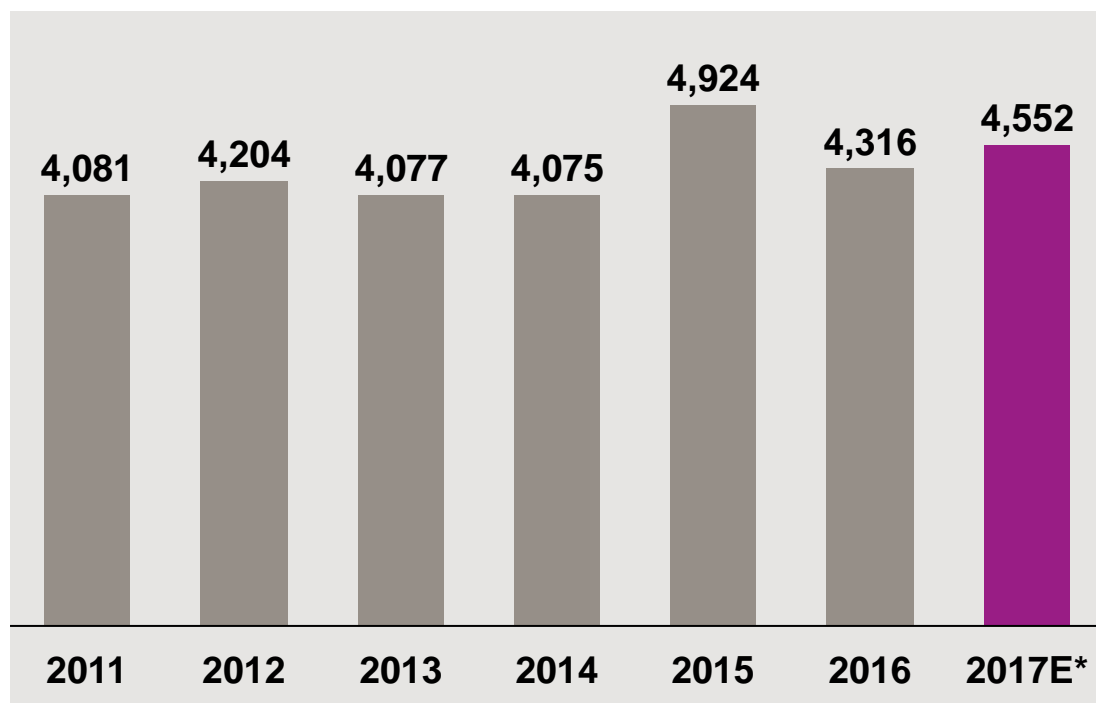
We enable our customers for differentiating solutions in their business

Technology platforms enable for >90 % of Nutrition & Care sales

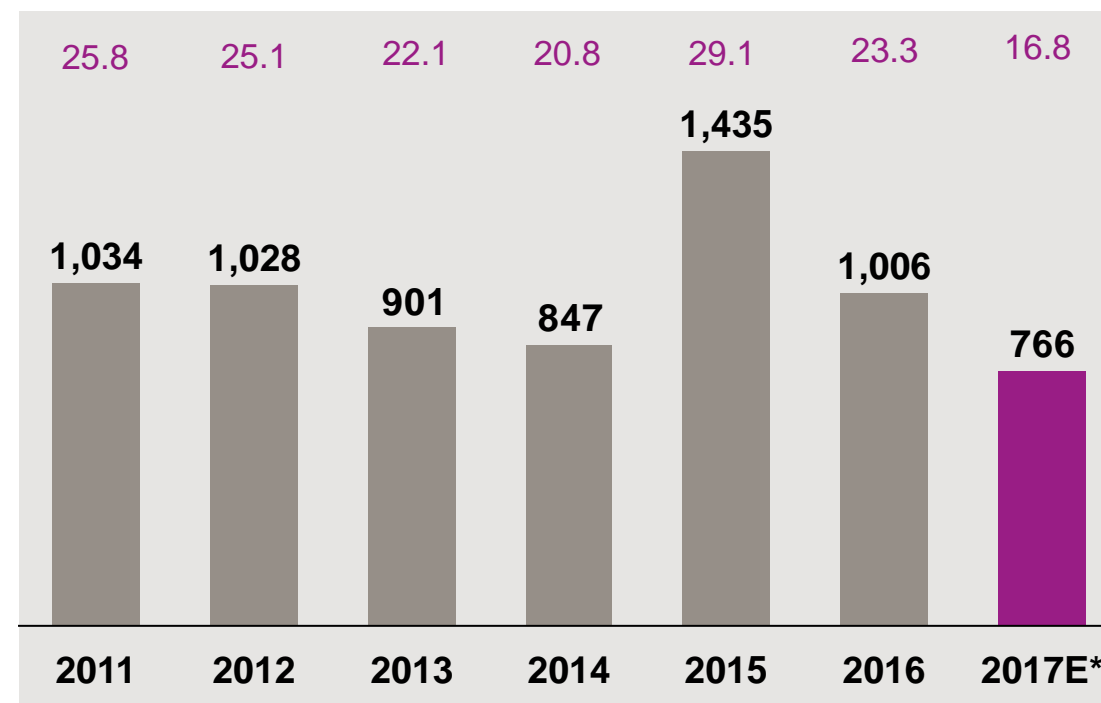
Nutrition & Care (1/2)

Financial overview

External Sales (€ m)



Adj. EBITDA (€ m) and margin (%)

