

# Bringing Nutrition & Care to Life – for life and living

Division Spotlight Series 2021

13 April 2021



# Division Spotlight “Nutrition & Care”

## Speakers of today’s event



**Johann-Caspar Gammelin**

President  
Nutrition & Care



**Yann d’Hervé**

Head of Care Solutions



**Thomas Riermeier**

Head of Health Care



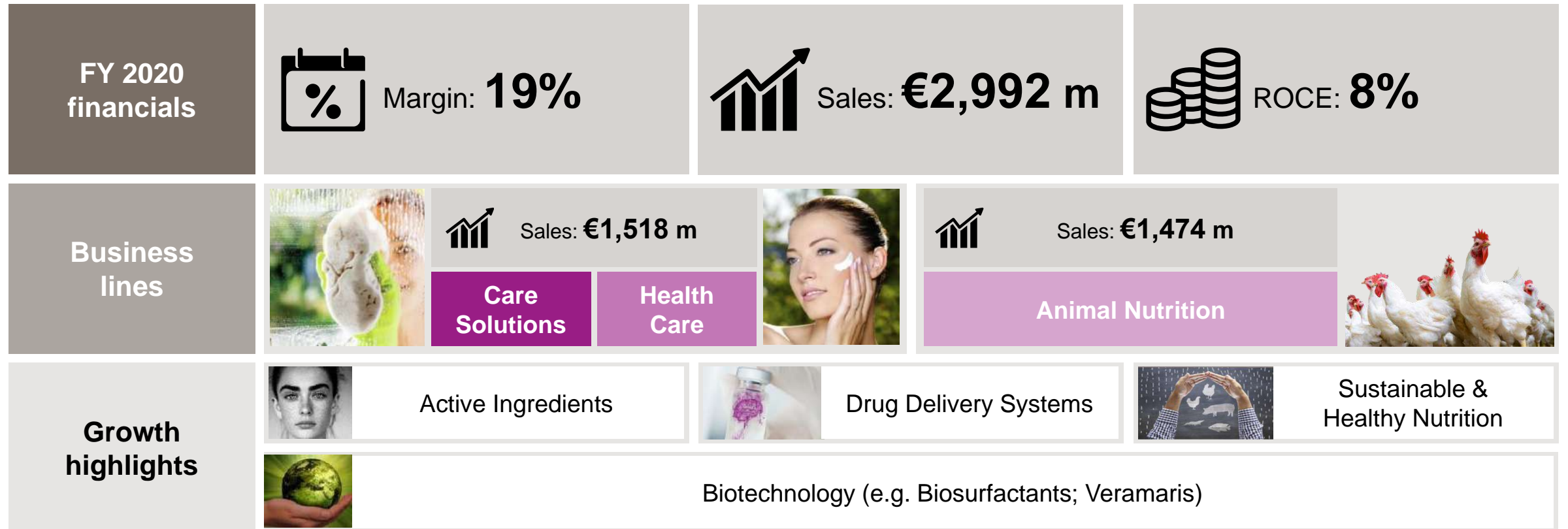
**Emmanuel Auer**

Head of Animal Nutrition

# Nutrition & Care Portfolio

Focused portfolio on consumer-oriented end markets with high level of synergies

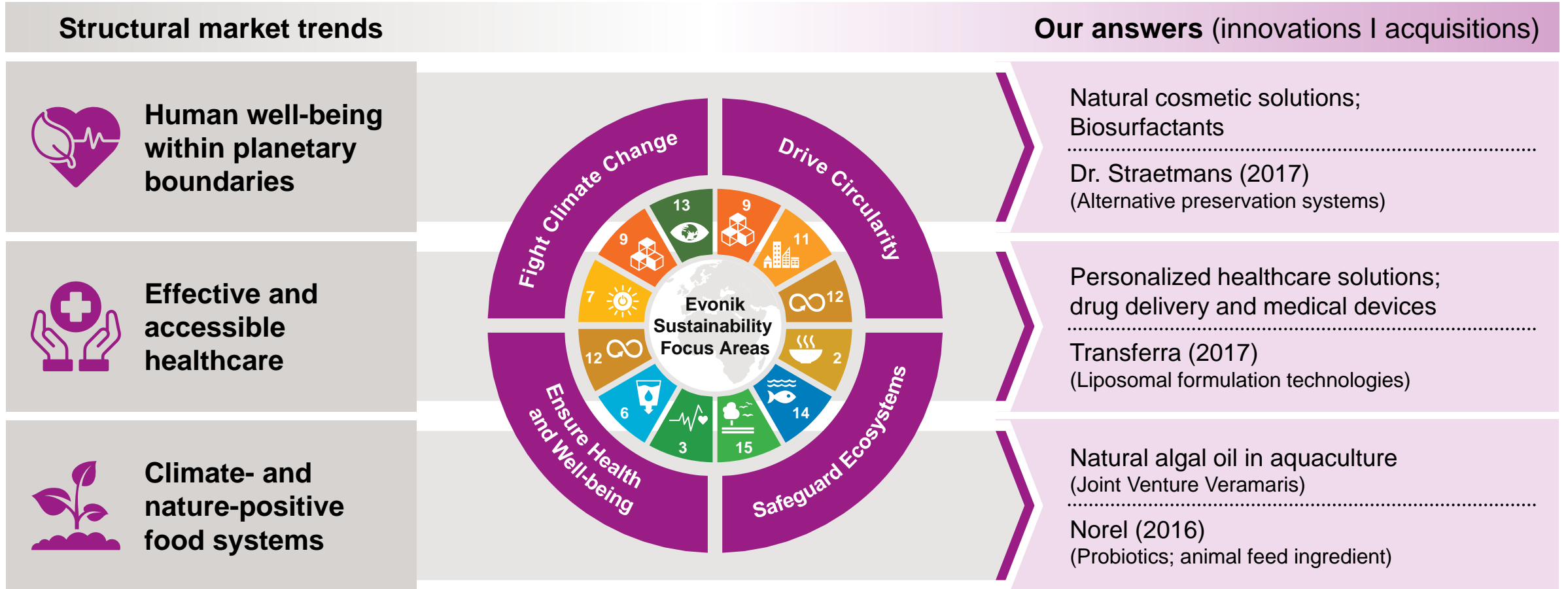
“Bringing Nutrition & Care to Life – For life and living”





# Sustainability as a guiding business principle for Nutrition & Care

## Addressing structural market trends with own innovation and targeted acquisitions



# Strategic Management Agenda

## Growth - Performance - People

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### Growth



Differentiating  
**system solutions**  
based on strong  
**technology platforms**  
as growth drivers

