

# Unlocking the potential of science and innovation for a sustainable future

Henk Noorman  
Sr. Director Sustainability S&R

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dsm-firmenich 

# People. Planet. Progress



We bring progress to life by delivering innovative and sustainable solutions through advanced scientific applications

# We harness the power of science and innovation to create solutions that deliver on four key benefit areas for a positive impact on planet and society

## Improved well-being

Enhancing quality of life through holistic health and extended lifespan



## Enhanced performance

Providing novel functionality for an enriched experience



## Increased efficiency

Delivering on the needs with less material, energy and waste



## Lower footprint

Nurturing the planet for generations to come



# Science & Research driving innovation and creation

Building on a legacy of excellence & investment in science

**16,000+**  
patents across  
~2,600 patent families

**164**  
new first-patent  
publications in 2024

**40**  
creation centers

**78**  
application labs

**2,000+**  
scientists &  
engineers

**€700m+**  
annual R&D  
investment



All figures represent pre-carveout status.

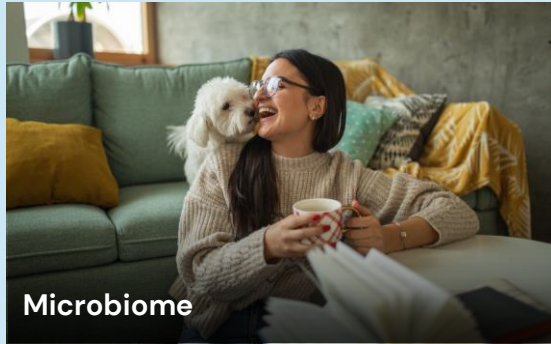
# Industry-leading science and research capabilities

Strong synergies across all business units underpinning sustainability solutions

## Fast-evolving science capabilities that unlock large potential



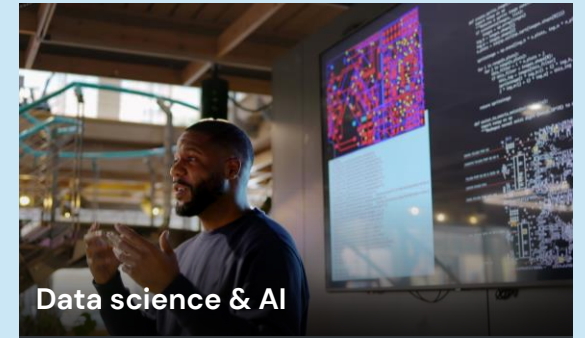
To deliver sustainable ingredients & solutions by unleashing the power of living systems



To enable the realization of targeted and personalized well-being



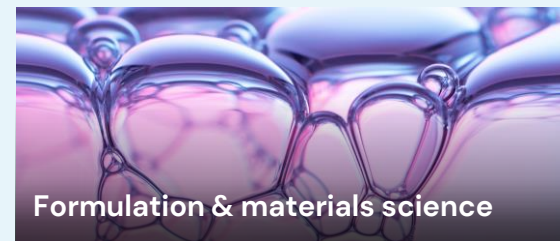
To decode our senses and emotions for enhanced experiences



To digitalize innovation, accelerate discovery and boost creation with data and AI



## Mature technologies critical for our business



# Improved well-being

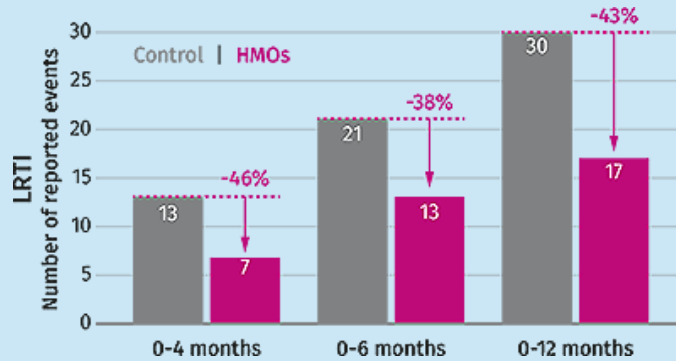
Enhancing quality of life through holistic health and extended lifespan

## Featured innovation

### Human Milk Oligosaccharides

Closing the gap on human breastmilk and giving the best start in life to all infants

Babies that received infant formula with HMOs had significantly less respiratory tract infections<sup>1</sup>