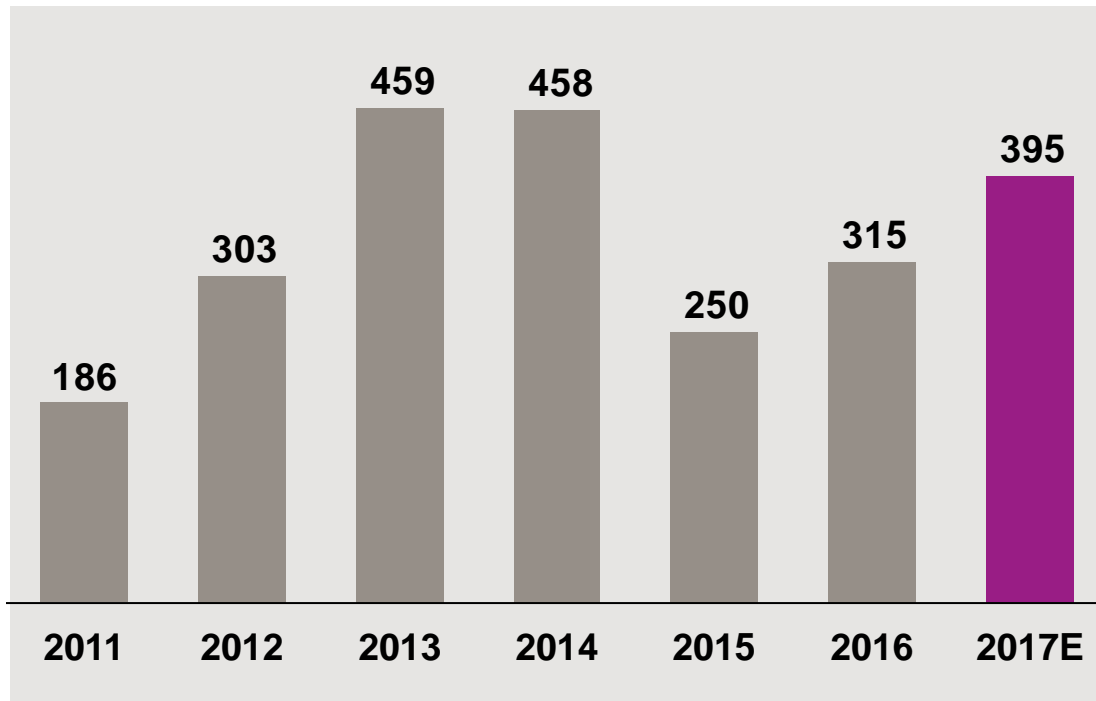


* Vara consensus on Evonik as of October 17th 2017

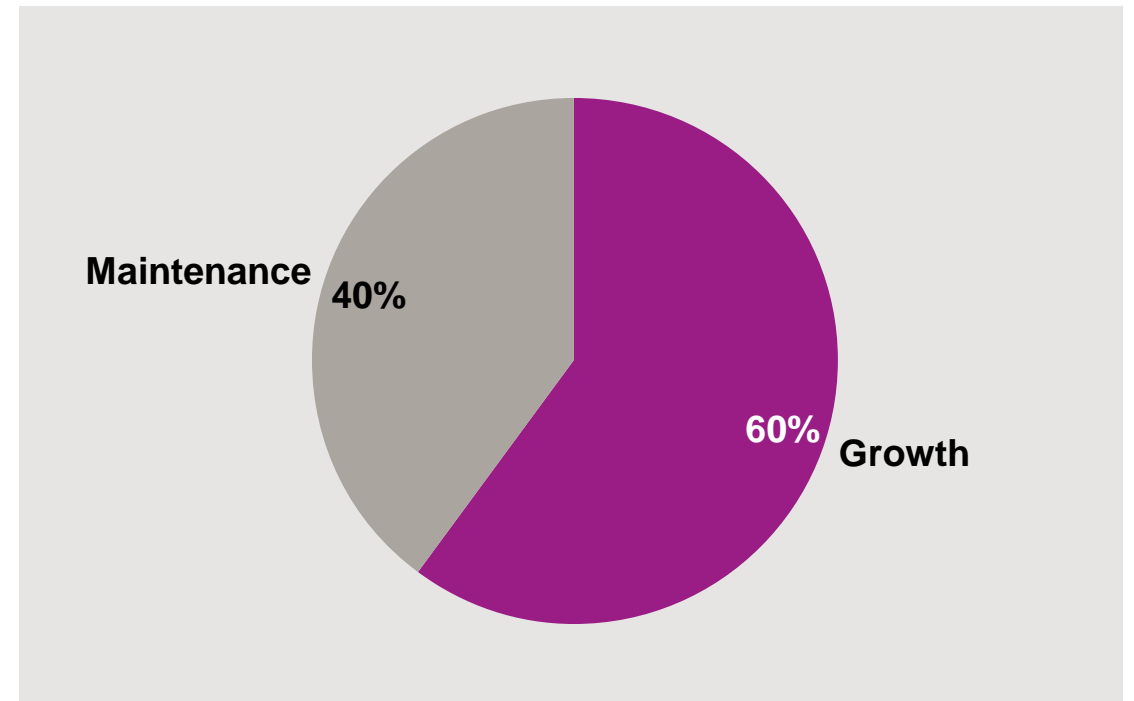
Nutrition & Care (2/2)

Financial overview

Capex development (€ m)



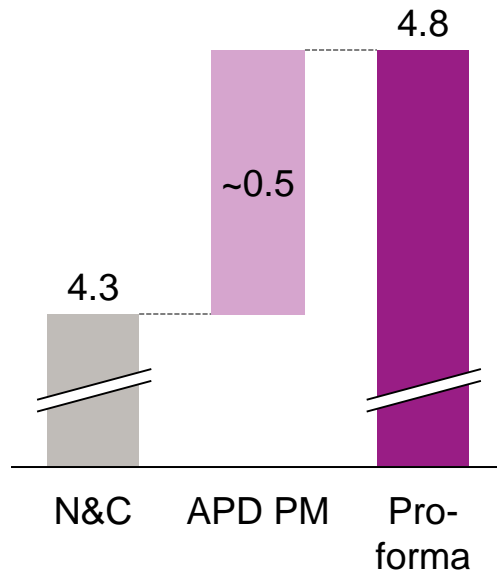
Capex Split 2016



APD PM acquisition and strong underlying growth strengthen resilience of Nutrition & Care

Nutrition & Care Sales 2016 incl. APD PM

(€ bn)

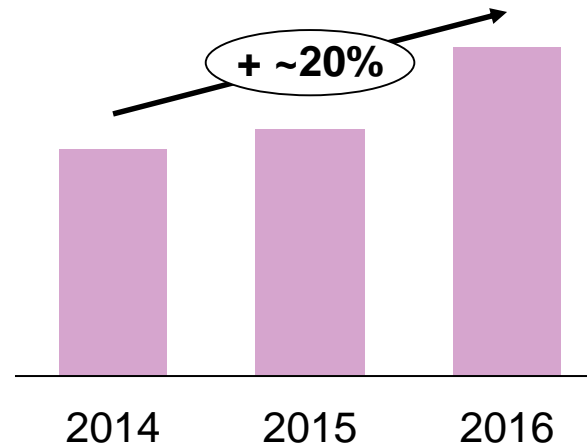


Main businesses strengthened:

- Comfort & Insulation
- Household Care
- Interface & Performance

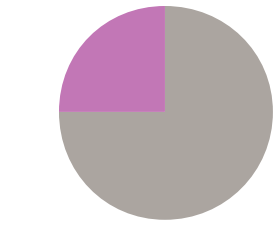
N&C EBITDA excl. Animal Nutrition & Baby Care

(€ bn)



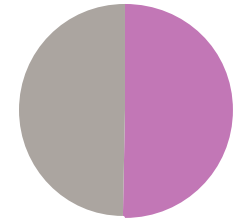
Indicative EBITDA share

2015



less than 1/4

2017E
(incl. APD PM)



more than 1/2

- Animal Nutrition + Baby Care
- N&C excl. AN + BC

Markets and technologies



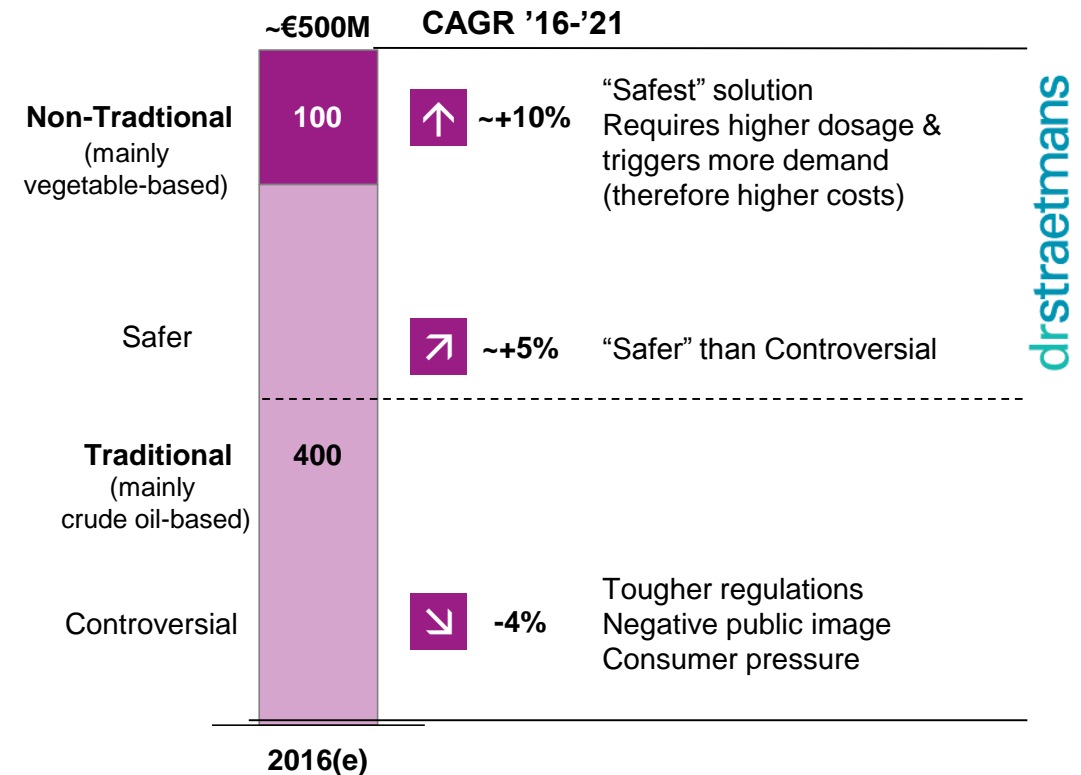
Acquisition of Dr. Straetmans

Sustainable preservation with state of the art multifunctionals

Preservatives

- Preservatives are an essential part of any cosmetics formulation preventing product deterioration (e.g. via oxidation) → important cross-sectional technology
- Trend towards non-traditional preservatives due to criticism of traditional preservatives (e.g. possible estrogenic effects of paraben)
- Use of non-traditional preservatives is more complex and requires higher dosages and higher application and formulation know-how