### Performance



**Structural** and **efficiency**  
**improvements** of  
our portfolio and core  
businesses

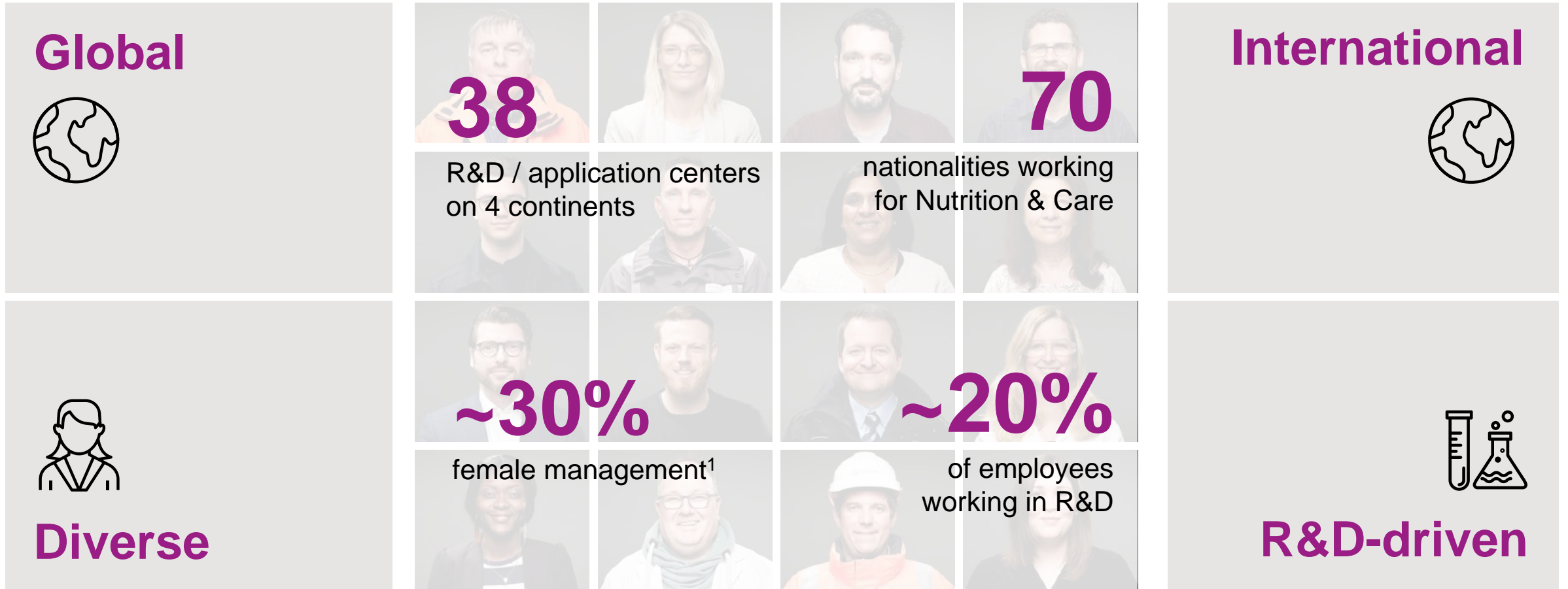
### People



The **right talent**  
in the right place  
at the right time

# People – Talent is our driving force

## Global – International – Diverse – R&D-driven



1: Management Circle 1-3

# Performance – Realizing significant cost savings

## Three initiatives to drive structural and efficiency improvements

### Portfolio Adjustments

- Selective exit of **bioamino acids production** (threonine and tryptophan)
- Portfolio transformation of **Care Solutions** into sustainable specialties partner

### Asset Optimization

- **Methionine network optimization** towards three global cost-leading hubs
- Re-purposing of capacities in Slovakia as **Biotech scale-up centre**
- Network optimization of **oleo platform**

### Operational Excellence

Various **programs** across all businesses

- Care Solutions: “Oleo”
- Animal Nutrition: “Adjust”
- Health Care: “Austin”
- Ongoing factor cost compensation

### Achieved



~€70 m cost savings p.a. in 2019/2020  
already **achieved**

### Target



Annual **cost savings of ~€30 m**  
from 2021 for the next years onwards<sup>1</sup>

1: Target to overcompensate annual factor cost increases

# Growth – Operating in highly attractive end markets

## Nutrition & Care with ambition to outperform relevant markets

Business	General market growth	Selected relevant markets for Evonik	Specific market growth	Nutrition & Care ambition level
 <p>Care Solutions</p>	~3%	Skin Care	>4%	<p>Outperforming relevant markets</p> 
		Dermo-Cosmetics	>6%	
 <p>Health Care</p>	~3%	Medical Devices	>4%	
		Pharma Advanced Drug Delivery	>6%	
		Pharma Cell Culture	>8%	
 <p>Animal Nutrition</p>	~2-4%	Gut Health Solutions and Livestock Performance	>7%	
		Sustainable Aquaculture	>5%	
		Dairy Cow Nutrition	~5%	



# Growth – Focusing on shared technology platforms

## Strong synergies and joint resources across all three businesses

Technology Platform	Care Solutions		Health Care			Animal Nutrition	
	Smart Cleaning	Cosmetics	Medical Devices	Pharma	Nutraceuticals	Sustainable Nutrition	Digital Livestock Management
Microbiome modulation		■		■	■	■	
Biotech test systems		■		■	■	■	
Biotech processes	■	■	■	■	■	■	
Delivery systems		■	■	■	■	■	
Particle design		■	■	■		■	
Digital platforms		■		■	■	■	■

■ Already active   ■ Expansion area

### Benefits of setup

- Broad **technology overlap** and **competence leveraged** across all three businesses
- Reduced **time to market**
- High **capital efficiency**
- High degree of **innovation**

Complemented by our own innovation and selected M&A

# Technology Platform Example – Biotechnology

>30 years of broad and differentiating competencies in white biotechnology

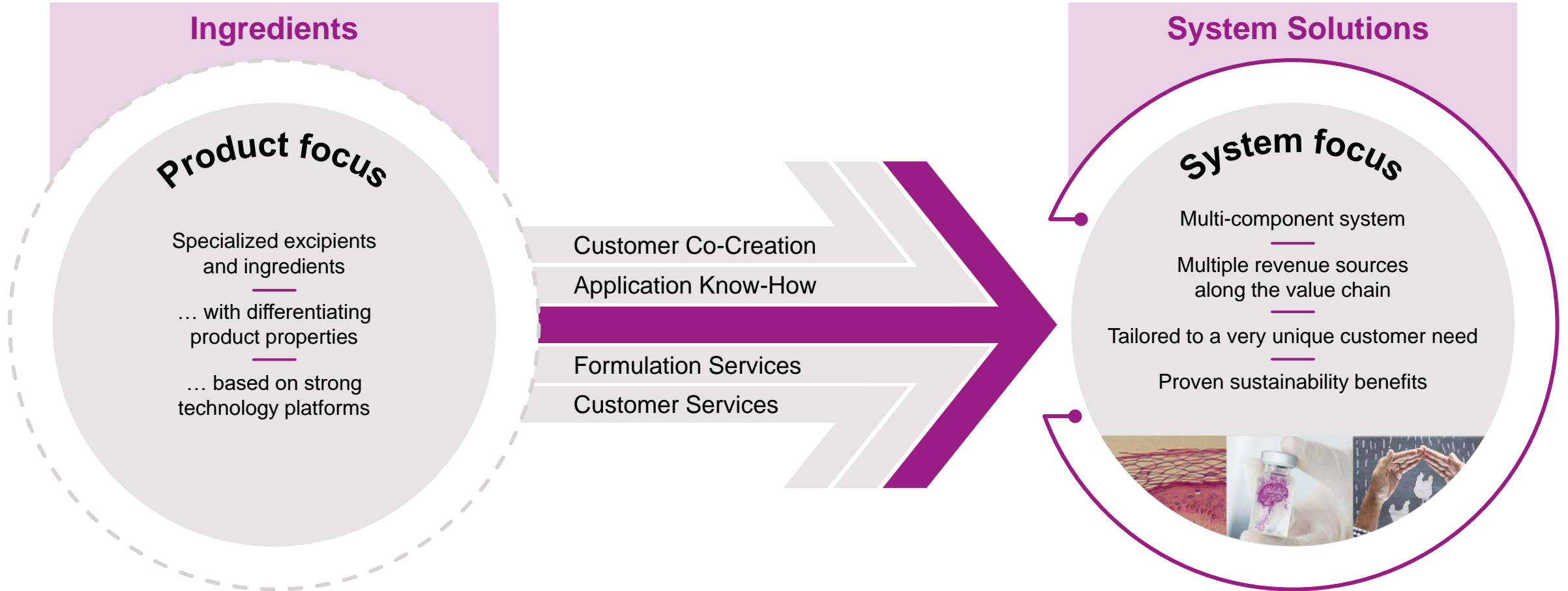
## Biotechnology – Process Excellence and Launched Products

	Care Solutions	Health Care	Sustainable Nutrition
Microbiome Modulation	Microbiotic actives to support skin barrier function	Probiotics and Gut Health Solutions	
Biotech Processes	Non-animal derived Collagen	Cell Culture	Natural algae-based omega 3 fatty acids
	Actives (e.g. Ceramides)	CDMO (e.g. fermentation-based proteins)	
	Biosurfactants	Amino acids pharma grade	Bio amino acids

**Sales potential from biotechnology platform of ~ €1 bn by 2030 latest**

# Growth – Strategic portfolio shift towards “System Solutions”

Portfolio upgrade towards higher specialization and higher returns



# Growth – System Solutions businesses as major growth driver

## >50% sales from Systems Solutions as strong commitment

### Sales share of System Solutions



### Resulting in....

Higher **growth prospects**

Strong **pricing** power

Above average **margin**

Higher **return on capital**

1) Antibiotic Growth Promoters

### Examples of System Solutions



#### Active Ingredients – Retinol

- Reducing wrinkles without inducing skin irritation
- **Formulation service:** Encapsulation as delivery technology to increase stability and bioavailability



#### Drug Delivery Systems – Complex Parenterals

- **Lipid nano particles** for vaccination, cell and gene therapy
- **Integrated services** from feasibility to commercial



#### Sustainable & Healthy Nutrition – Probiotics

- **GutCare®** for AGP<sup>1)</sup>-free healthy poultry nutrition
- Holistic, ready-to-use **concepts for animal diet formulations**, designed on specific customer needs