1. Puccio et al. 2017 J. Ped Gastro Nutr.

- Reduction of infections and lower use of certain medications
- Promotes growth of beneficial bacteria
- Supporting the immune system
- Additional benefits in gut health, allergy and brain & cognition development suggested by pre-clinical and observational data

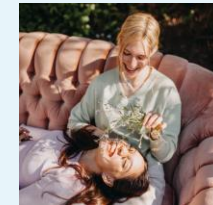


Current programs target at developing new production strains and process optimization to improve productivity and secure competitiveness in the market

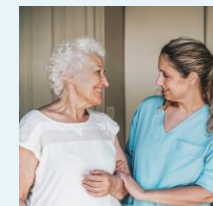
## Other innovations



**Digestive enzymes** optimize gluten and lactose breakdown for greater dietary freedom



**emotion™ program** unlocks the power of fragrances to increase wellbeing



**Bio-based Ulteeva Purity™** biomedical fiber material enhances patient comfort & enables less invasive treatments

# Enhanced performance

Providing novel functionality for an enriched experience

## Featured innovation

### Popscent® eco range

Our most eco-friendly encapsulation technologies

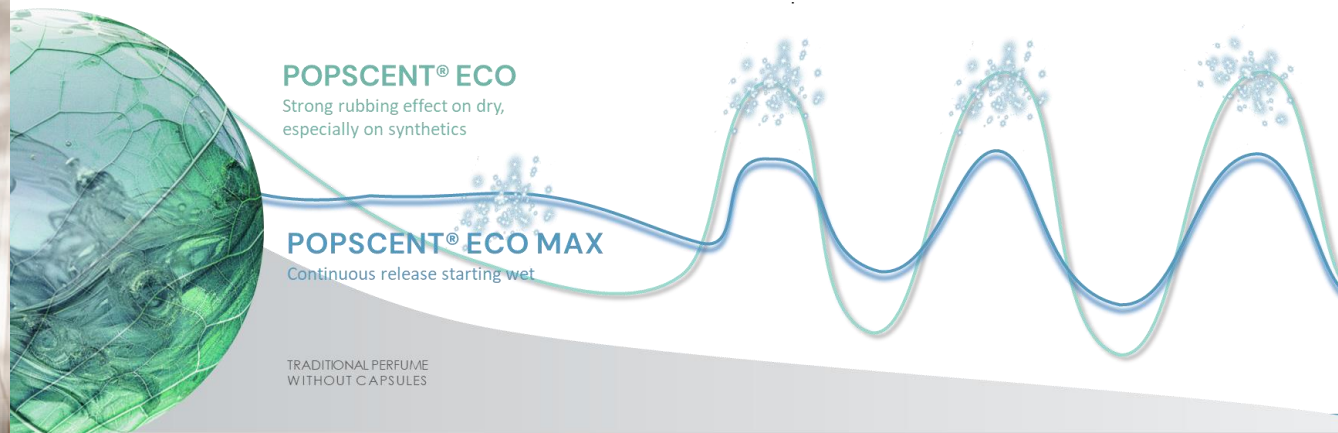
#### ENHANCED PERFORMANCE

- Uncompromised performance on cotton
- Best performance ever on **synthetics/ modern fabrics/ everyday loads**
- Superior performance **out of the tumble dryer**
- **Maximizes freshness at all touchpoints**



#### CONSCIOUS COMMITMENT

- Biodegradable
- Microplastic-free
- Natural Origin



## Other innovations



EU-approved **Ampli® D** – raise the body's vitamin D levels 3x faster and more effectively



**Delvo® Fresh Pioneer** – exceptional pH stability & mouthfeel. Keep product flavors fresh, less food waste



**Haloscent®** – patented biodegradable **profragrance**, air-activated for continuous release of delightful fragrance ingredients

90%

global consumers are willing to accept different features to get eco-friendly products<sup>1</sup>

79%

of consumers would NOT accept a less long-lasting scent<sup>1</sup>

# Increased efficiency

Delivering on the needs with less material, energy and waste

## Featured innovation

### Ingredients for ambient yoghurt

Making fermented dairy accessible to more consumers

#### MEETING CONSUMERS' NEEDS

- 6 months shelf-life pasteurized
- Stable at room temperature
- Flexible moment of consumption
- Healthy and tasty



#### CONSCIOUS COMMITMENT

- Saving cost on logistics, inventory & sales channel
- cheaper shipping ambient vs chilled
- saving for inventory storage



