

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



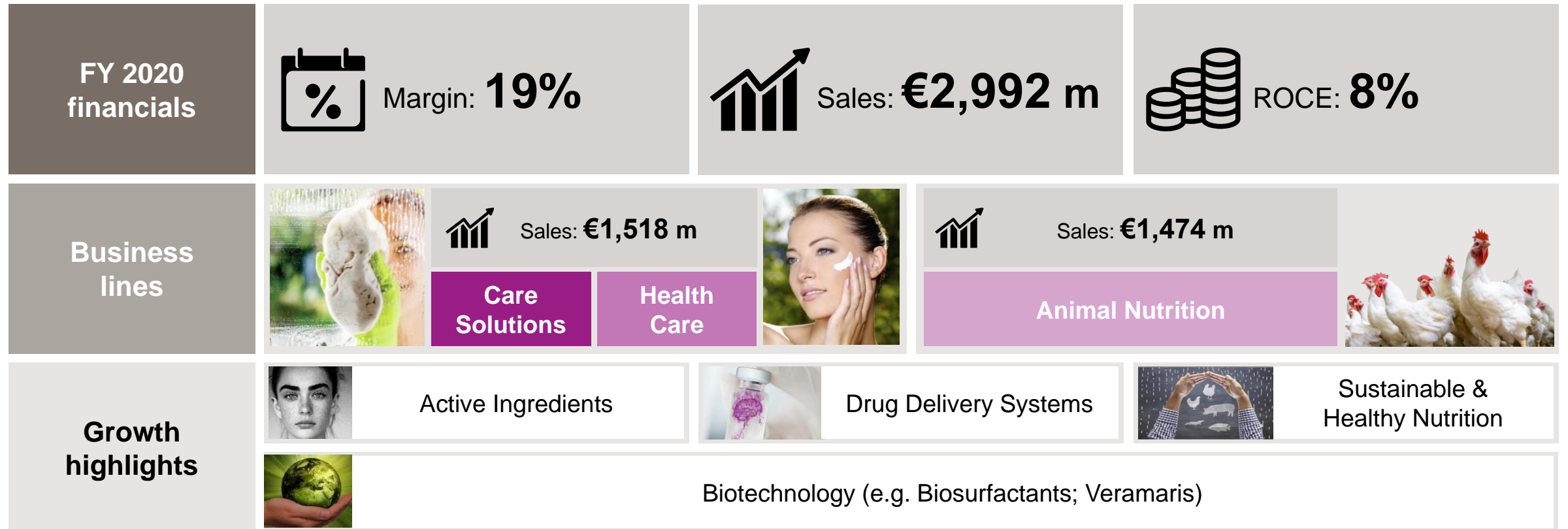
Emmanuel Auer

Head of Animal Nutrition

Nutrition & Care Portfolio

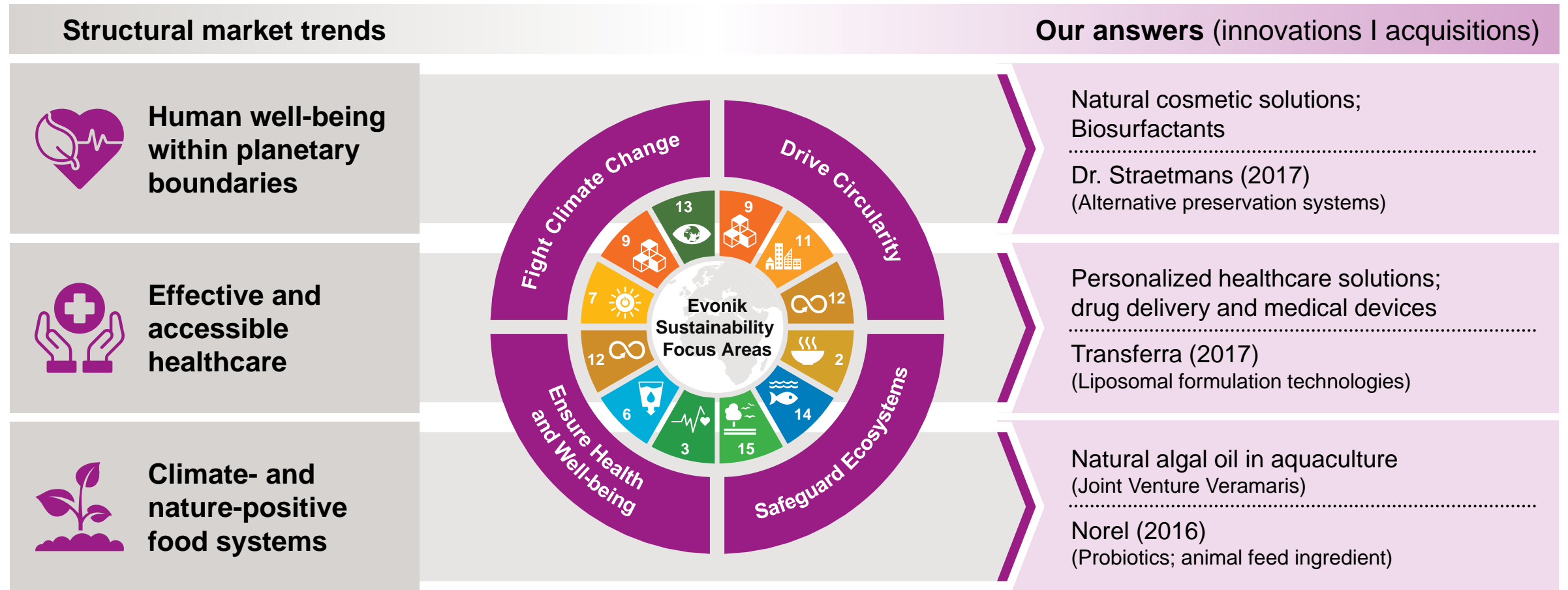
Focused portfolio on consumer-oriented end markets with high level of synergies

“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

Growth



Differentiating
system solutions
based on strong
technology platforms
as growth drivers