# Care Solutions

## The Preferred Sustainability Specialties Partner

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Yann d'Hervé  
Head of Care Solutions





# Care Solutions Portfolio

## Preferred Sustainability Specialties Partner

	Beauty, Personal Care and Cleaning					
Market segment						
	Active Ingredients	Active Delivery Systems	Functional Ingredients	Alternative Preservation	Biosurfactants	Cleaning Solutions
Market growth	>7%		>4%	>6%	New market	>3%

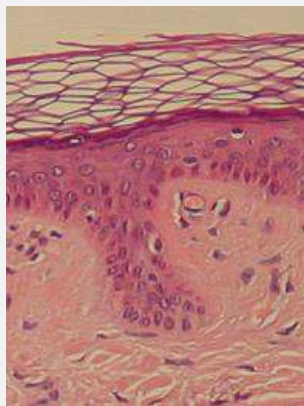
- **Attractive markets:** Care Solutions operates in high growth Personal Care market
- **Preferred Sustainability Specialties Partner:** Strong technical competences, market reach and customer intimacy
- **Portfolio shift toward Sustainable Specialties:** Innovation and targeted acquisitions to strengthen System Solutions

# Active Ingredients – Evonik as a strong partner from idea to market

## Broad integrated toolbox with scientifically proven and proven benefits

### The human skin as a complex system

- Strong expertise in analyzing skin conditions to develop actives from idea to product



Epidermis	Stratum corneum
	Stratum granulosum
	Stratum spinosum
	Stratum basale
Dermis	

### A scientific toolbox for claim substantiation

- Experimental design with cell culture, skin models and in vivo human skin
- Screening of novel Active Ingredients
- Scientific proofs of benefits

#### SimDerma® Platform CosmetlCoS™



### Active Ingredients with proven benefits

- Novel Active Ingredients focusing on derma-cosmetics
- Attractive claims to differentiate in the marketplace

Moisturization

Rebalancing and purifying

Skin defense

Anti-aging

# Active Ingredients – System Solutions for Personal Care

Full-service provider for our customers from an idea up to a proven product

## System solution SK-INFLUX®



**Functional and Preservation**

**Active Ingredients**  
Essential Ceramides (I, III, VI)

**Formulation**

**Ready-to-Use**

Emulsion of  
Essential  
Ceramides

### Cosmetic Claims

- Restores the protective skin barrier function
- Enhanced delivery and exchange of skin lipids
- Enhances skin moisturization

## System solution InuMax® Advanced Retinol



**Functional and Preservation**

**Active Ingredients**  
Retinol

**Formulation**

**Active Delivery Systems**

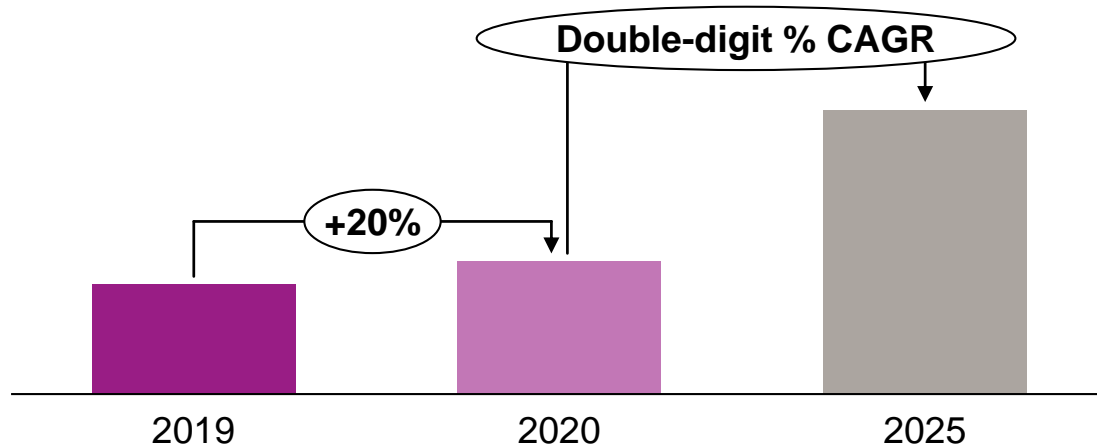
### Cosmetic Claims

- Uses an advanced delivery technology to enhance the epidermal bioavailability of retinol
- Counters skin aging

# Active Ingredients – Strong track record and growth ambition

## Shaping and growing the „Actives“ portfolio

### Sales with Active Ingredients & Delivery Systems



- Double-digit % CAGR track record over last 20 years
- Critical mass of triple digit million € sales
- Majority of future sales growth secured via contracts
- Asset-light and attractive EBITDA margin

### Shaping & growing the portfolio

- Organic growth via **internationalization** and **value selling**
- **Strong innovation engine** to generate new products with scientifically proven claims
- Well positioned to spot and integrate **attractive M&A opportunities** with significant growth and value potential
- **Leverage synergy potential** of acquisitions across cosmetics, cleaning, food & pharma portfolio

# Health Care

## Leading Integrated Player for Advanced Drug Delivery

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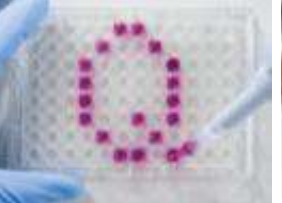


Thomas Riermeier  
Head of Health Care





# Health Care Portfolio

Attractive portfolio with high level of synergies and access to fast-growing markets

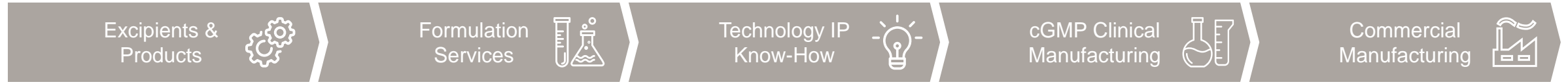
Health Care						
	Pharmaceutical				Nutraceutical	Medical Devices
Market segment						
	Drug Delivery Systems	Contract Manufacturing & API Synthesis	Pharma Amino Acids	Cell Culture & Tissue Engineering	Advanced Food Ingredients & Nutraceutical Coatings	Biomaterials & Application Technologies
Market growth	>6%	>4%	>4%	>8%	>7%	>4%

- **Attractive markets:** Health Care operates in high-margin, fast-growing markets
- **Reliability and quality:** Track record for specialized system solutions based on products, technologies, and services
- **High level of synergies:** Shared competencies and technology platforms across pharmaceutical, nutraceutical & medical device markets

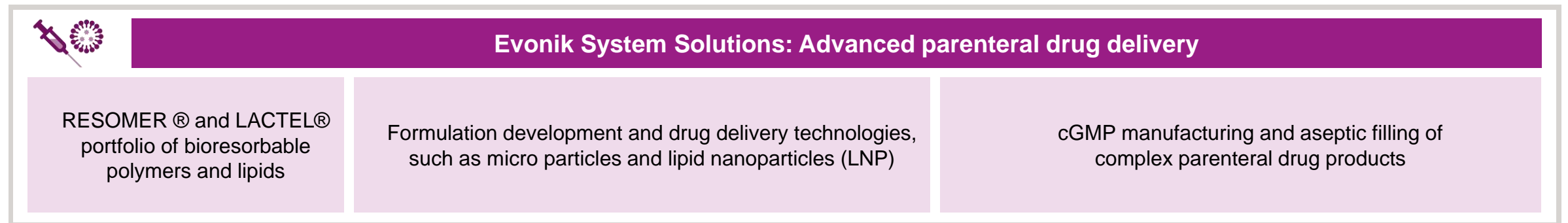
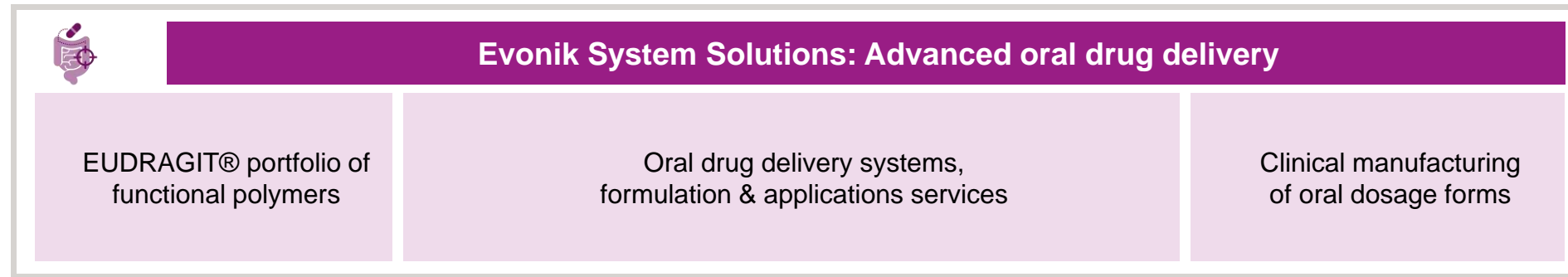
# Drug Delivery System Solutions