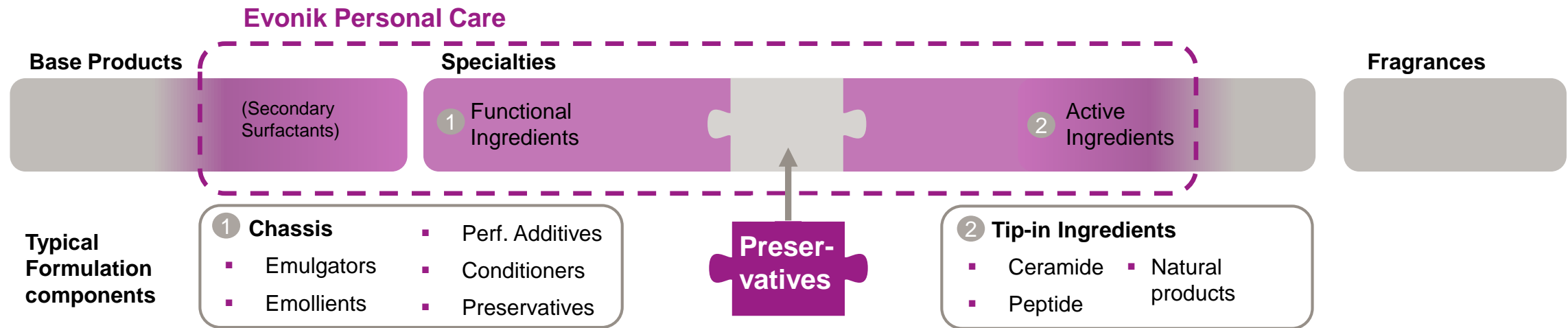
Market shift to high-growth non-traditional preservatives



Source: Expert interviews, Advancy analysis

Acquisition of Dr. Straetmans

Helping Evonik Personal Care to become a wide technology player



Strategic rationale

- Combination of preservatives know how of Dr. Straetmans with emulsifier know how of Evonik
- Expanded formulation skills in one hand, thus enhanced capability to offer formulation packages
- Reduced development time and costs for customers

What's next: Evonik Growth Field Cosmetic Solutions – a comprehensive initiative to drive Personal Care's growth

Innovation pipeline - BL internal



Growth with existing specialty business



New product pipeline



R&D Cluster:
Sensory, Microfluidics,
Carbohydrates, Actives



Rhamnolipids

Close to existing Personal Care business

New competencies - BL + Evonik + external



Personal Care Business of other
Evonik BLs



New competencies for customer
interaction



Projects with
Corporate Innovation / Creavis



Acquisitions beyond Alkion,
Air Products and
Dr. Straetmans

Close to existing Evonik competencies

The spirit of innovation at Evonik Personal Care

We live expert technical support to gain...



Direct interaction

Modern R&D structures and the direct interaction with our customers are essential for the rapid conversion of ideas into innovative products.



Focus on megatrends

Major impetus in the creation of new products derives from our awareness of global megatrends and the growing desire for sustainable products.



Sense for sensory appeal

Understanding the increasing importance of the sensory performance of cosmetic formulations, we emphasize our focus on developing ingredients for an improved consumer experience.



Chemical competencies & application know-how

Combining chemical competence with application know-how enables us to achieve the rapid implementation of new products and concepts.

...your tailor-made performance advantage

Trustworthy brands

TEGO®

High performance
surfactants & emulsifiers

HyaCare®

Hyaluronic Acid

ABIL®

Silicone specialties

ANTIL®

Rheological modifiers

SK-Influx®

Ceramide blend

VARISOFT®

High performance conditioning

TEGOSOFT®

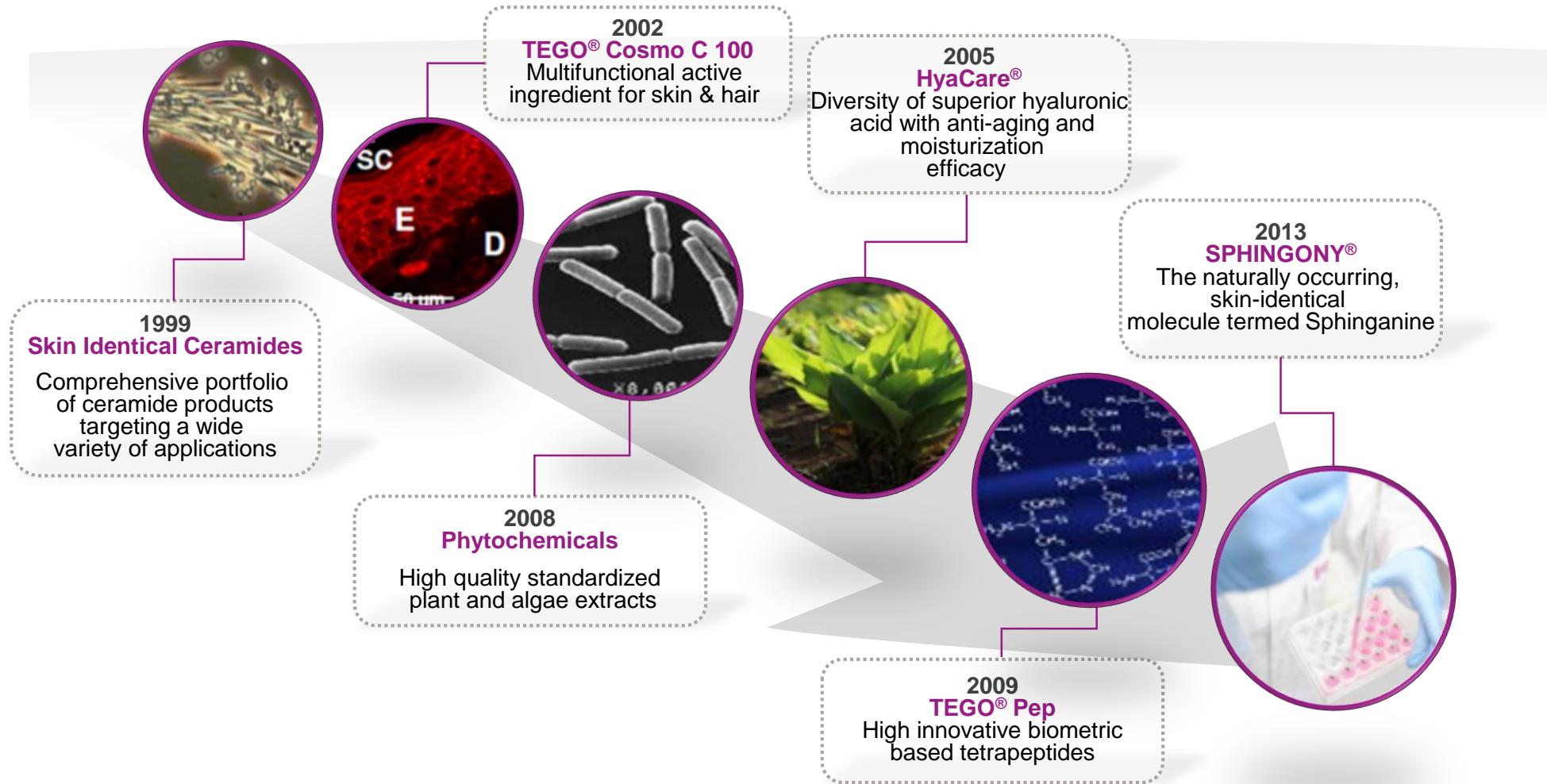
Versatile emollients

Active ingredients.