Performance



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

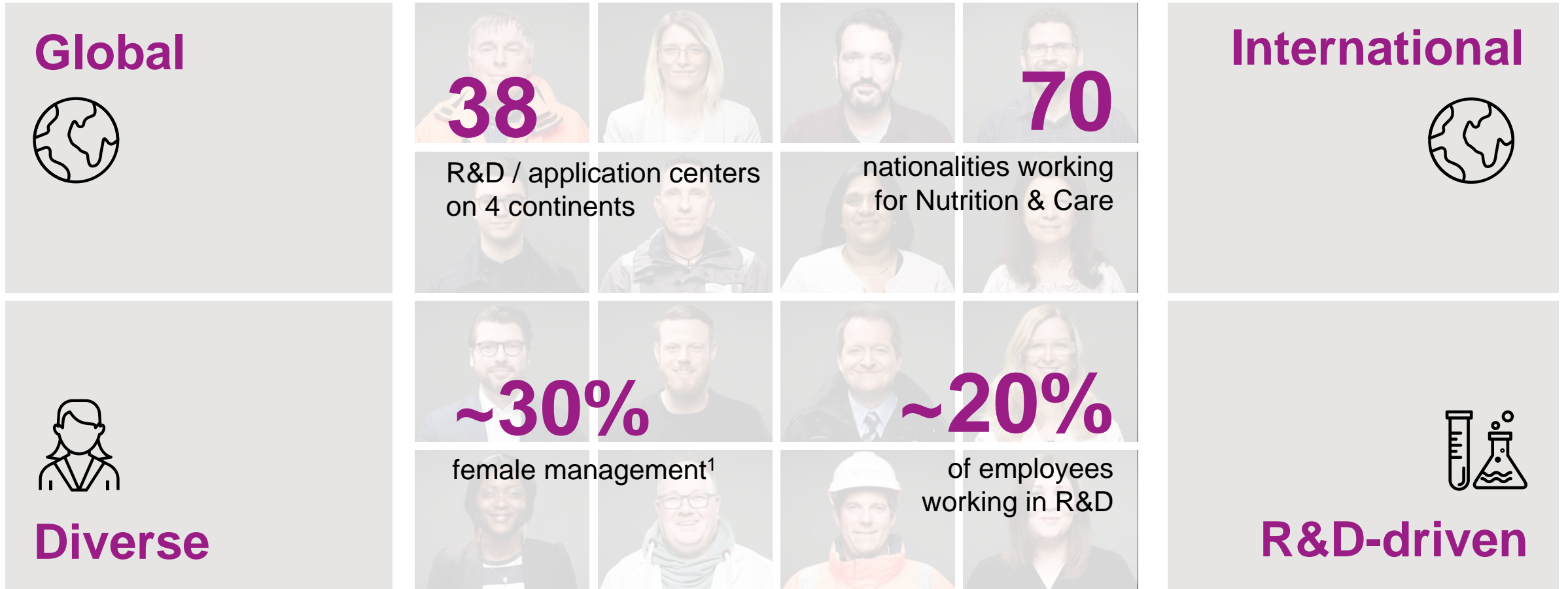
People



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 onwards¹

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

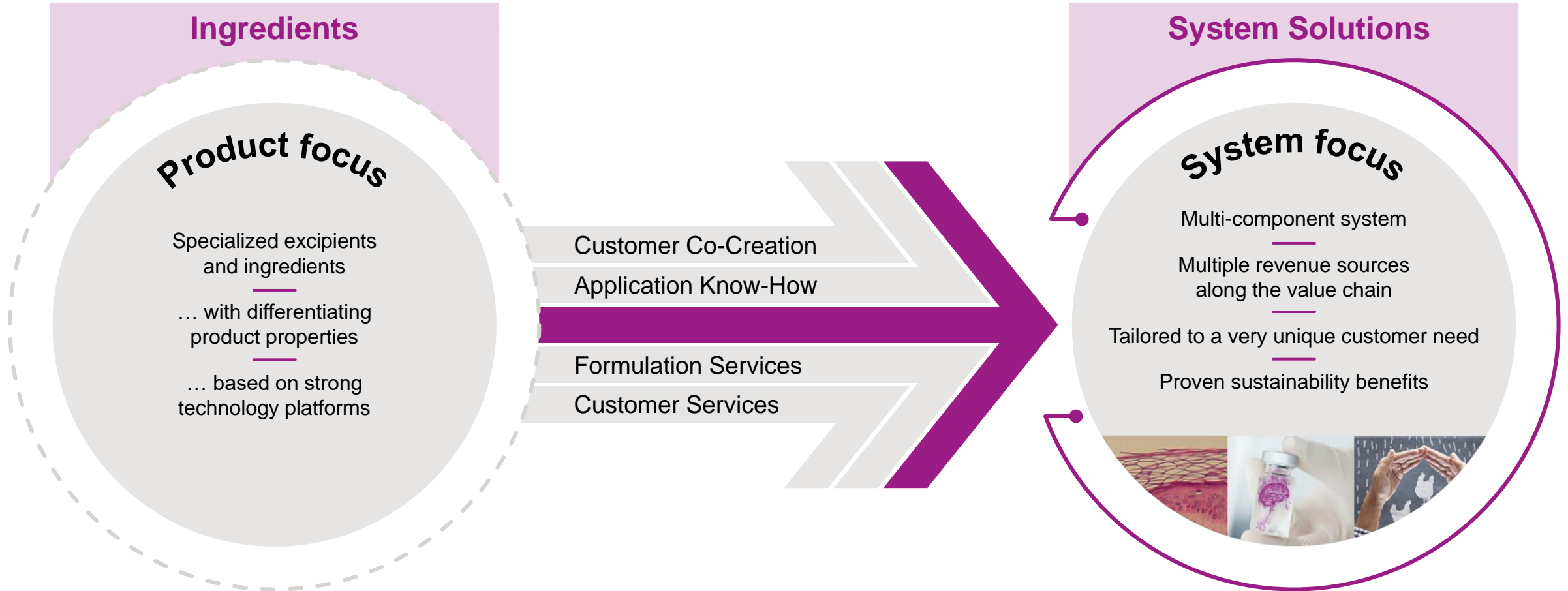
Biotechnology – Process Excellence and Launched Products