Fully integrated portfolio across both platforms of oral & parenteral drug delivery

## Value chain



## Drug Substance



# Deep dive: Lipid Nanoparticles (LNP)-based drug delivery systems

## Covering the whole value chain from excipients to contract manufacturing



### 2011: Birmingham Labs (USA)

Site for excipients, polymer and LNP-based drug delivery with clinical & commercial manufacturing for complex parenterals

### 2020: PhytoChol® Lipid

### 2016: Vancouver Labs (CAN)

Site for LNP development and clinical manufacturing, incl. LIPEX extruders

### 2021: Lipids (COVID)

BioNTech

**Planned:** Expansion of **Nucleic Acid Competence Center** in Vancouver (CAN)

**Under evaluation:** Expansion of **parenteral fill-finish** capacity

■ Active    ■ Started    ■ Planned

Multiple customer touch points for **revenue generation along all steps of the value chain** with total potential of **clear triple digit million € sales** over the next years

# Strong growth ambition for drug delivery business

## Growth potential for cell & gene therapies far beyond mRNA-based COVID-19 vaccines

### Next generations of LNP-based gene therapies

#### Vaccines

**Cancer immunotherapy** expected to be the next breakthrough of mRNA therapeutics

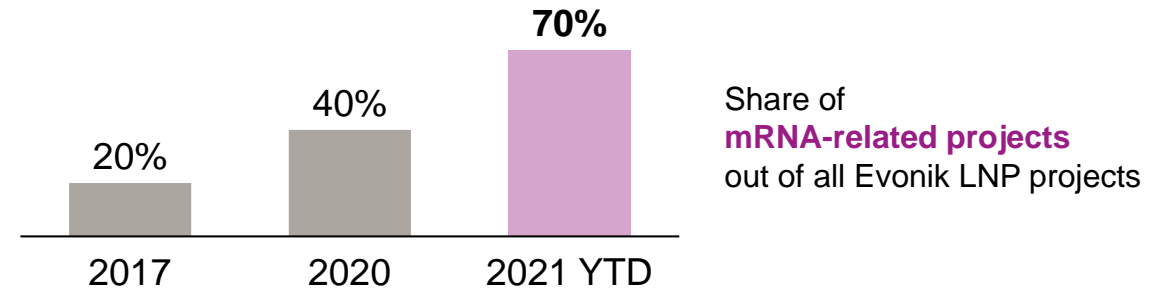
#### Protein therapeutics

mRNA-based therapies can potentially **treat hereditary diseases**

#### Gene editing

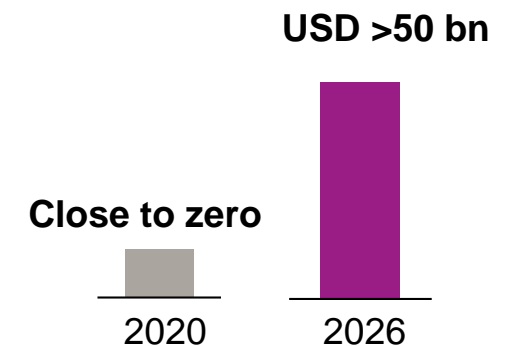
**In-vivo modification of genes** causing diseases expected to be commercial within the next years

### Evonik's LNP solutions enable mRNA-based medicine



Total market for LNP-based cell & gene therapies

Accessible market for Evonik of USD  $\geq$  5 bn by 2026



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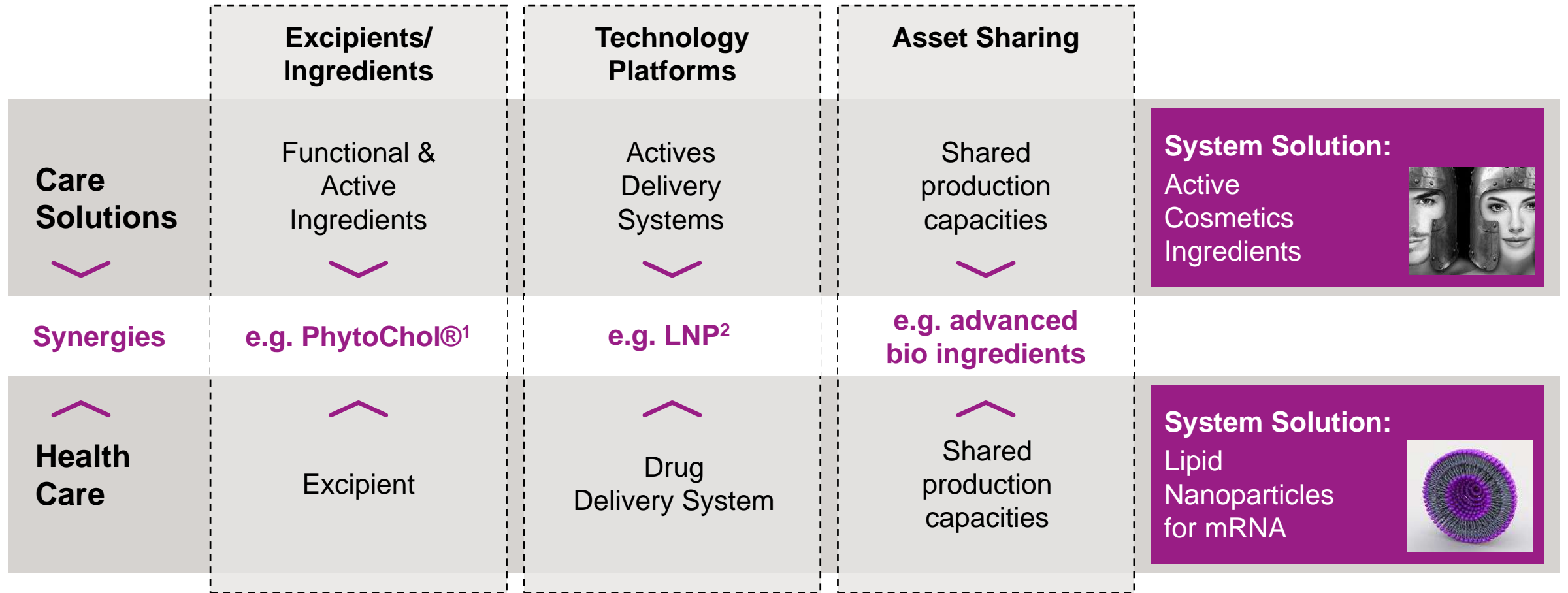
Johann-Caspar Gammelin  
President Nutrition & Care





# Summary: Strong synergies between Health Care and Care Solutions




## Synergies based on shared technology platforms and System Solutions approach



1: Plant-based cholesterol used as excipient/ingredient for both Health Care (e.g. COVID-19 vaccines) and Care Solutions (e.g. Advanced Actives Complexes & Systems)

2: Lipid nanoparticles used as delivery system for both Health Care (e.g. mRNA) and Care Solutions (e.g. encapsulation of Retinol)