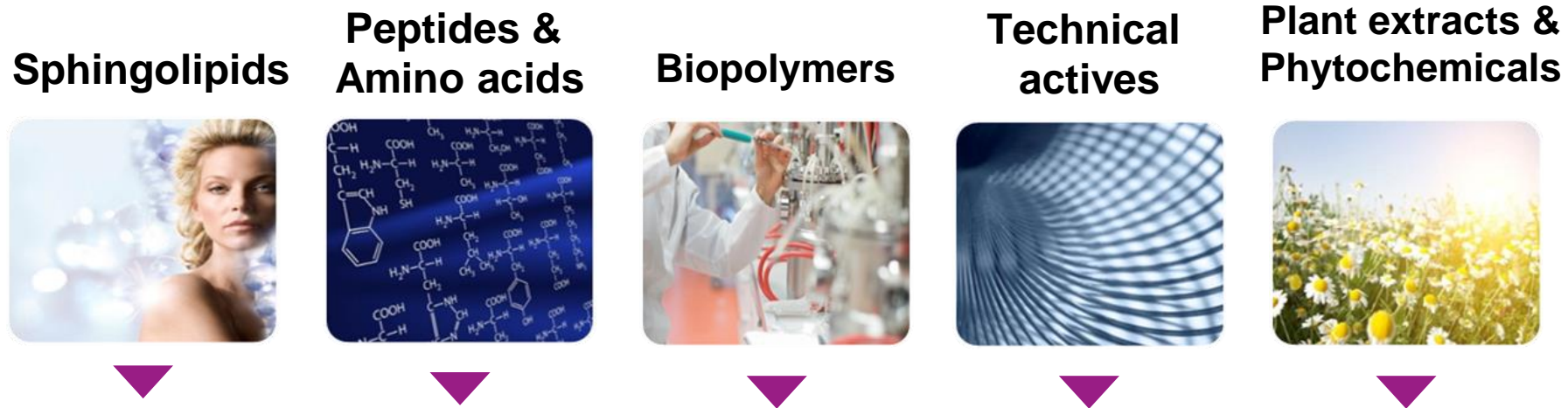
Because actives matter.



Our track record in actives



Five technology platforms for innovative solutions



Our active ingredients generate claimable benefits



Leave-On

Formulate for sensations



Leave-On product groups

Emulsifiers

An innovative and comprehensive portfolio based on various technologies like silicone & polyglycerin specialties reflecting Evonik's leading position in this area

Sensory Additives

Products using natural and synthetic technologies to obtain the desired sensorial appeal

Emollients

Classical emollients combined with emollients based on a sustainable, unique Evonik propriety technology

One idea of formulation for perceptions, three ways to achieve natural sensorial benefits.

Perceptions.

TEGOLON® ECO 10-10

Fully vegetable-based polyamide particles for high oil absorption and a pleasant skin feel.



Feeling.

TEGOSOFT® AC

A natural emollient with a light skin feel.

TEGOSOFT® OER

A vegetable-based ester with a caring smooth and non-oily skin feel.



Natural performance.

TEGO® Care PBS 6

A natural emollient with a light skin feel.

TEGO® Care PSC 3

A natural, cost-efficient O/W emulsifier with excellent performance.



Rinse-Off.

Different hair types, perfect conditioning.



Rinse-Off product groups

Conditioner

An innovative and comprehensive portfolio based on various technologies like e.g. siliconequats and esterquats to respond to high performance demands of the market

Surfactants

The leading position in secondary surfactants with Betaines, Sulfosuccinates and Amphoacetates

Functional additives

Products using different chemistry to help creating right textures, visual appearance based on sustainable, unique Evonik propriety technology

One hair competence, three three facets

1 Naturally vital.

TEGO® COSMO C 100

Highly pure and water soluble – The nature identical amino acid derivative with revitalizing properties.

Inner Hair
Strengthening

2 Softer, smoother and voluminous.

ABIL® ME 45

Extraordinary manageability and premium conditioning

ABIL® Soft AF 300

Provides significantly improved conditioning and softening to hair care products.

ABIL® Soft AF 100

Improves the body and volume of hair.

Damaged Hair
Conditioning

3 Strongly protective.

ABIL® ME 45

Shows outstanding color retention and heat protection properties. Significantly improves wash fastness of dyed hair.

ABIL® T Quat 60

Intensive hair fibre protection.

ABIL® UV Quat 50

Provides excellent hair fibre protection against UV light and color fading.

Undamaged Hair
Protection



Production technologies

Technology	EMEA	NAFTA	APAC	LATAM
Amphoterics/Betaines	x	x	x	x
Quaternization	x	x	x	x
Organomodified Silicones	x	x		
Esters, Amides	x	x	x	x
Alkoxylation	x	x	x	
Enzymatic Synthesis	x		x	

Roundtable on Sustainable Palm Oil (RSPO)

