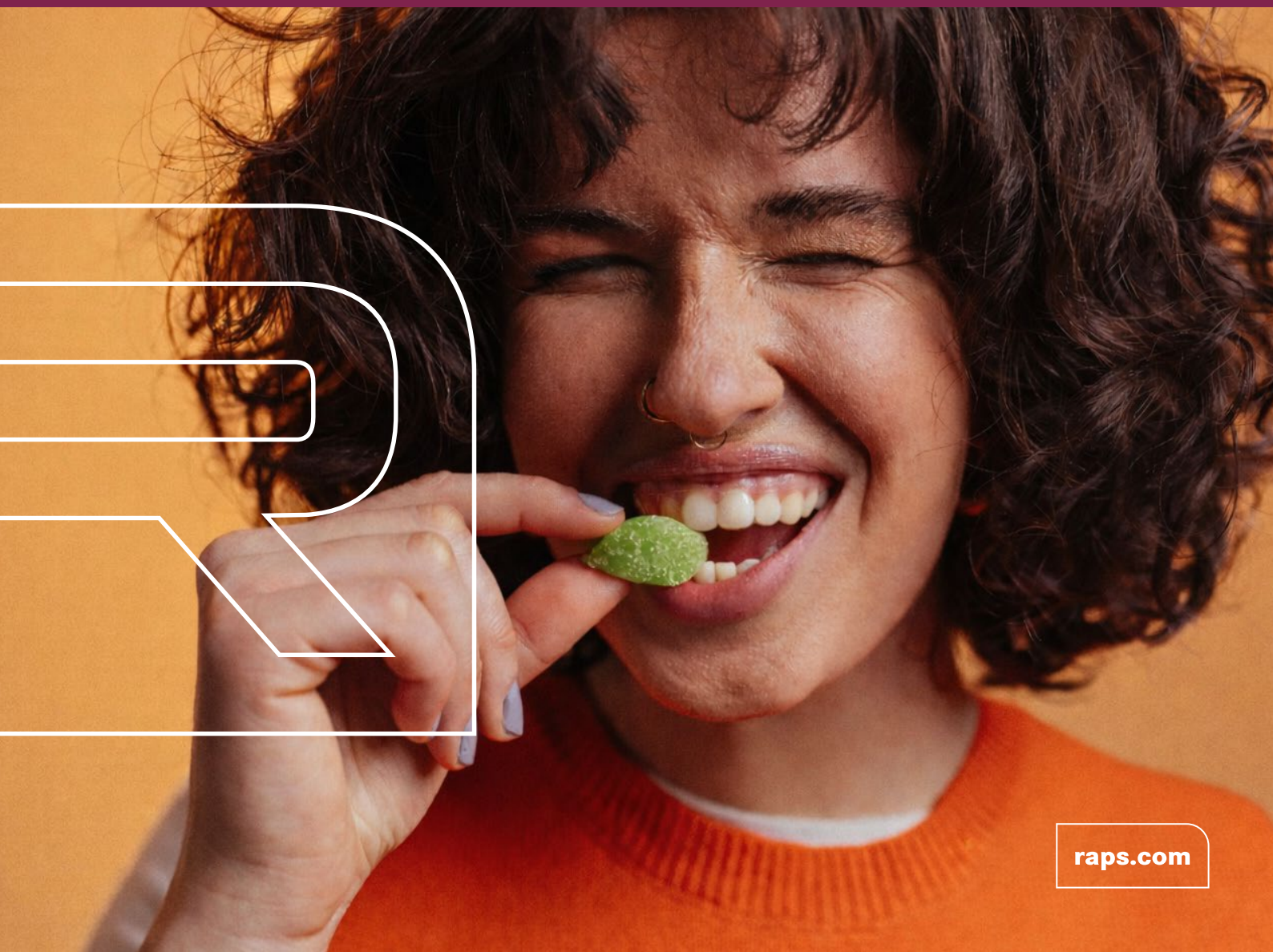
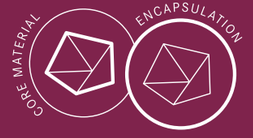
MICRO-ENCAPSULATION

Controlled release. Reliable taste
& functional performance.



MICROENCAPSULATION SOLUTIONS

RAPS microencapsulation systems protect sensitive ingredients and deliver controlled release exactly when it matters, helping food manufacturers improve process stability, product quality and sensory impact.



Versatile solutions across industries



Bakery

- Acids
- Baking agents
- Flavours & extracts
- Salt
- Sugar



Dairy

- Flavours & extracts
- Salt
- Sugar



Confectionery

- Acids
- Flavours & extracts
- Sugar



Convenience & frozen food

- Acids
- Baking agents
- Flavours & extracts
- Salt
- Sugar



Meat & sausages

- Acids
- Salt



Specialities

- Amino acids
- Enzymes
- Flavocaps
- Vitamins

Functionality exactly when and where it is needed

Tailored coatings help food ingredients perform more precisely during processing, storage and consumption.

Controlled release

Define when ingredients such as acids, extracts or taste components are released in the process or final product.

Ingredient protection

Shield sensitive actives from moisture, heat, oxygen and mechanical stress.