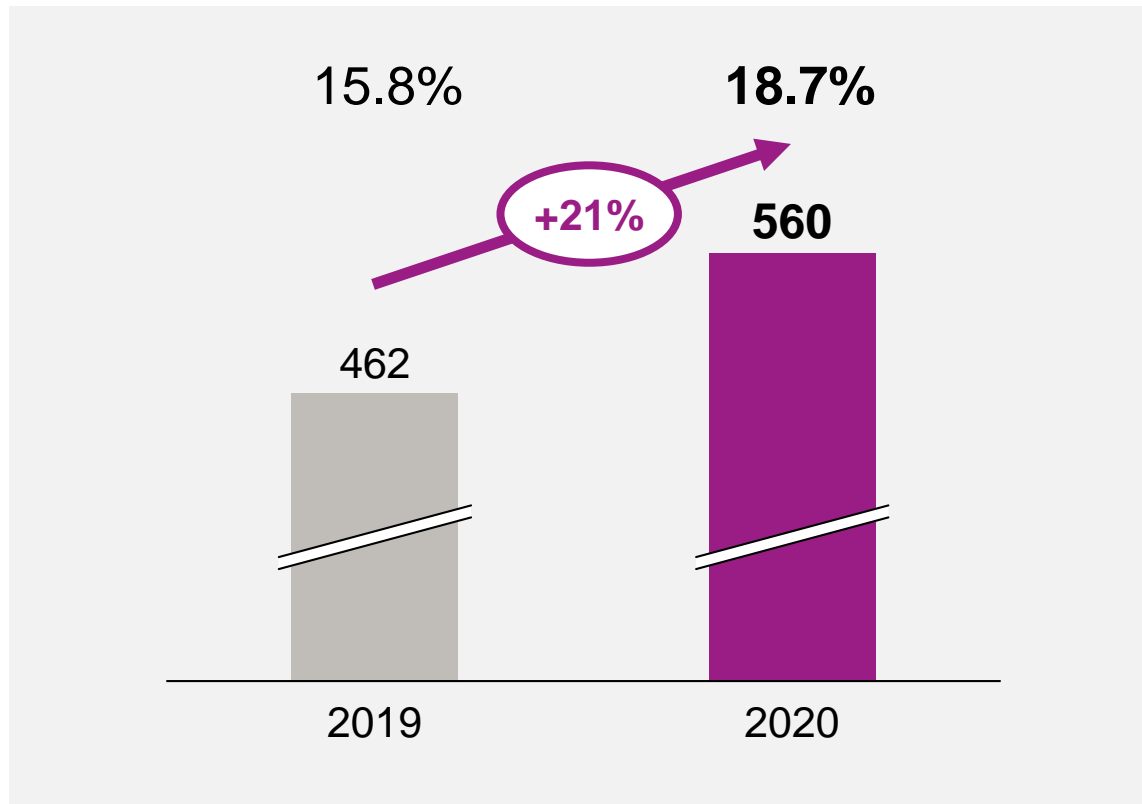
# Our strategic management agenda will result in highly attractive KPIs

			Mid-term targets
 <b>People</b>	Contribute to “One Evonik” goals	Internationality in top management <sup>1</sup>	> 35%
		Females in senior management <sup>1</sup>	> 23%
 <b>Planet</b>		Next Generation Solutions <sup>2</sup>	> 50%
 <b>Profit</b>		EBITDA CAGR	> 8%
		Adj. EBITDA margin	> 22%
		ROCE	> 14%

1: Management Circle 1-2 | 2: Products and solutions with a clearly positive sustainability profile that is above or well above the market reference level

# Delivering first results in FY 2020...

## Adj. EBITDA (in € m) / adj. EBITDA margin FY 2020



**+21% adj. EBITDA yoy**

Strong **organic EBITDA growth** of >10%

**Cost savings** of €85 m

**EBITDA margin** up by 3pp to 18.7%

**ROCE** increased by 2pp points to 7.7%

# Nutrition & Care – A strong value driver for Evonik



- New setup with clear focus on **consumer-oriented end markets** with **science-based** solutions
- **Sustainability** as a guiding business principle
- Strategic management agenda: **Growth - Performance - People**
- Active in **attractive end markets** – with ambition to clearly outgrow relevant markets
- Highly synergistic **technology platforms**
- **System solutions** as growth driver: High level of specialization, high entry barriers and above-average margin potential
- Strategic management agenda to **deliver on financial and ESG targets**



**EVONIK**

**Leading Beyond Chemistry**



# Appendix – Division Nutrition & Care

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# Relevant peers for consideration for SOTP models

## Health & Care

Peer	Company profile & exposure	EV/EBITDA L3Y
	<ul style="list-style-type: none"> <li>Consumer Specialties (excipients, tablet coatings, active ingredients) account for ~60% of Ashland sales</li> <li>Similar product portfolio to Evonik Health &amp; Care with mix of health care, personal and household care products</li> </ul>	~12x
<u>CRODA</u>	<ul style="list-style-type: none"> <li>Personal Care and Life Sciences (skin &amp; hair care actives, natural personal care ingredients, excipients) account for ~75% of Croda sales</li> </ul>	~18x
<b>Lonza</b>	<ul style="list-style-type: none"> <li>Leading global CDMO for the pharma industry</li> </ul>	~19x
	<ul style="list-style-type: none"> <li>Swiss CDMO for active pharmaceutical ingredients</li> </ul>	~13x

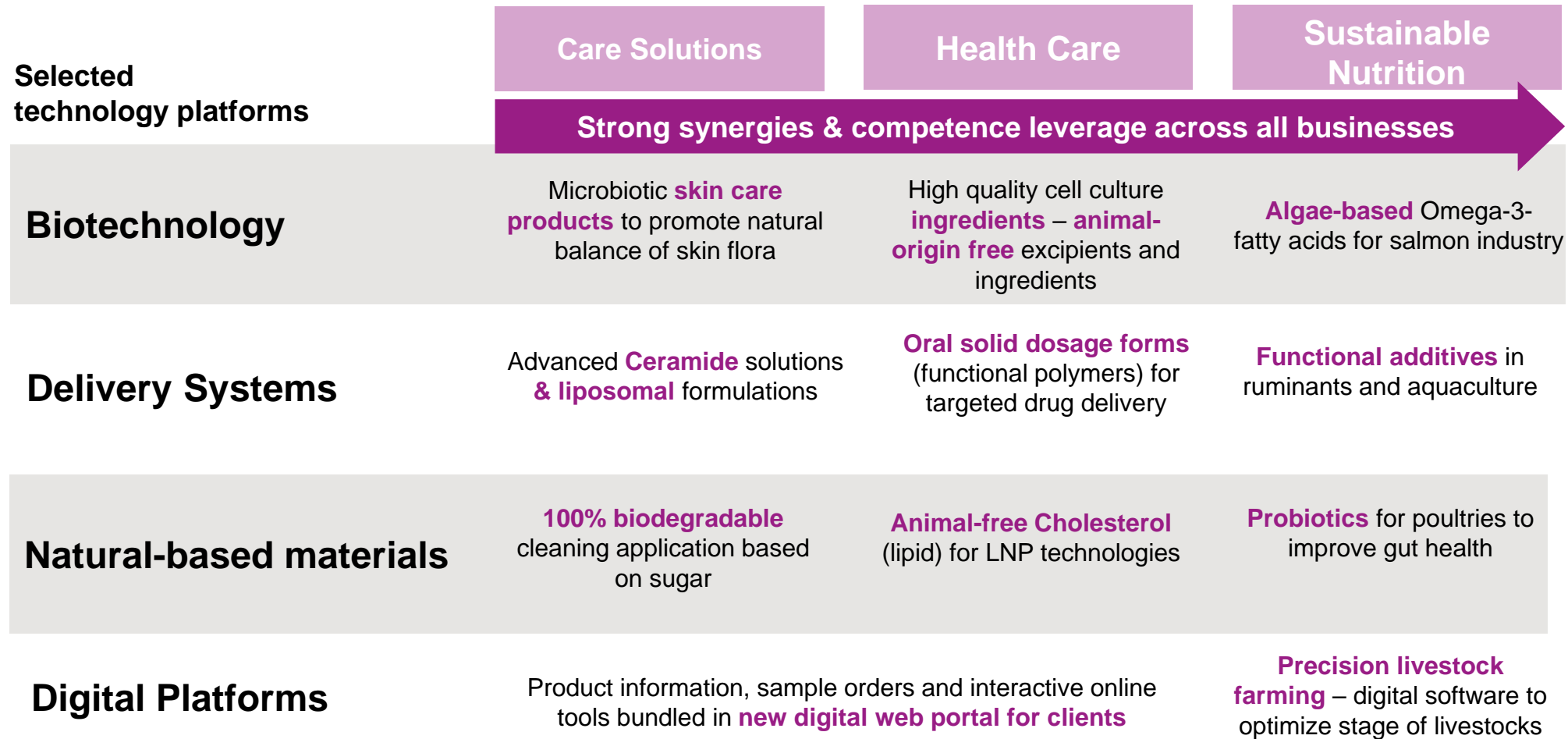
# Relevant peers for consideration for SOTP models