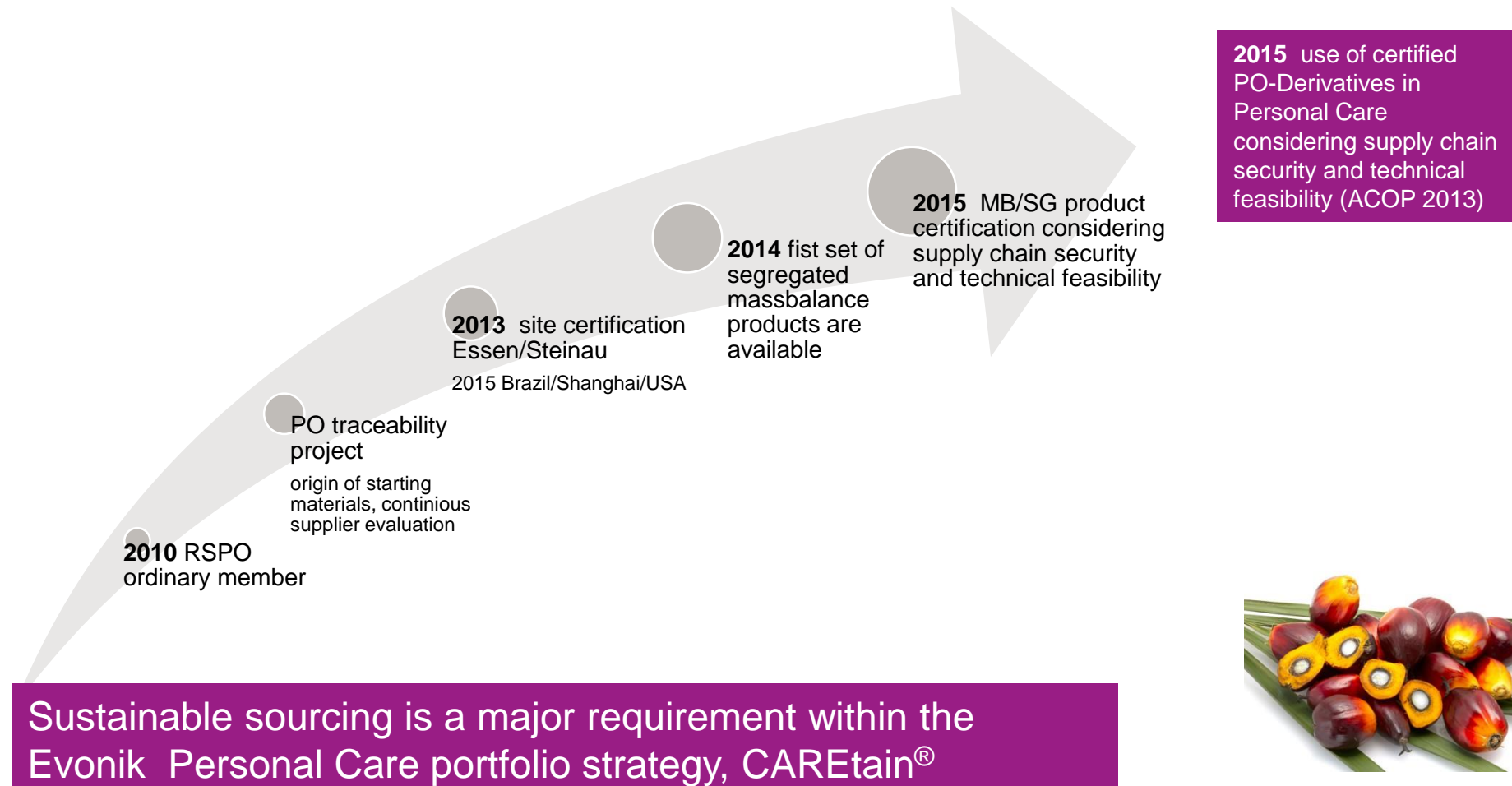


Round Table on Sustainable Palm Oil (RSPO)

- Safe and responsible production of feedstock and products is essential for us
- We use plant based and renewable feedstock wherever possible and reasonable
- Sustainable sourcing of natural feedstocks for Personal Care ingredients (e.g. palm oil) is a major part of our portfolio strategy
- Our main objective is to support and enhance the plantation and production of sustainable palm oil considering environmental and social requirements of the smallholders in the supply chain



Palm Oil @ Evonik Personal Care



Our quality mission: Globally yours

- Same quality standard everywhere...
...based on an integrated quality system
- Specification supervisor for each product and raw material
- Clearly defined process for product transfer
- Cosmetic GMP on all sites (ISO 22716)
- Continuous improvement as part of ISO 9001
- 7 year track record for low product failure: less than 0.2%

Spotlight Health Care

Solution provider and development partner to the health care industry

Strategic Objective:
Further development of the three product lines with their specific success factors

Pharma Polymers & Services



- Drug delivery systems
 - Functional medical devices
 - Services
- ~6% market growth
 - Further extension of attractive growth business
 - Broadening of technology basis and competencies
 - Transformation to solution provider and development partner with broad portfolio for pharma customers

Exclusive Synthesis



- Service provider for development and manufacturing of APIs and intermediates
- ~5% market growth
 - Addition of further differentiating competencies
 - Pursue advanced technologies to grow the business in differentiated areas
 - Additional preferred partnerships with selected high-value Pharma companies

Pharma & Food Ingredients



- Pharma-Intermediates and Amino Acids
 - Ingredients for medical nutrition / dietary supplements
- ~4% market growth
 - Further strengthen and grow existing business
 - Expand activities in nutritional supplements via organic growth (innovation) and selected bolt-on acquisitions

Pharma Polymers & Services

Building up competences and solution portfolio by Technology M&A



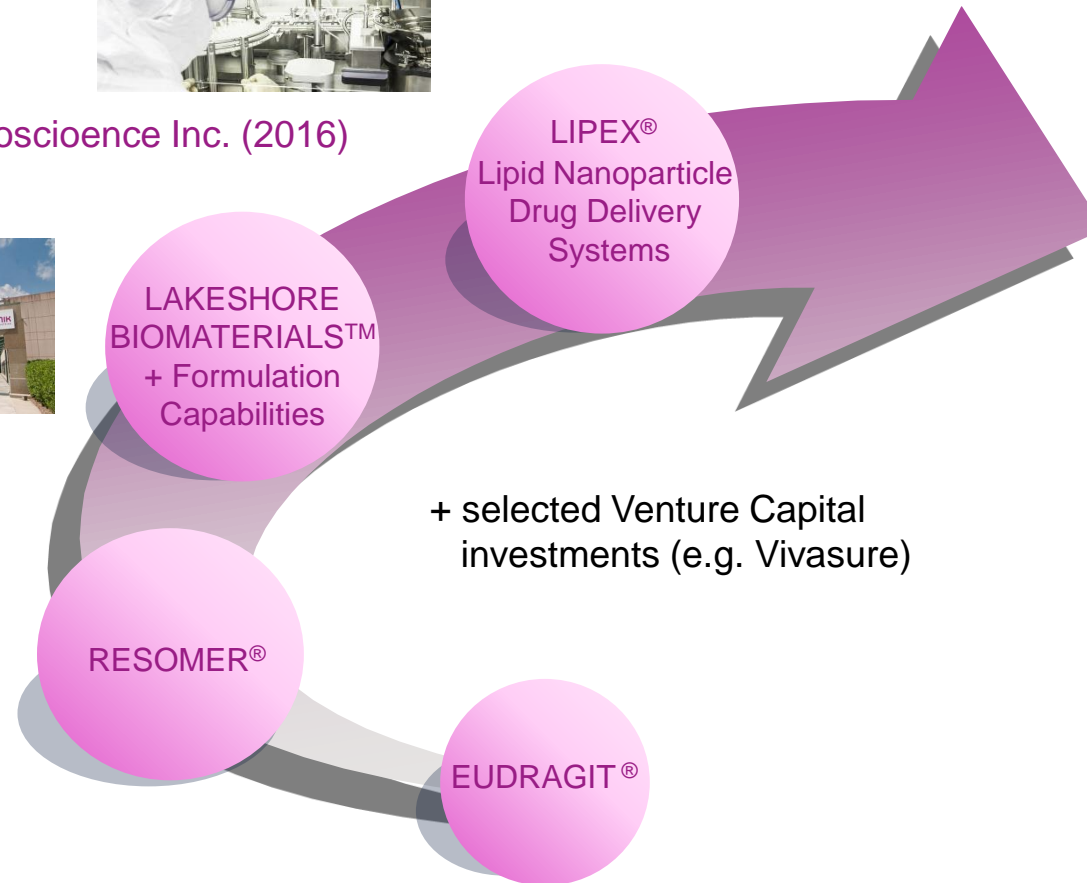
Transferra Nanoscience Inc. (2016)



Surmodics Inc. (2012)



Boehringer Ingelheim (2011)