	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**

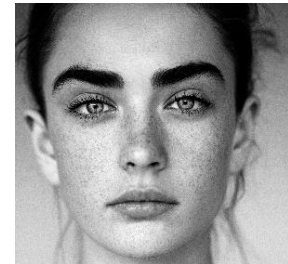
Strong **pricing** power

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 AGP¹-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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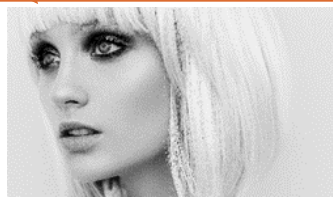




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Yann d'Hervé
Head of Care Solutions



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%

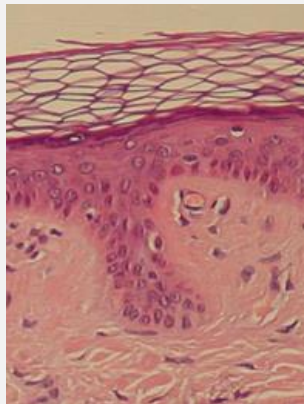
- **Attractive markets:** Care Solutions operates in high growth Personal Care market
- **Preferred Sustainability Specialties Partner:** Strong technical competences, market reach and customer intimacy
- **Portfolio shift toward Sustainable Specialties:** Innovation and targeted acquisitions to strengthen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

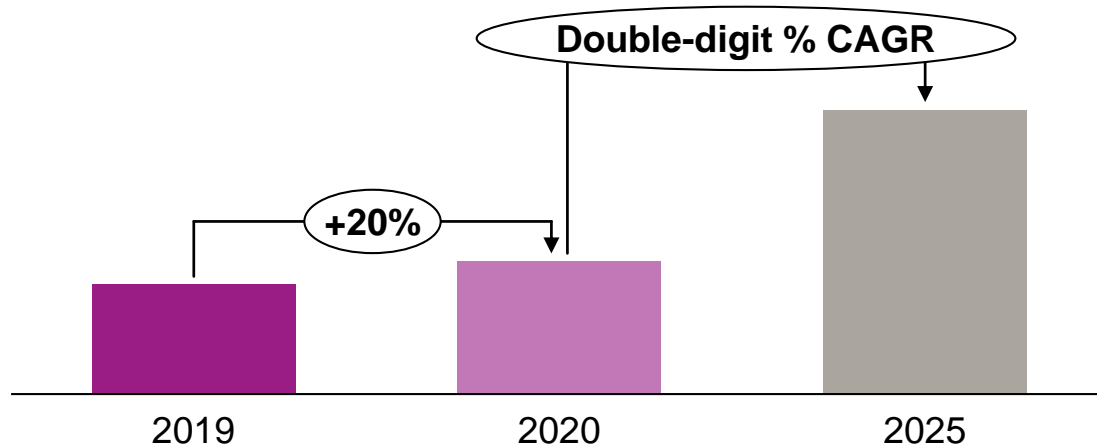
Cosmetic Claims

- 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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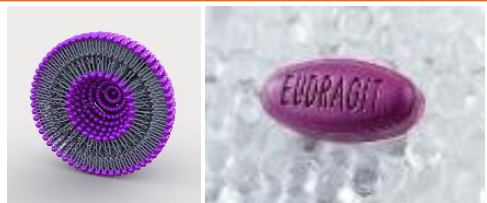





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Thomas Riermeier
Head of Health Care



Health Care Portfolio

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

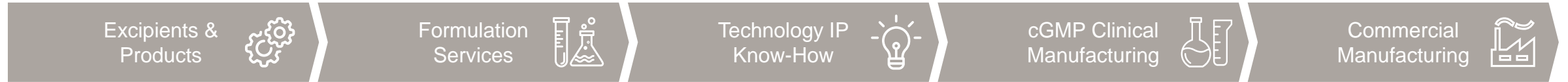
Health Care						
	Pharmaceutical				Nutraceutical	Medical Devices
Market segment						
	Drug Delivery Systems	Contract Manufacturing & API Synthesis	Pharma Amino Acids	Cell Culture & Tissue Engineering	Advanced Food Ingredients & Nutraceutical Coatings	Biomaterials & Application Technologies
Market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

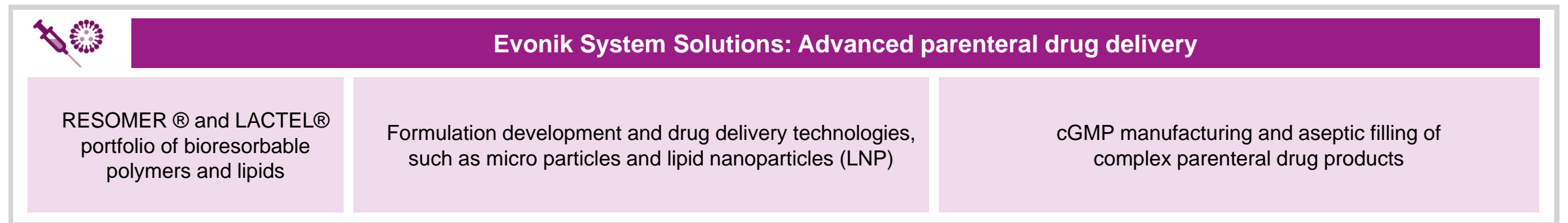
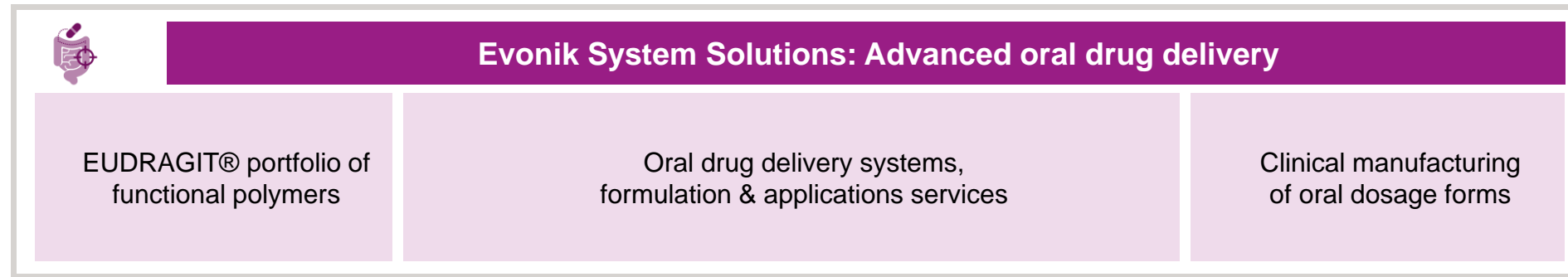
Drug Delivery System Solutions