## Animal Nutrition

Peer	Company profile & exposure	EV/EBITDA L3Y
	<ul style="list-style-type: none"> <li>2<sup>nd</sup> largest Methionine producer globally</li> </ul>	~10x
	<ul style="list-style-type: none"> <li>Korean diversified nutrition ingredients producer</li> <li>5<sup>th</sup> largest methionine producer and 4<sup>th</sup> largest lysine producer globally</li> </ul>	~9x
	<ul style="list-style-type: none"> <li>Animal Nutrition (Vitamins, Carotenoids, Enzymes, Minerals) accounts for ~40% of DSM sales</li> </ul>	~12x
	<ul style="list-style-type: none"> <li>Diversified Chinese nutrition and ingredients producer (Vitamin A, Vitamin E, Methionine, Flavour and Fragrances)</li> </ul>	~10x

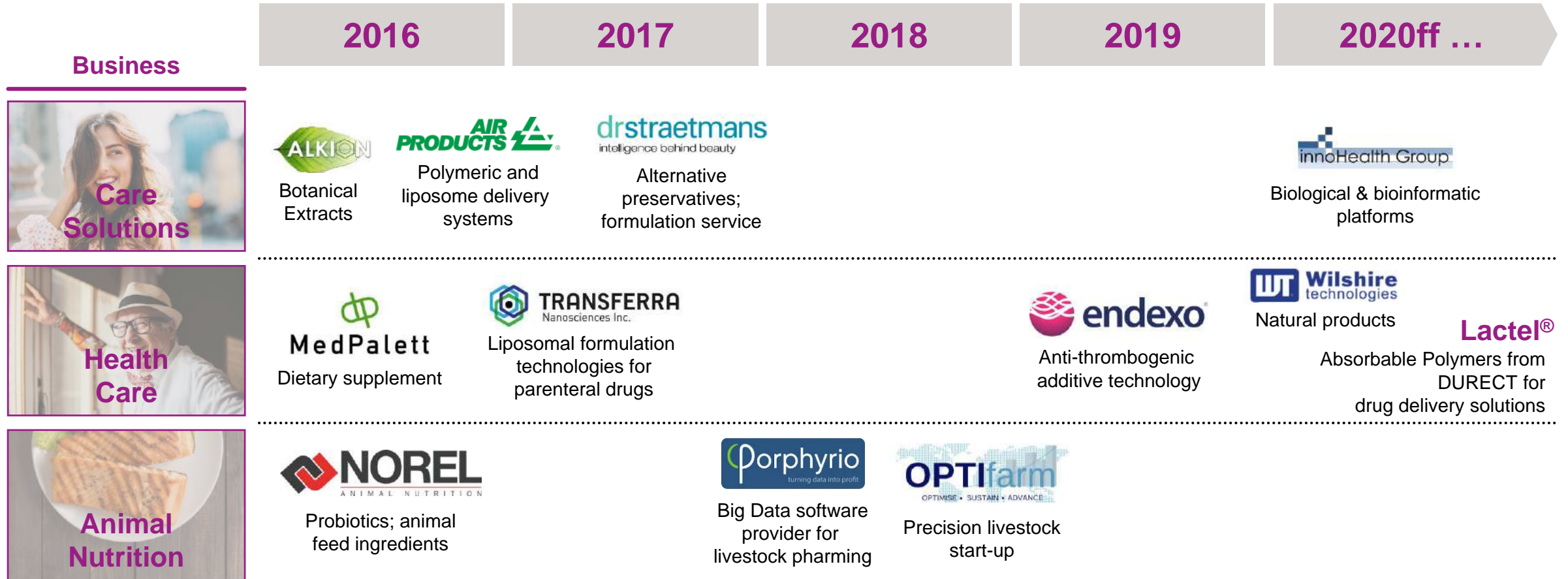
# Growth: Technology platforms as backbone

## Synergies and exchange of competencies & resources between businesses



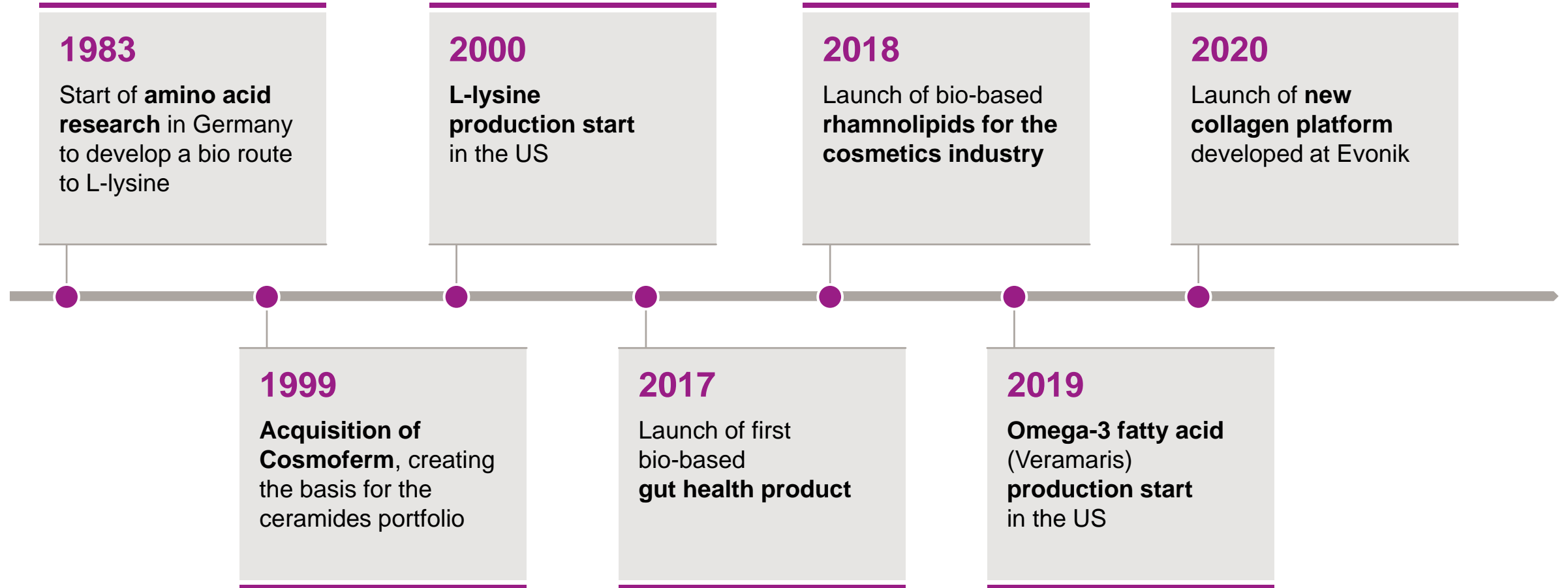
# Strategy of value-adding technology acquisitions across all businesses

## Shift towards sustainable system solutions



# Biotechnology at Nutrition & Care

>30 years of experience leading to broad and differentiating competence base



# Sustainability at N&C

## “Bringing Nutrition & Care to Life – for life and living”

### Sustainability – “For life and living”





# Next Generation Solutions addressing Evonik’s “Sustainability Focus Areas” Directly linked to UN SDGs

## Evonik “Sustainability Focus Areas”

### Fight Climate Change



#### Precision Livestock Farming

- Higher efficiency in feed material use
- Lower emission of nitrogen to air and water
- Lower antibiotic interventions and better animal health & wellbeing



### Drive Circularity



#### Veramaris Algal Oil

- Reduce overfishing with an alternative DHA and EPA source
- Zero waste and 100% renewable energy in the manufacturing process



### Safeguard Ecosystems



#### Biosurfactants

- Rhamnolipids from a complex fermentation process enable cleaning with performance and reduced skin irritation
- Based on deforestation-free raw materials and 100% renewable energy for production



### Ensure Health & Well-being



#### Drug Delivery Systems

- Global development partner & solutions provider for delivery systems for effective drugs and vaccinations
- Evonik as pioneer in Lipid Nano Particle (LNP) field for mRNA technology



# Appendix – Health Care

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# Cell culture solutions

High quality ingredients for research, manufacturing and clinical applications

**Cell Culture:** Growing cells in controlled conditions outside their native environment

Cell culture solutions from Evonik



## Amino Acids

- Needed to sustain cells
- Highest quality standards
- No animal origin products

## Services

- Screening and booster development
- Customization
- Regulatory support

## Peptide boosters

- Used to improve process performance at clients
- Differentiated portfolio
- Manufactured at industrial scale