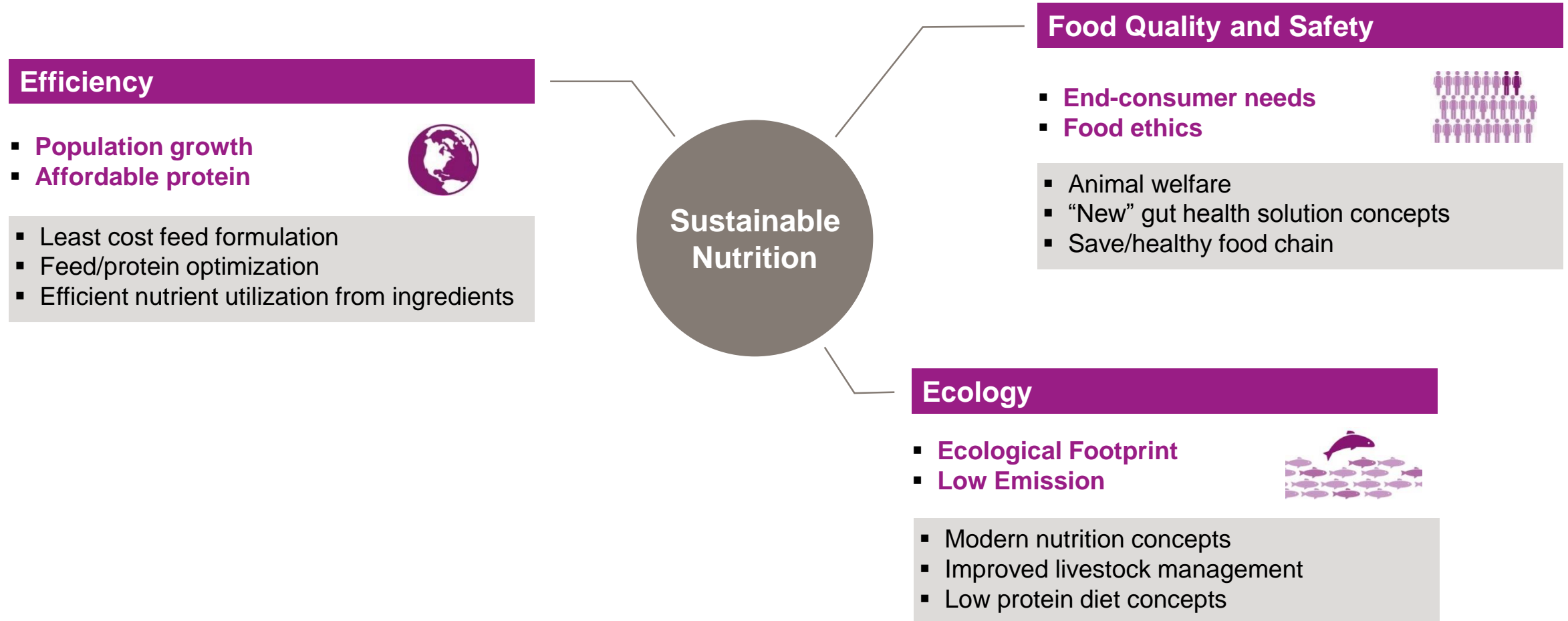


Evonik Healthcare
as enabler and
strategic partner for
pharma industry

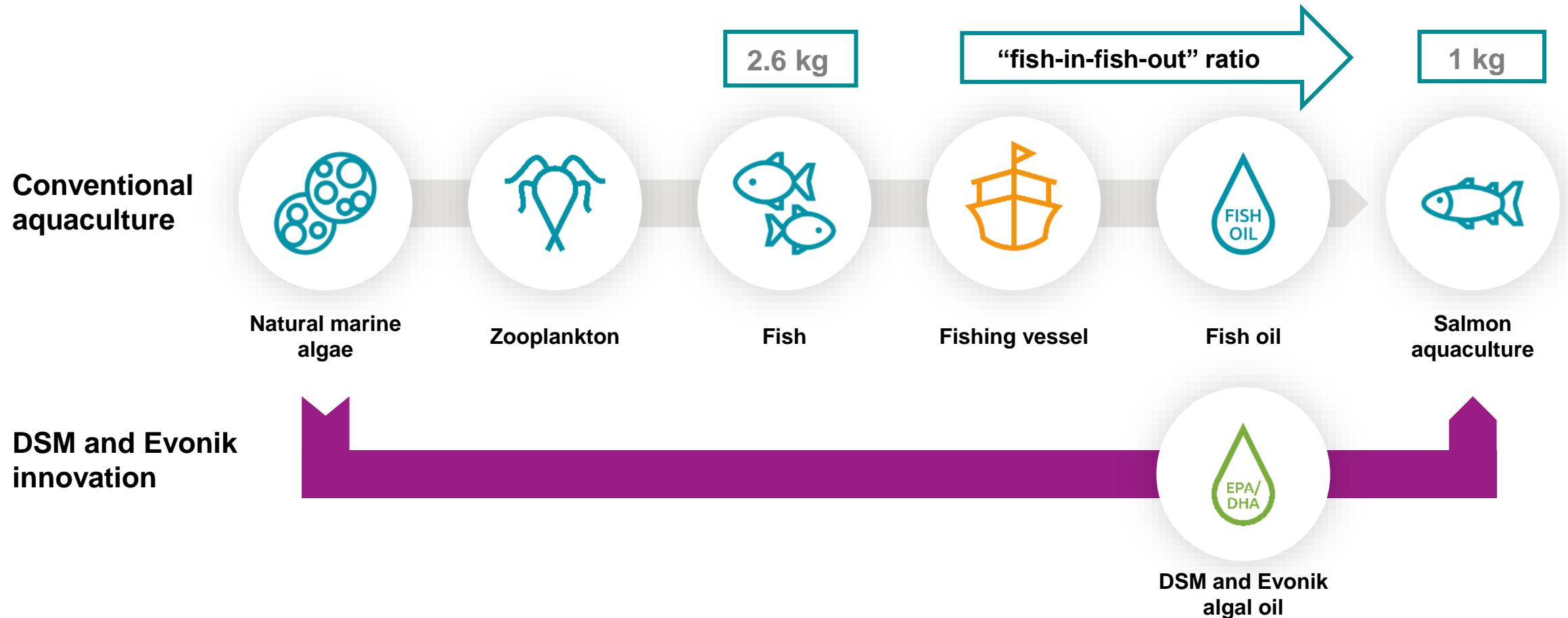
- Unique technology portfolio
- Formulation services

Spotlight Sustainable Nutrition

Innovating for a more sustainable food chain

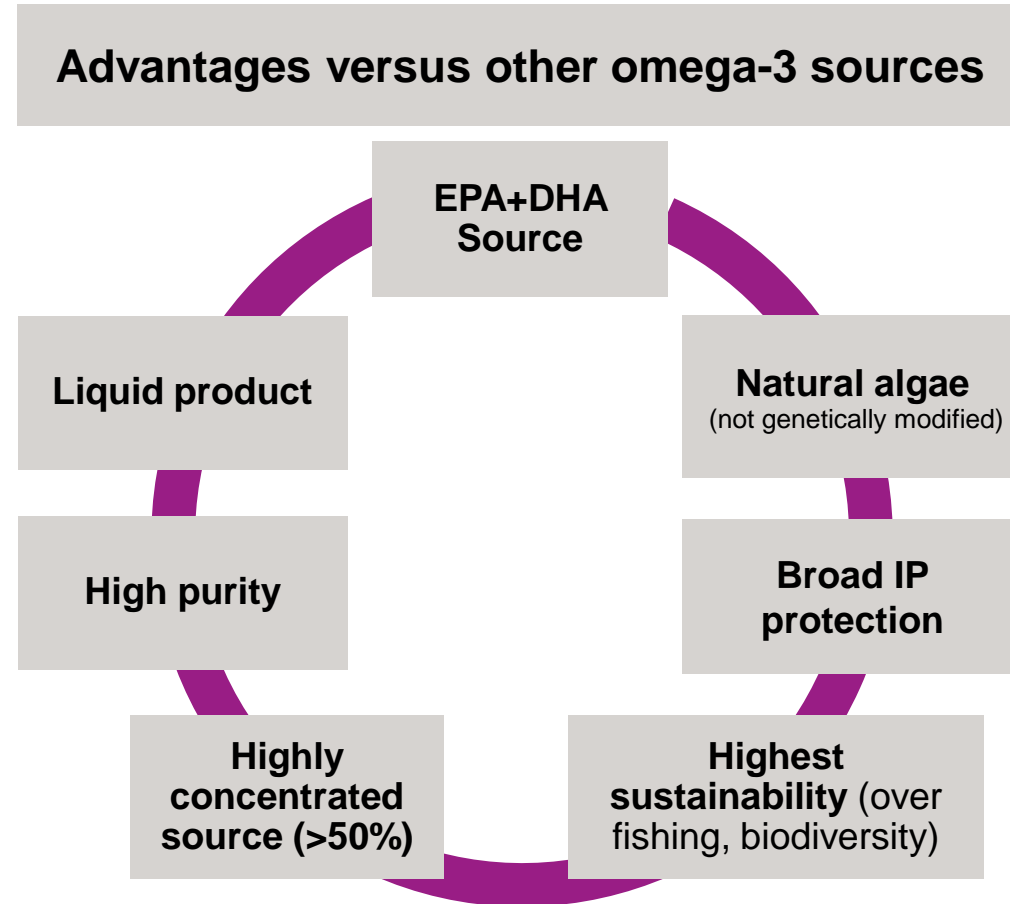


Natural marine algal oil is a sustainable alternative solution for omega-3 fatty acids used in aquacultures