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

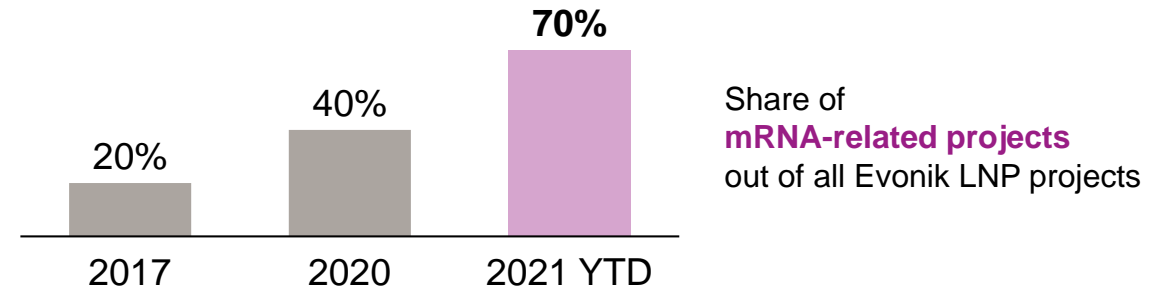
Protein therapeutics

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

Gene editing

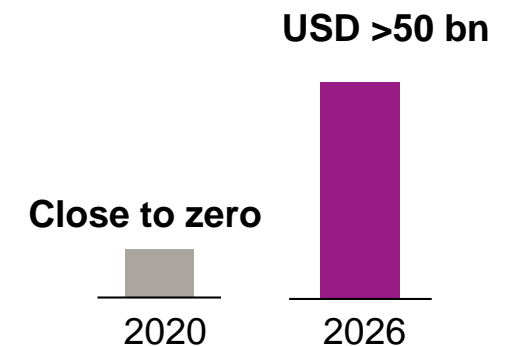
In-vivo modification of genes causing diseases expected to be commercial within the next years

Evonik's LNP solutions enable mRNA-based medicine



Total market for LNP-based cell & gene therapies

Accessible market for Evonik of USD ≥ 5 bn by 2026



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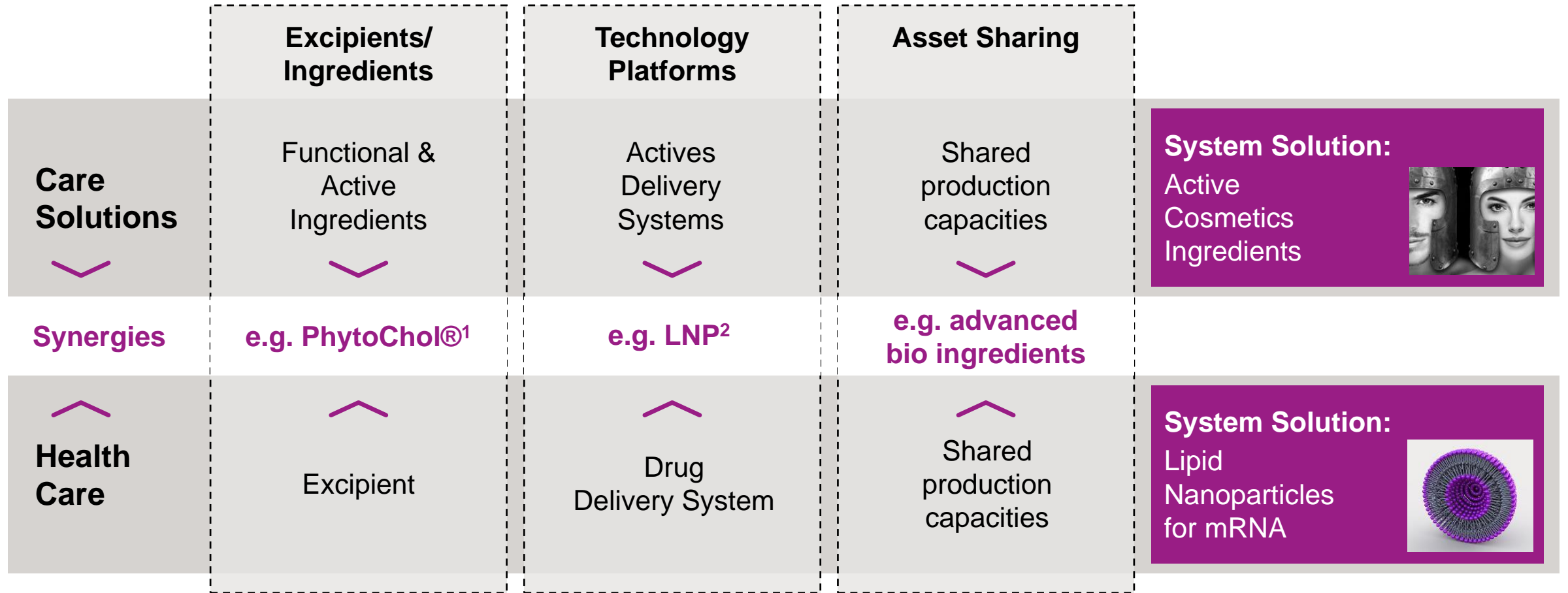
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Johann-Caspar Gammelin
President Nutrition & Care



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)