## New media ingredients

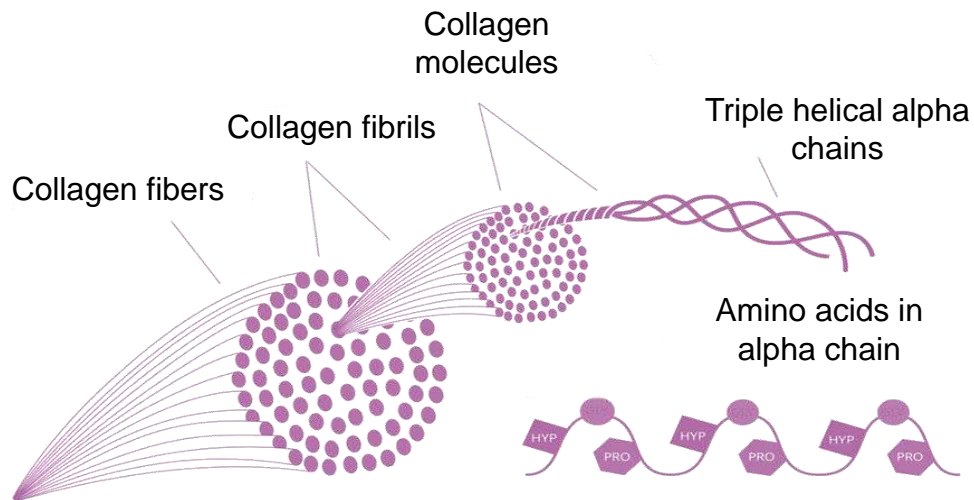
- Ready-to-use peptide formulations
- Extension of portfolio towards lipids and sugars

Creating value via Quality, Specialization, Services and Scalability

# New collagen platform

## Non-animal derived collagen based on Evonik's biotechnology expertise

- Collagen contributes between **25% and 35% of the total protein mass** in humans and other mammals
- Critical in the formation and functionality of **tissues, skin, bone, ligaments, cartilage, hair and lungs**
- Provides rigidity, shape and integrity



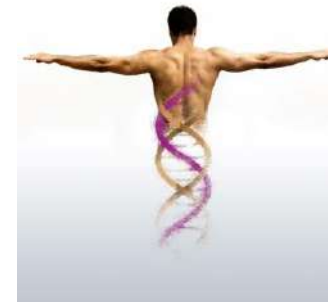
### Evonik's new collagen platform

Highly biocompatible

Fermentation-based process

Non-animal derived

Highly soluble at physiological pH



Reproducible ultra-high purity process

Ideal for hydrogels & other shapes

Commercially scalable

Fully customizable

# Medical Devices

A broad portfolio of biomaterials and application technology services

## Biomaterials for Bioresorbable Implant Devices

### RESOMER®

The world's leading portfolio of standard, custom and specialized bioresorbable polymers



## Biomaterials for Surface Modification

### Endexo®

Best-in-class additive technology for surfaces to reduce thrombus, infection and biofouling risk



## Other Biomaterials for Medical Devices

### Evonik Collagen

A recombinant collagen platform that is highly soluble, scalable and biocompatible for life science applications



## Biomaterial Application Technology Services

### A global network

Medical Device Competence Center in the U.S. plus application labs in Germany & China for testing, 3DP & scale-up support



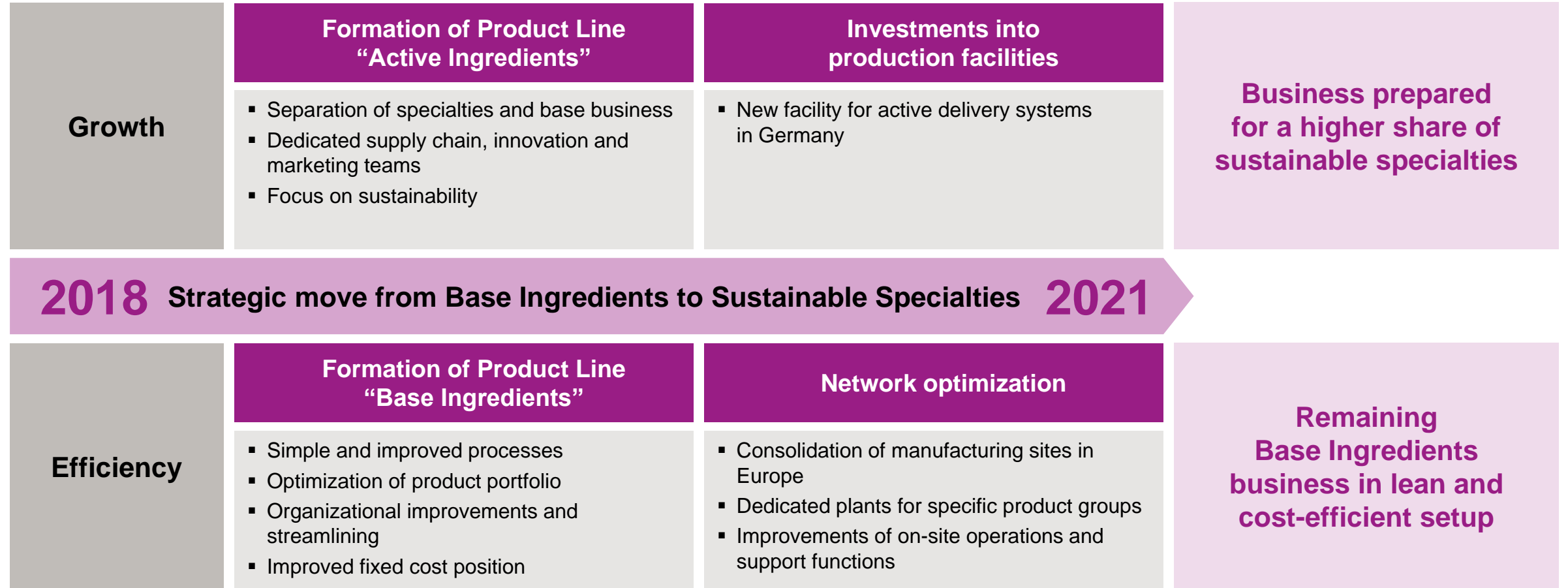
# Appendix – Care Solutions

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# Oleo 2020 – Gear business model towards higher share of specialties

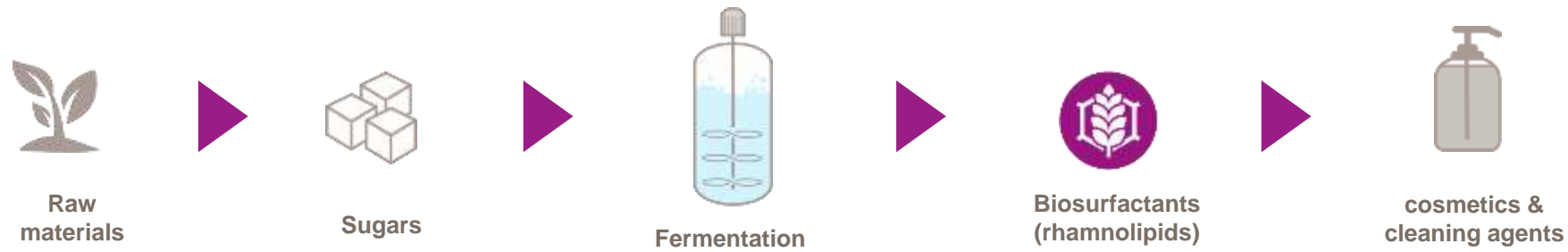
## Clear separation of products and production sites



# Biosurfactants are the next game changer in Evonik's innovation portfolio

## Leading the way for a sustainable ingredient portfolio transformation

### A unique process resulting in a unique product



### Fulfilling today's and tomorrow's consumer needs

Origin	Sensorials	Performance	Environmental
<ul style="list-style-type: none"> <li>100% renewable</li> <li>No tropical oils</li> <li>Natural ingredient</li> </ul>	<ul style="list-style-type: none"> <li>Mild to skin</li> <li>Pleasant skin feel</li> <li>Creamy foam</li> </ul>	<ul style="list-style-type: none"> <li>Excellent foaming</li> <li>High cleansing/degreasing</li> <li>Hard water resistant</li> </ul>	<ul style="list-style-type: none"> <li>Bio-processed</li> <li>100% bio-degradable</li> <li>Low aquatox</li> </ul>



# Next generation of surfactants

## Biosurfactants vs. biobased surfactants

### Evonik Biosurfactants (Rhamnolipids)

#### Natural surfactants produced by fermentation



Derived from plant based sugars



Bio-processing (fermentation)