DSM and Evonik breakthrough – shortening the natural food chain

Algal oil as a high-quality source of omega-3 for the use in animal nutrition has many advantages



1 kg of our EPA and DHA algal oil
can replace **60 kg** wild catch fish



Meeting roughly **15%** of the EPA and DHA
demand of the **global salmon industry**



DSM and Evonik establish joint venture

Joint venture for high value omega-3 fatty acid products

- DSM and Evonik to found a **50:50 joint venture** to be named **Veramaris™**, headquartered in The Netherlands
- Joint venture for high value omega-3 fatty acid products rich in **EPA and DHA** for **animal nutrition** produced from **natural marine algae**
- Joint venture's capital expenditure in the facility will amount to around **US\$ 200 million** over the next 2 – 3 years
- Facility is scheduled to **open in 2019**
- New facility will be built in the United States, at an existing site of Evonik
- Global aquaculture production **growth is 5-6%** per year with high increasing requirements in fish oil



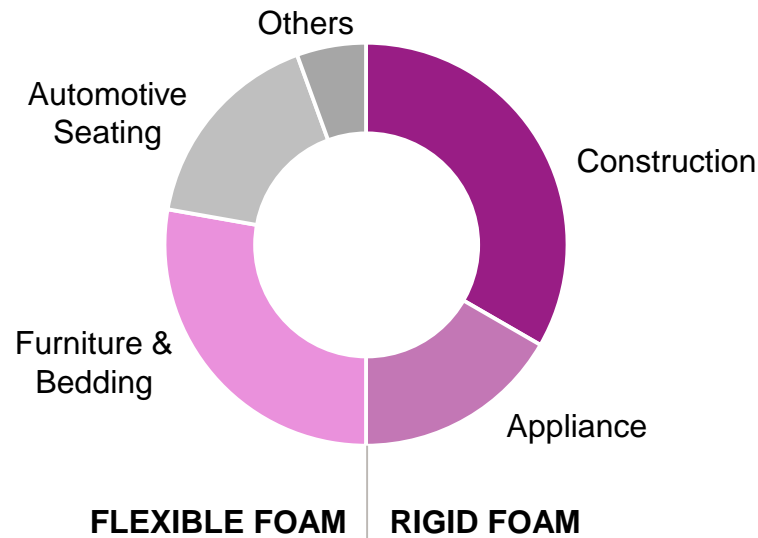
Comfort & Insulation at a glance

Prime partner for Polyurethane (PU) foam additives

Business Model

- Global strategic partner of key customers with production in all major regions
- Differentiation by quality, product development, application technology and superior logistics

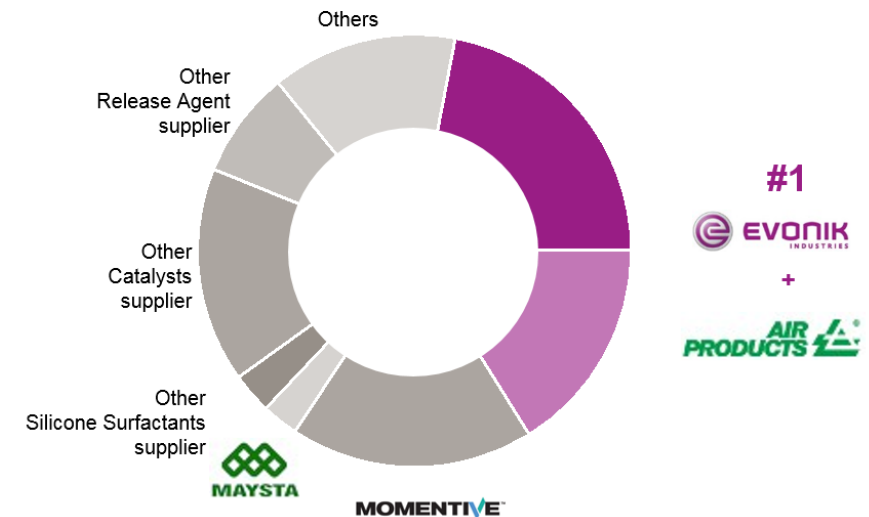
PU foam end markets



Customers (exemplary)



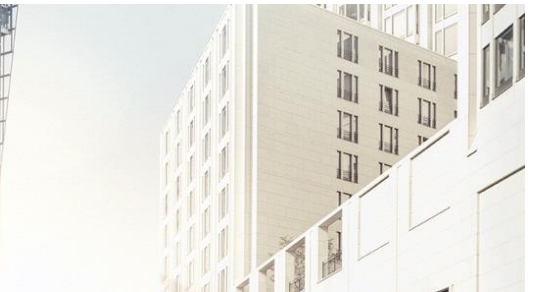
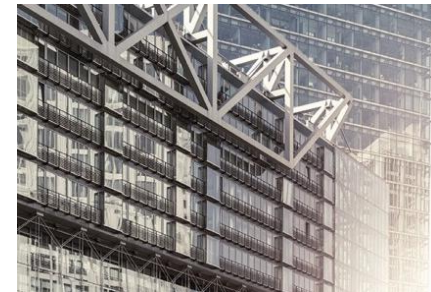
Competitive landscape