#### Delvo® Fresh cultures

Viscosity building, smooth and creamy mouthfeel, fresh yogurt flavor, and fast fermentation



#### GELLANEER™ HD-R gellan gum, APC201Y pectin

Further texture building, Improving smoothness, creaminess and syneresis control



#### PECTNER™ APC147 pectin

Providing smooth mouthfeel and protecting protein aggregation from heat treatment

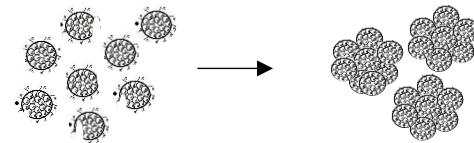


#### Maxilact® LGi 5000

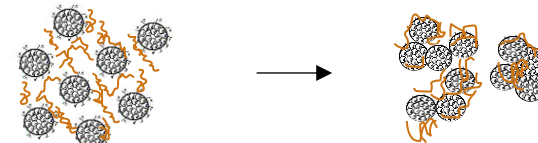
Lactose free, sugar reduction, improving sweetness



Flavoring systems for an even more indulgent experience



Without gellan gum and pectin

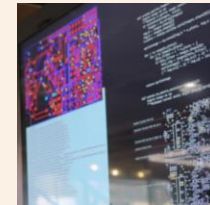


Gellan gum and pectin act as hydrocolloid network, help lower the agglomeration of casein by steric hindrance

## Other innovations



**Algal omega-3**—sustainably produced without fisheries. Ongoing works to boost yield & reduce raw material



**AI modeling** – speeds up reformulation to seamlessly adapt to changing constraints while maintain product quality



**Brewers Clarex®** prevents chill haze, enhancing brewing efficiency and sustainability

200k tons household food waste prevented by 1 extra shelf-life day<sup>1</sup>

1.3 billion tons of food are wasted<sup>2</sup>.

1. [http://www.wrap.org.uk/sites/files/wrap/Product%20Life%20Report%20Final\\_0.pdf](http://www.wrap.org.uk/sites/files/wrap/Product%20Life%20Report%20Final_0.pdf)  
 2. <https://www1.wfp.org/zero-hunger>



# Lowered footprint

Nurturing the planet for generations to come

## Featured innovation

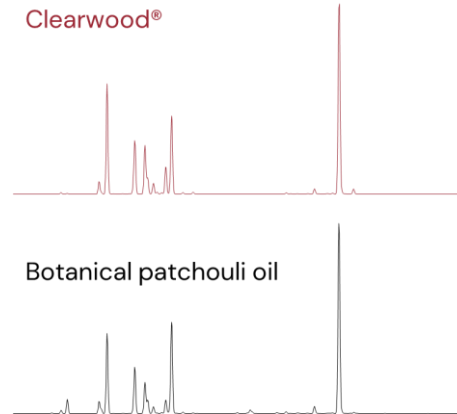
### CLEARWOOD®

Providing sustainable & cost-effective alternative to traditional botanical extract

CLEARWOOD® was the **first ever precision fermentation ingredient** to enter the perfumery industry

Leveraging a **leading biotechnology platform** for terpenes production and industry-leading expertise in terpene biochemistry, coupled with undisputed expertise in product refinement

Produced by precision fermentation of certified sugar feedstock, it conserves traditional natural resources **and leverages renewable carbon sources**



Best Sustainable Ingredient Award<sup>1</sup>



5x

Lower water use

3x

Lower land use

2-5x

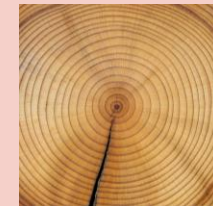
Lower PCF\*

\* Compared to patchouli essential oil

## Other innovations



**Sustainable cheese:** bio-preservative cultures (DairySafe™) extend shelf life, smart packaging (PackAge®) cuts waste up to 10%



**Amberever®** – high-performance perfumery ingredient. 10x stronger than competitors, reducing ingredient use



**Lowest carbon footprint Vitamin C** – advancing by transition to renewable energy, improve agricultural practices, glucose processing & biocatalytic conversion

dsm-firmenich



## **dsm-firmenich – a forerunner on the path towards net-zero**

We are dedicated to maintaining our investment in and enhancing our scientific and innovative capabilities to effectively address current and future sustainability challenges, and transform them into business opportunities

**We bring progress to life**