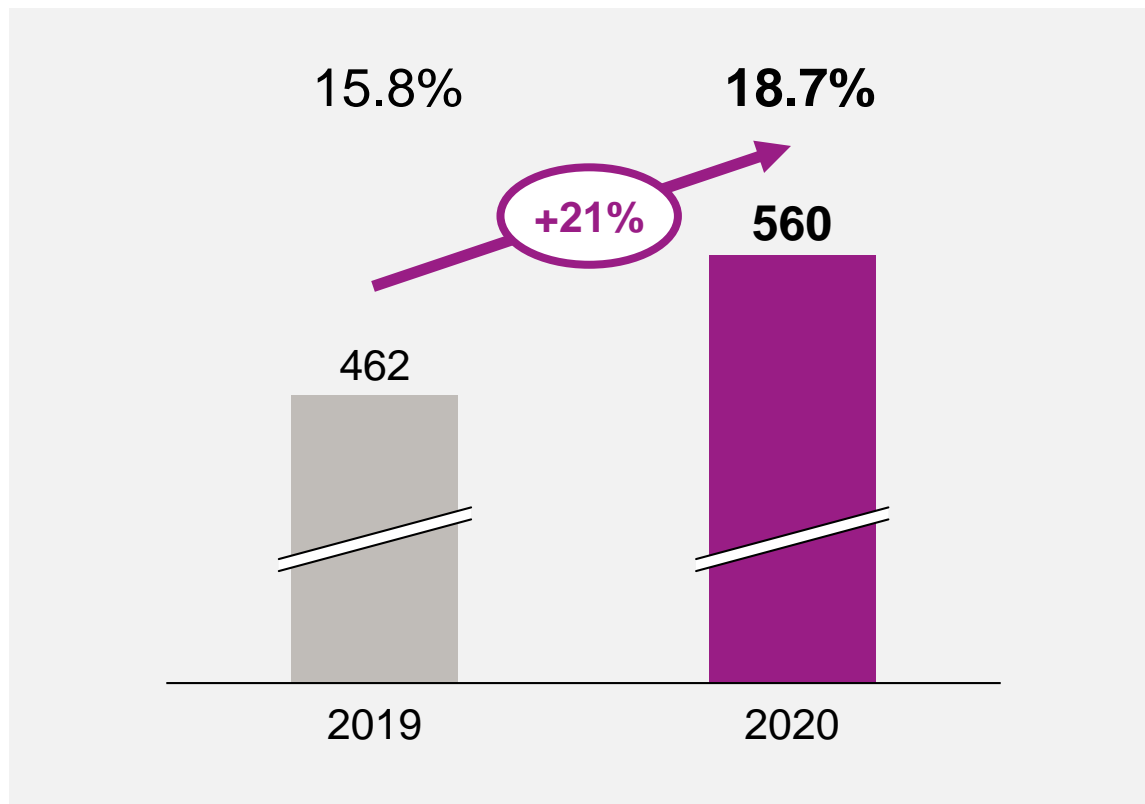
Our strategic management agenda will result in highly attractive KPIs

			Mid-term targets
 People	Contribute to “One Evonik” goals	Internationality in top management ¹	> 35%
		Females in senior management ¹	> 23%
 Planet		Next Generation Solutions ²	> 50%
 Profit		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





Relevant peers for consideration for SOTP models

Health & Care

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

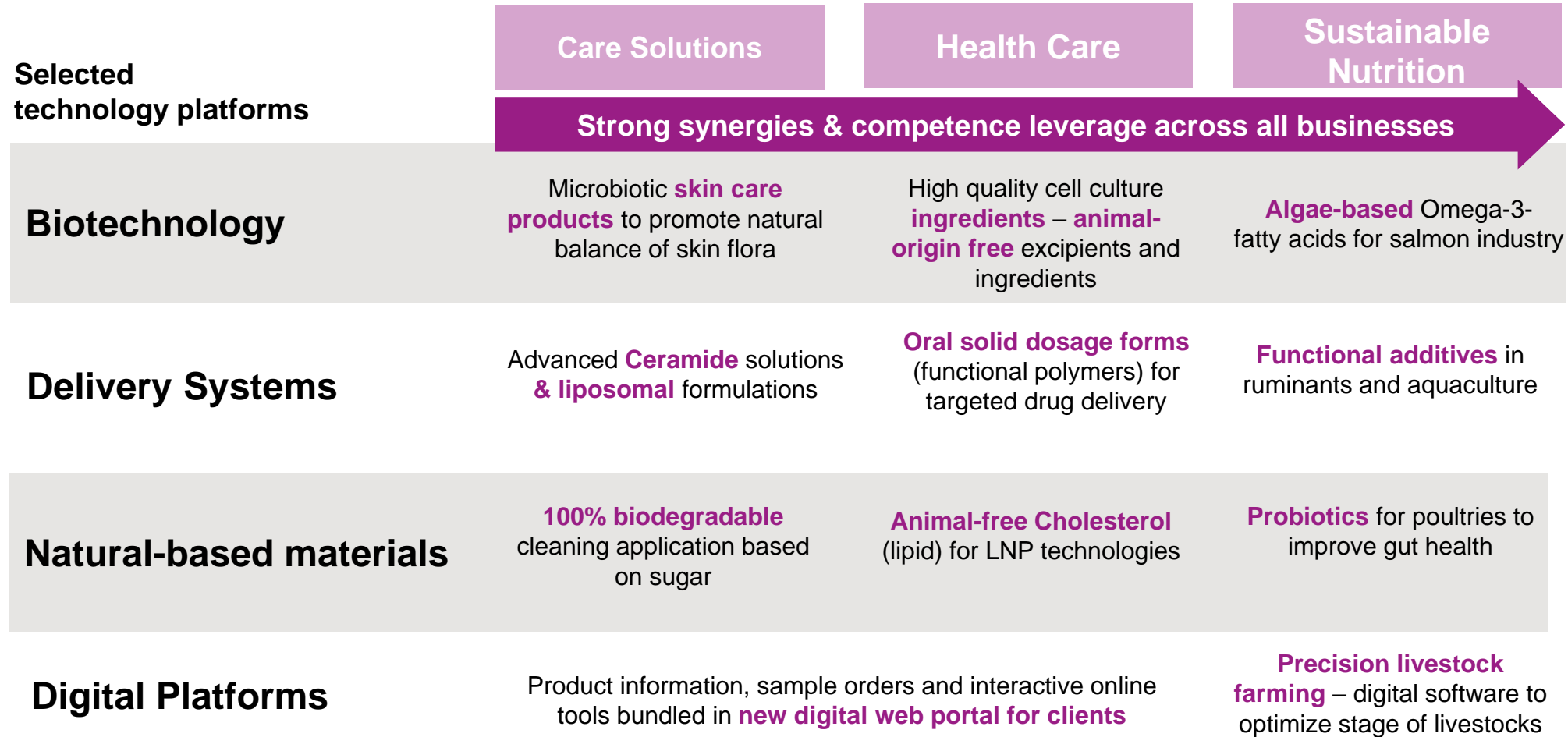
Relevant peers for consideration for SOTP models