Comfort & Insulation end markets

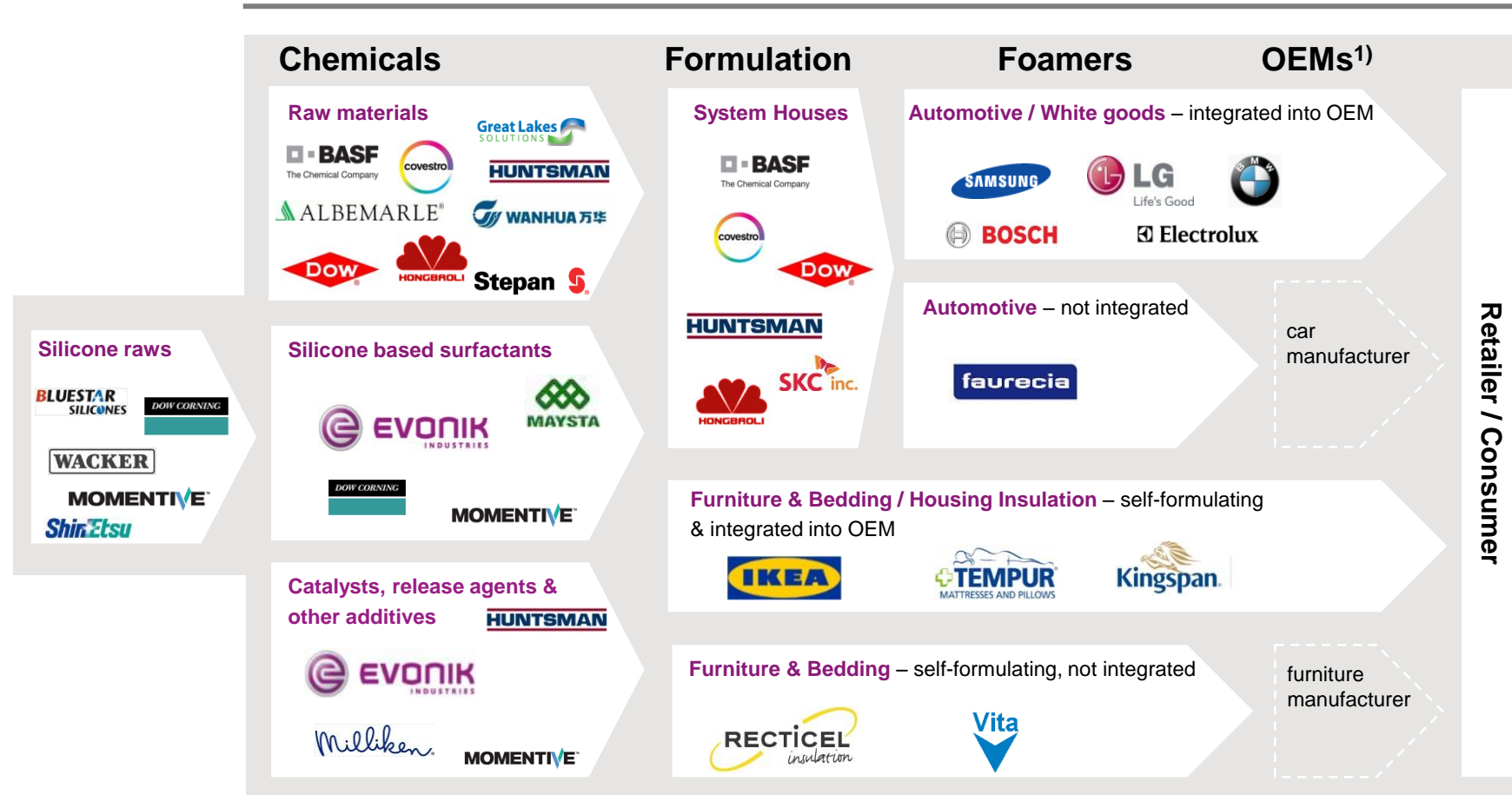
Sustainability trends drive growth in major applications

Market trend	End Market	Our optimized additive packages
Food preservation	Appliance (Cold Chain Development)	improve the insulation performance and support the energy and CO2 saving in appliances
Automotive Lightweight	Automotive (Lightweight)	improve comfort, protection, durability, energy conservation and reduce emissions by meeting latest VOC requirements
Sustainable Buildings	Construction (Building Insulation)	improve energy efficiency management through maximum insulation efficiency with excellent mechanical properties
Improvement of living standards	Furniture & Bedding	Extremely broad processing latitude, phthalate free products, good cell regulation properties



Comfort & Insulation is well positioned within a complex value chain

Supply chain for Polyurethane Foams



¹ Direct sales to customers

Probiotics: Portfolio expansion beyond amino acids

Innovative solutions for antibiotic-free animal nutrition

**Growth engine:
“Animal Nutrition”**



Step change in animal nutrition:

- Food quality and safety becoming more and more important
- Antibiotics being met with growing criticism
- Probiotics to play a pivotal role in resolving food quality and safety

Internal and external growth as integral part of Evonik's strategy beyond amino acids

- Leveraging our **biotechnology** competence in probiotics
- Acquisition of **probiotics business of Norel S. A. in 2016**
 - Already approved and established brands
 - Important step to get **access** to the regulated and attractive European probiotics market
- Own product development of **GutCare®** to complement probiotics portfolio
 - After the United States and China earlier this year, Gutcare® launched in India and Bangladesh in July

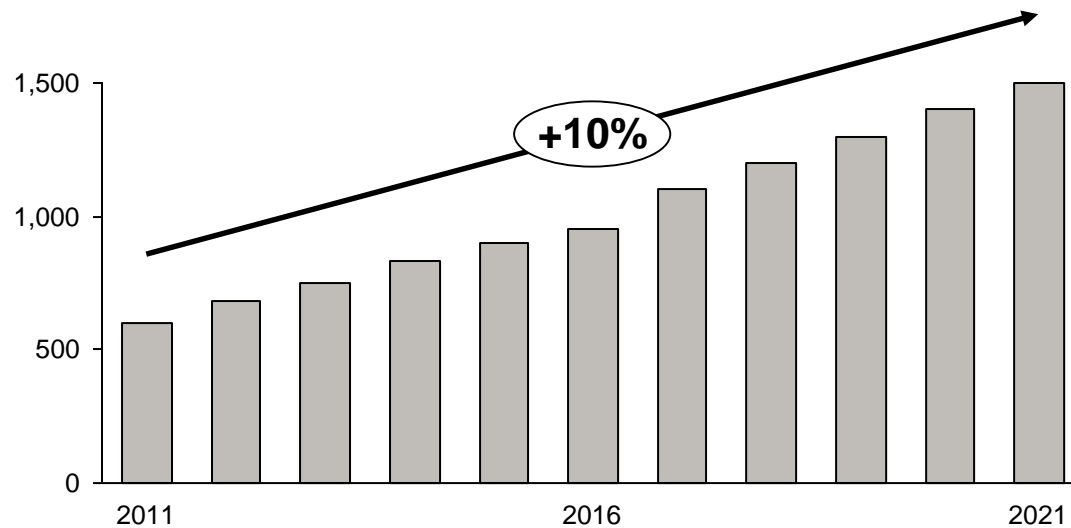
**With in the last 12 months
rollout of a global probiotics
business**

Probiotics: Driving sustainable nutrition beyond amino acids

Significant market potential and attractive growth rates

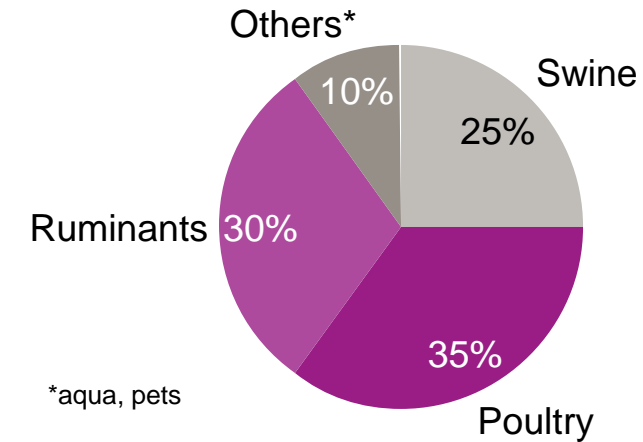
Probiotics in Feed account for ~ US\$ 1 bn in 2016

Growth expected due to continuous ban of antibiotic growth promoters (AGP) from feed



Sources: marketsandmarkets,

Market split by species



Target species



Probiotics: Driving sustainable nutrition beyond amino acids

Newly acquired and own developed probiotics promote use of less antibiotics

Product portfolio acquired from NOREL S. A. in July 2016

PRODUCTS	DESCRIPTION	SPECIES	PRESENT MILESTONES
Ecobiol®	ECOBIOI® (AQUA) contains a <i>Bacillus amyloliquefaciens</i> strain which is able to positively modulate the intestinal microbial flora	Poultry	Introduction of Ecobiol® as new part of Evonik product portfolio in Asia South in March 2017 at VIV, Bangkok
		Aquaculture	
Fecinor®	FECINOR® contains an <i>Enterococcus faecium</i> strain that positively affects the intestinal balance	Swine	Presentation of Fecinor® at EuroTier in Hanover in November 2016

First own developed probiotic product by Evonik

PRODUCT	DESCRIPTION	SPECIES	PRESENT MILESTONES
GutCare® PY1	GutCare® contains a <i>Bacillus subtilis</i> strain that improves the overall conditions of the animals	Poultry	First launch of GutCare® in USA at IPPE in January 2017 Launch of GutCare® in China Feed show in April 2017

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