No hazardous feedstocks



Nature identical structures



Consumer perceivable mildness benefit



Best in class environmental profile

### Biobased surfactants

#### Synthetic surfactants from renewable raw materials



Derived from (tropical) oils



High temperature/pressure involved  
May use hazardous raw materials



Synthetic structures

Examples: Alkyl polyglucosides, Glucamides, nonionic surfactants made from biobased ethylene oxide

# Geared for growth following a successful series of launches

## Large-scale production of world's first "green" biosurfactant (rhamnolipids)

2018

### Pilot launch



- **Launch** in selected **personal care** applications
- Personal Care ingredient "RHEANCE® One" **awarded at "in-cosmetics"** 2018
- Several commercial personal care products followed

2019

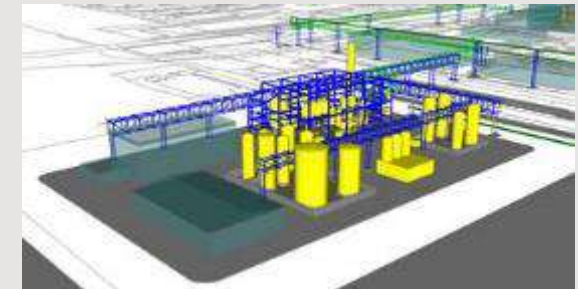
### Expansion into Home Care



- **Leveraging volume potential** with home care applications
- **Unilever** with successful market launch of a dishwashing product in 2019

Planned  
2023

### Industry-scale investment






- Commercializing **Evonik's leading biotechnology capabilities:**
  - Evonik will be the **first company to produce biosurfactants on industrial scale**
  - Basic engineering finalized
  - Ramp-up expected for 2023

# Appendix – Animal Nutrition

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# Evonik Growth Field “Sustainable Nutrition”

Portfolio built on sustainability, innovation, broad synergies, global customer access

Sustainable Nutrition					
Market segment	Livestock Health and Performance		Aquaculture		Ruminants
		<b>Antibiotic-free livestock farming, protein quality</b>		<b>No wild caught fish in aquaculture</b>	
	<b>Gut Health Solutions</b>	<b>Enhancement of energy metabolism</b>	<b>Natural Algal Oil (VERAMARIS)</b>	<b>Methionine peptide</b>	<b>Delivery Systems in Dairy Cows</b>
<b>Evonik brands</b>	Ecobiol®, GutCare®, Fecinor®, EcobiolFizz®	GuanAMINO®	EPA/DHA algal oil, AQUAVI-Met-Met		Mepron®, Kpron®
<b>Market growth</b>	<b>&gt;7%</b>		<b>&gt;5%</b>		<b>~5%</b>

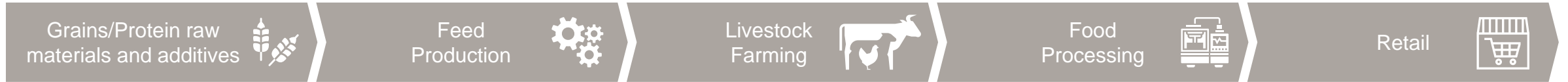
- **Attractive markets with global access:** Robust growth driven by increasing needs for sustainable livestock farming
- **Innovative System Solutions:** Combining products, digital services, nutritional know-how, new Go-to-Market-models
- **Strong synergies:** Shared technology platform competencies: nutrition research, microbiome modelling, biotechnology



# System Solutions for sustainable livestock production

## Fully integrated portfolio across platforms for antibiotic replacement

### Value chain



### Gut Health Solutions

Basal “low protein diet” concepts built on amino acids now including healthy, high performing diet solutions (e.g. AQUAVI MetMet®, GuanAMINO®)

Probiotics for antibiotic growth promotion replacement with gut health modulation “in-feed” and “on-farm” (e.g. Ecobiol®, GutCare®)

Analytical Services for feed quality assessment (e.g. AMINONIR®)

On-farm health monitoring (ScreenFlox®)  
PLF<sup>1</sup>: on-farm software (Porphyrio®), applied service apps

New business models (value chain marketing) and strong focus on global consumer needs

1: PLF: Precision Livestock Farming

# Precision Livestock Farming

## Digitized value chain to optimize poultry production



### Concept: Usage of big data-based management in poultry production



#### 1 MONITOR

#### Livestock production

Introduce on-farm IoT/sensors to enable digital process control and gather in-feed and on-farm data



#### 2 PREDICT

#### Protein quality

Connect data with nutritional knowledge and generate algorithm-based, accurate predictions to match supply and demand

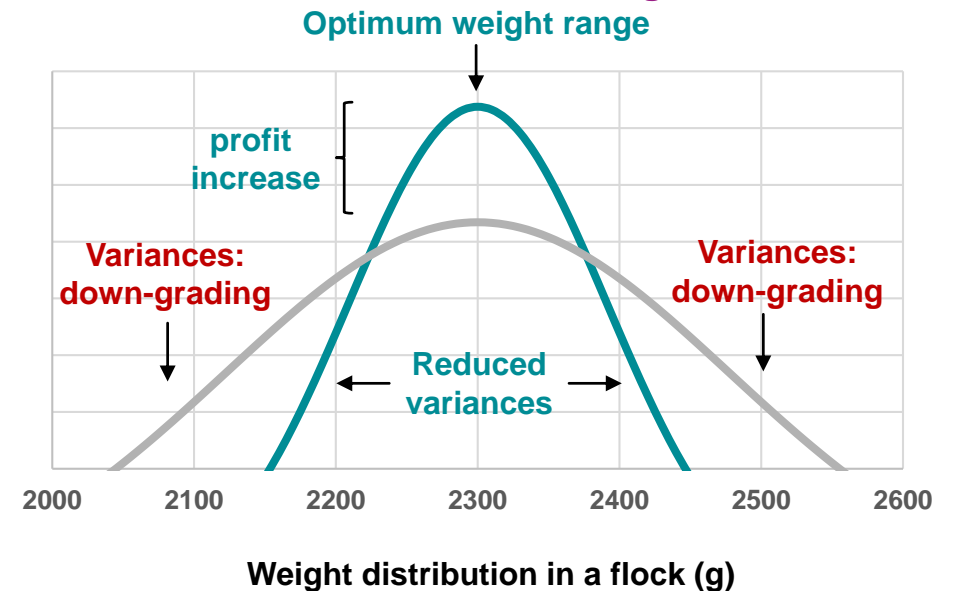


#### 3 PLAN

#### Protein supply

Optimized poultry production based on these predictions to meet schedules of processing & retail industries

### Effect: Reduction of bird liveweight variances



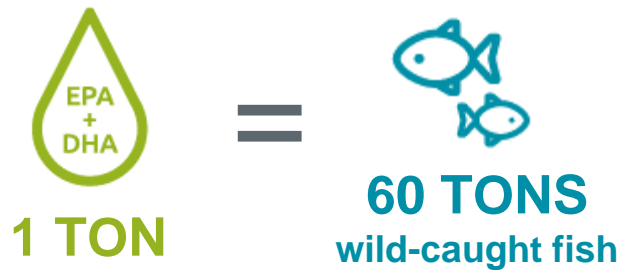
Industry Value Potential<sup>1)</sup> ~€5 bn

1: If all industry players reach today's liveweight performance level of the Top 10% integrators

# Veramaris – No wild caught fish in aquaculture feed

## Progress on implementing sustainability roadmap

### Oceanic Biodiversity and Human Health



### VERAMARIS®: Sustainable omega-3

EPA & DHA omega-3  
absolutely vital for health

Support key metabolic functions  
and good health of major organs.  
In Human and Animal Nutrition.



2020

### Strong Start in Challenging Salmon Market Environment

#### Market Situation

- Global HoReCa industry down by 50% in major salmon markets yoy
- Oversupply and price erosion of salmon

#### Veramaris® Business Development

- Business growth impacted by salmon market situation
- Value proposition successfully introduced on retail level in EU, e.g. Kaufland (D), Match (F)

2021

### Tailor Value Proposition to Different Stakeholders

#### Salmon Farmer Benefits

**Fish health:** Raise overall omega-3 level to improve fish health and growth efficiency. New monetization model essential.

#### Retail Opportunities

**Human health:** Benefit of high omega-3 seafood through proof points at scale

#### Pet Food Entry

Fast registrations supporting **sustainability self-commitments** of pet food industry

#### Value Chain Marketing

Addressing **overfishing and biodiversity:** Industry to become net seafood producer



**EVONIK**

**Leading Beyond Chemistry**