Animal Nutrition

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

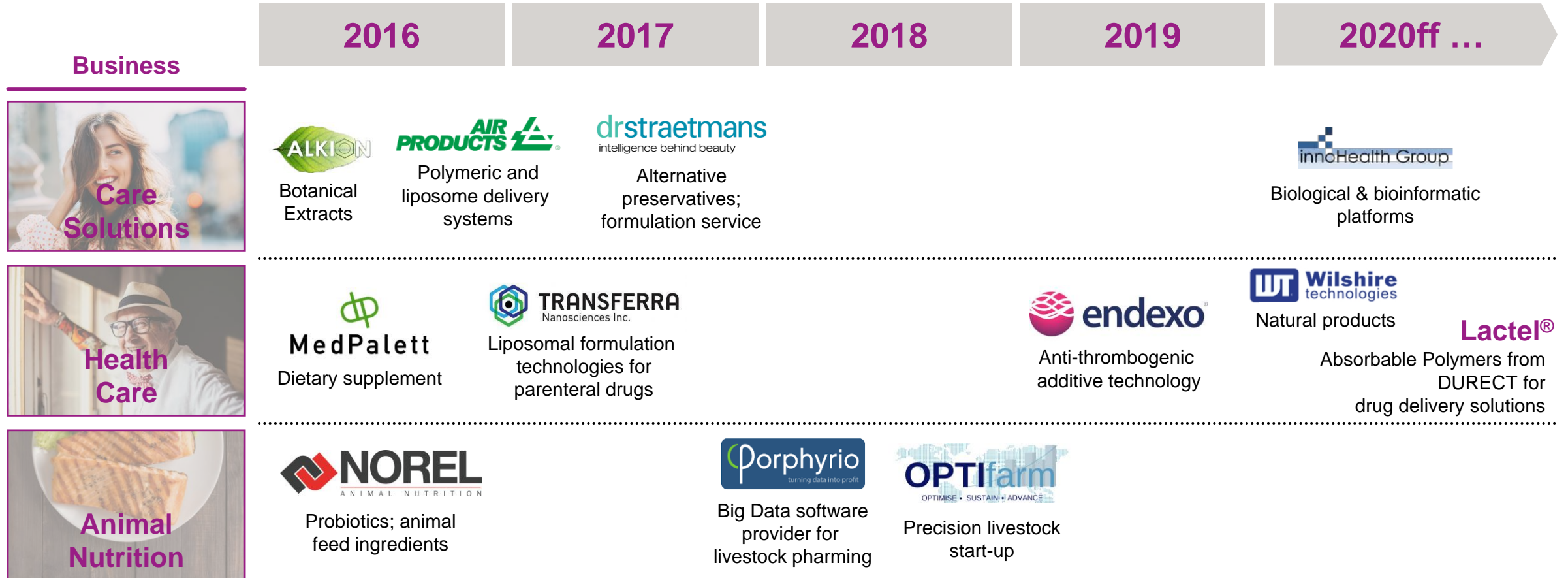
Growth: Technology platforms as backbone

Synergies and exchange of competencies & resources between businesses



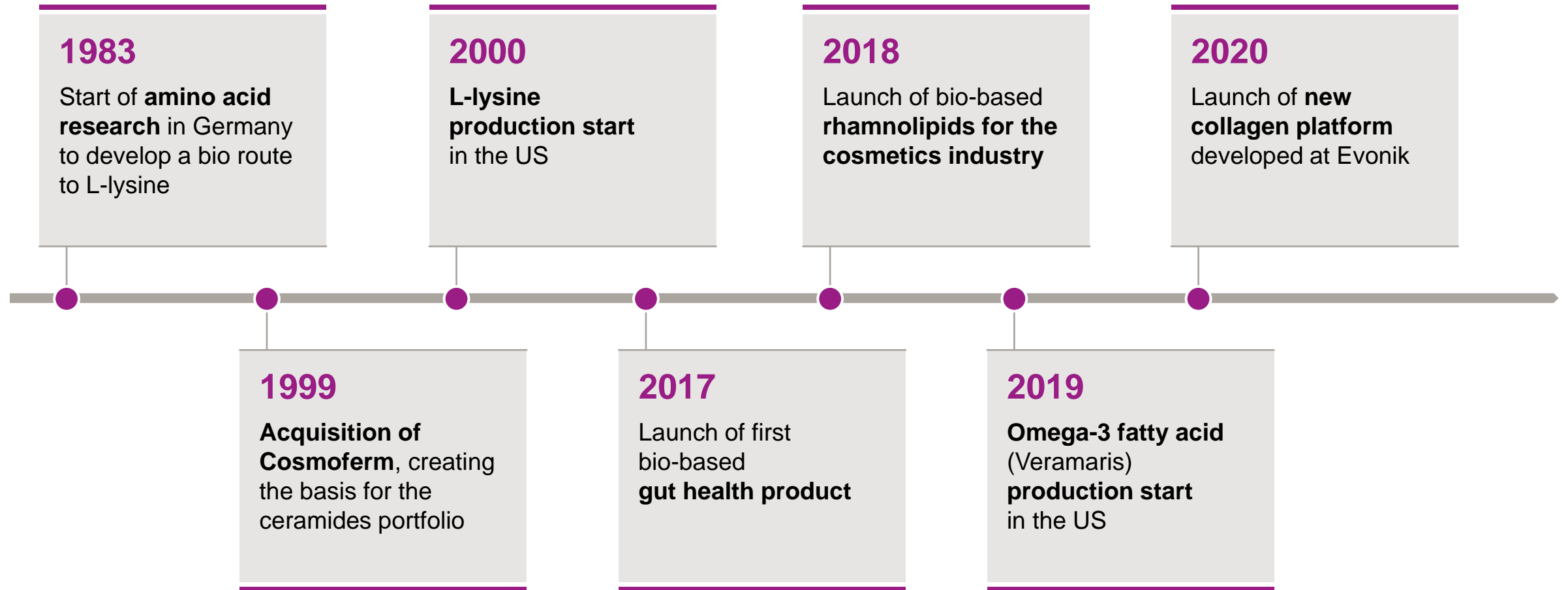
Strategy of value-adding technology acquisitions across all businesses

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



Drive Circularity



Safeguard Ecosystems



Ensure Health & Well-being



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



Veramaris Algal Oil

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



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



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

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

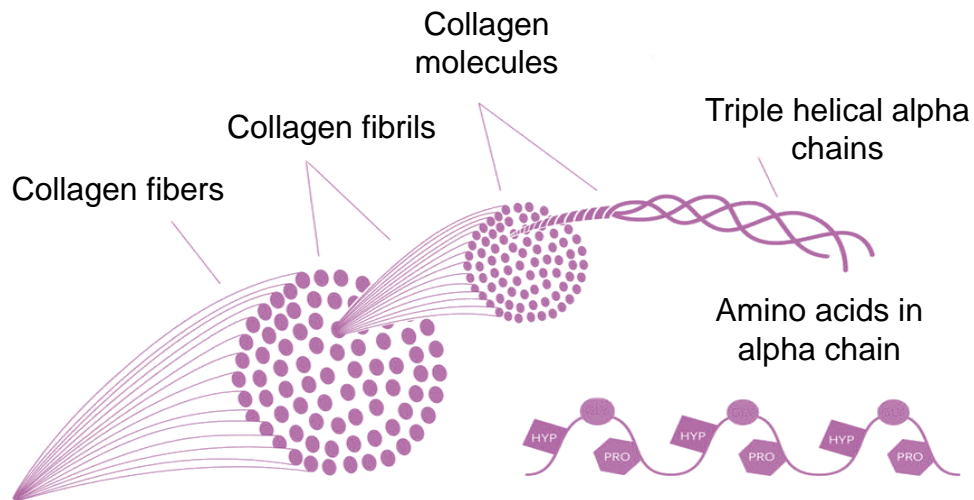
- Ready-to-use peptide formulations
- Extension of portfolio towards lipids and sugars

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



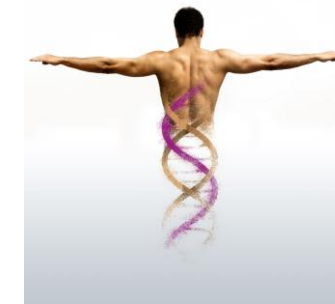
Evonik's new collagen platform

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

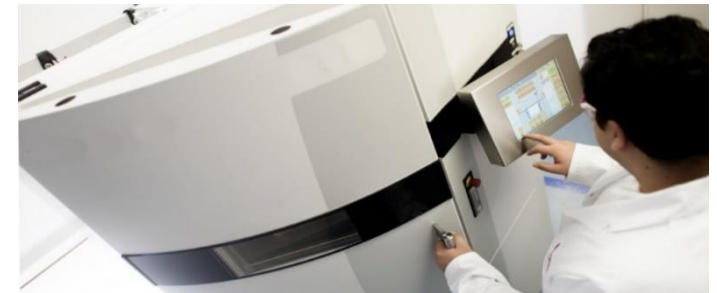
A recombinant collagen platform that is highly soluble, scalable and biocompatible for life science applications



Biomaterial Application Technology Services

A global network

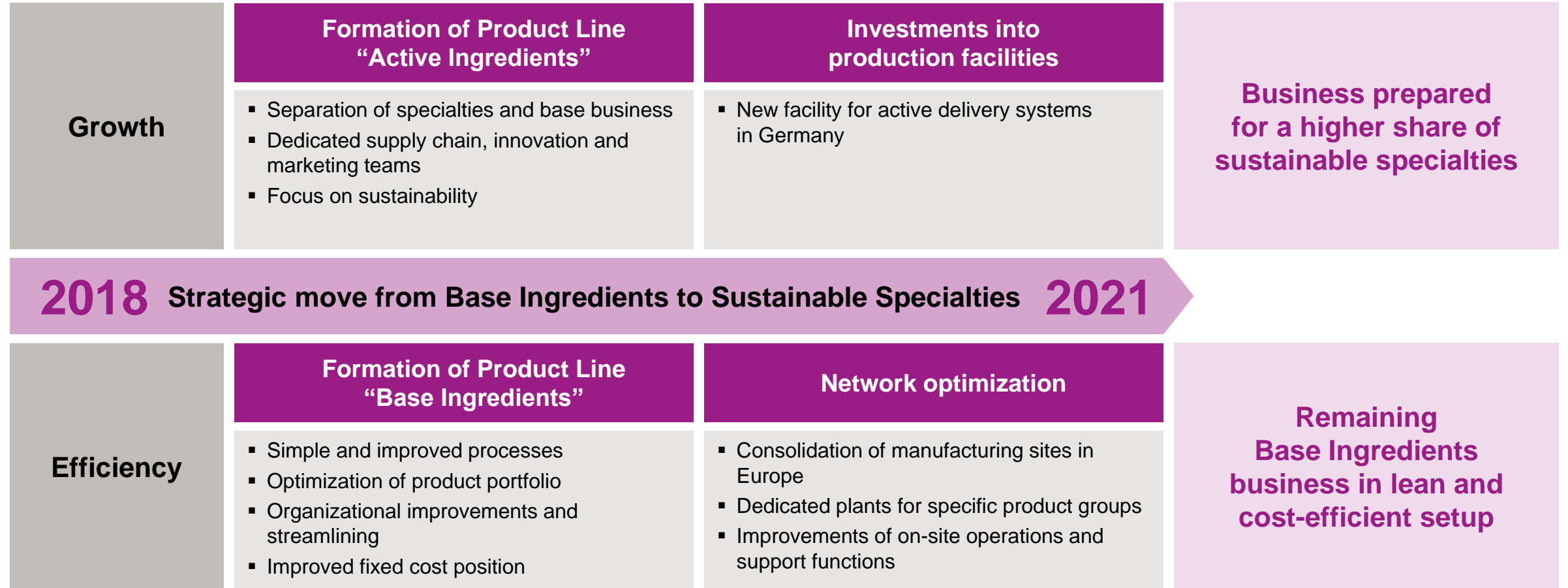
Medical Device Competence Center in the U.S. plus application labs in Germany & China for testing, 3DP & scale-up support



Appendix – Care Solutions

Oleo 2020 – Gear business model towards higher share of specialties

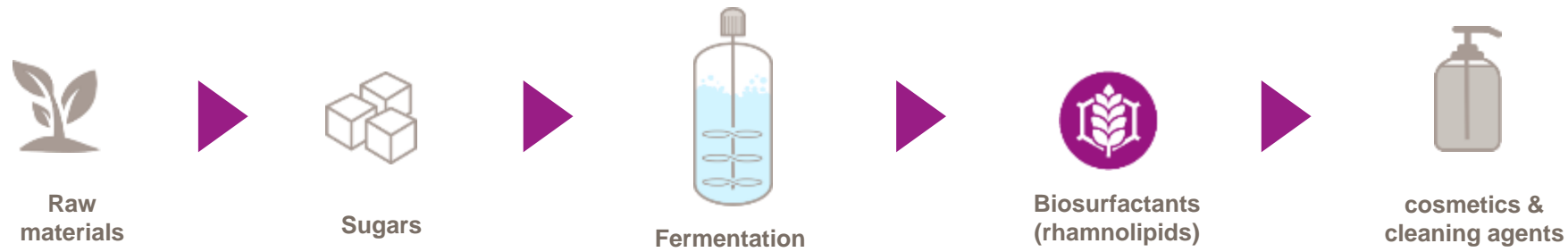
Clear separation of products and production sites



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



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

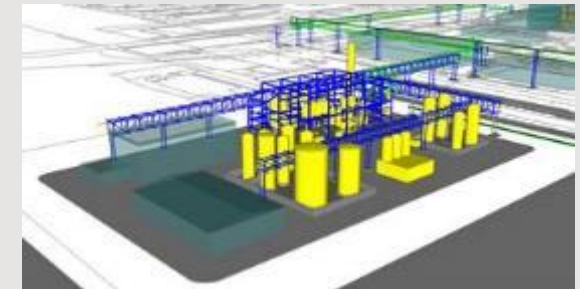
Expansion into Home Care



- **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

Evonik Growth Field “Sustainable Nutrition”

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

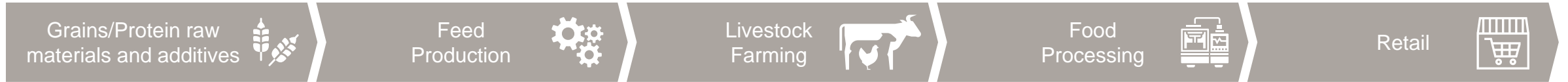
Sustainable Nutrition						
	Livestock Health and Performance		Aquaculture		Ruminants	
Market segment		Antibiotic-free livestock farming, protein quality		No wild caught fish in aquaculture		Eco-footprint reduction
	Gut Health Solutions	Enhancement of energy metabolism	Natural Algal Oil (VERAMARIS)	Methionine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

- **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®)
PLF¹: 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

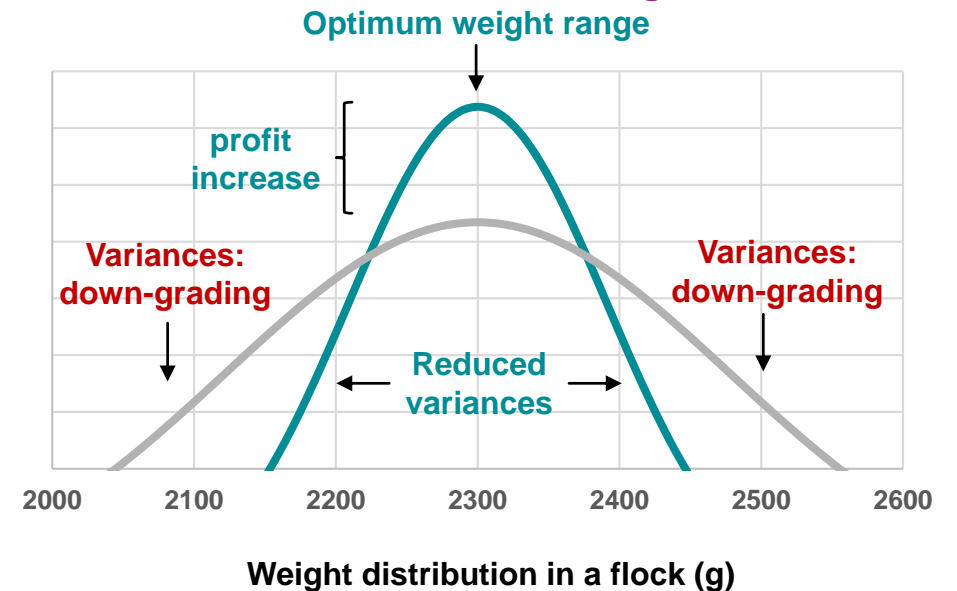


3 PLAN

Protein supply

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

Effect: Reduction of bird liveweight variances



Industry Value Potential¹⁾ ~€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



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