Process stability

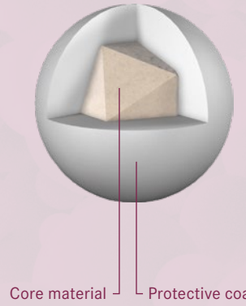
Reduce unwanted reactions, variability and product defects in demanding manufacturing environments.

Handling benefits

Improve flowability, reduce dust formation and support more homogeneous ingredient distribution.

The technology behind

RAPS combines formulation expertise with fluid-bed based encapsulation know-how to create stable particles that can be tuned into specific process and product requirements.



- Tailored coating materials for different release profiles
- Control of particle size, coating thickness and stability
- Protection against premature reactions and process stress
- Application-specific design for industrial manufacturing conditions

Common core materials

We provide raw materials in a variety of granulations, ensuring optimal performance across diverse applications.

Organic acids

- Malic E296
- Citric E330
- Fumaric E297
- Ascorbic E300

Sugars

- Extra fine 100-400µm
- Fine 200-750µm
- Granular 1000-2000µm
- Pearl 2000-4000um

Salt

- Extra fine 60-350µm
- Fine 100-700µm
- Middle 400-1250µm
- Pearl 1000-3000um

Carbonates

- Na-Bicarbonate
- K-Bicarbonate
- Na-Carbonate
- K-Carbonate

Preservatives

- Sorbic Acid
- Ca-Propionate
- Na-Acetate

Specialities

- GDL
- Lactates
- Starches
- Maltodextrin
- Enzymes
- Vitamins

Protective coating materials

By adjusting coating composition and structure, release profiles can be precisely designed – from immediate activation during processing to delayed functionality during storage.

Hot-melt

- Palm fat fully-hydro SG
- Palm fat non-hydro SG
- Sunflower oil fully-hydro
- Rapeseed oil fully-hydro
- Carnauba wax E903
- Beeswax E901
- Emulsifier E471
- and others

Water-based

- (Mod.) starches E1420/50
- Maltodextrin
- Cellulose
- Casein
- Flavours
- Oils
- NaCl-Solutions
- and others

Key applications

BAKERY & DOUGH

Controlled functionality for better dough performance

In dough applications, premature ingredient reactions can affect structure, process tolerance and final product consistency and volume. Encapsulation helps functional components perform at the step.

- Improved dough stability and process reliability
- Targeted release of functional ingredients during the process
- Optimised cost-in-use due to yeast reduction
- More consistent structure and product quality
- Better control in industrial-scale production



Yeast leavened products

Toast bread, sliced bread, buns & rolls, flatbreads, pizza bases, bagels, brioche, pita, ciabatta

RAPS product solution
Coated sorbic acid, coated Ca-Propionate, coated Na-Diacetate



Chemically leavened products

Tortillas & flatbreads, cakes & muffins, pancakes, cookies & biscuits, bakery premixes

RAPS product solution
Coated carbonates (Na or K), CT acids, CT phosphates, CT GDL, CT baking powder



Fresh dough applications

Pizza, tarte flambée, focaccia, pide

RAPS product solution
Coated carbonates (Na or K)
CT acids, phosphates, GDL



Surface decoration, finishing & flavours

Pretzels, donuts, bread toppings, snack coatings

RAPS product solution
Coated salt, coated sugar



All types of baked goods

Bakery premixes, bread, buns, donuts, cakes

RAPS product solution
Coated enzymes, Flavocaps garlic, Flavocaps onion, Flavocaps turmeric

Key applications

CONFECTIONERY

Extra sour effects with better coating stability

Coated acids and effervescent powder enable targeted sour bursts and layered sensory experiences while reducing sensitivity to humidity, migration and shelf-life limitations.

- Intense and lasting sour perception
- Improved sanding stability during storage
- Avoids sugar inversion and stickiness
- Enables controlled fizz release
- Reduced moisture sensitivity
- Potential for multi-stage sour effects



Gummies & jellies

RAPS product solution
Coated malic acid / citric acid / fumaric acid

Why microencapsulation?
Décor & targeted sour effects, protection against sugar inversion



Candy & filled sweets

RAPS product solution
Coated malic acid / citric acid / fumaric acid

Why microencapsulation?
Décor & targeted sour effects, protection against sugar inversion



Hard candies, soft candies & chocolate

RAPS product solution
Coated ammonium chloride

Why microencapsulation?
Stability, protection against humidity



Functional gummies

RAPS product solution
Coated menthol sugar

Why microencapsulation?
Humidity protection, targeted flavour release



Gummies (décor)

RAPS product solution
Coloured coated ingredients

Why microencapsulation?
Décor, filling

Key applications

MEAT & SAUSAGES

Functional ingredients that perform during processing

In meat processing, premature ingredient reactions can affect colour, texture and stability. Encapsulated acids and functional components allow controlled reactions during heating or processing.

- Improved product stability
- Controlled pH regulation
- Reduced ingredient interaction
- Improved dosing and distribution
- Reliable processing performance
- Consistent quality



Boiled sausages

RAPS product solution
Coated citric acid / CT GDL / alginates / ascorbic acid

Why microencapsulation?
pH-regulation, stability, colour



Fermented products & raw sausages

RAPS product solution
Coated GDL

Why microencapsulation?
Controlled fermentation, improved time management



Minced meat products

RAPS product solution
Coated carbonates / citric acid

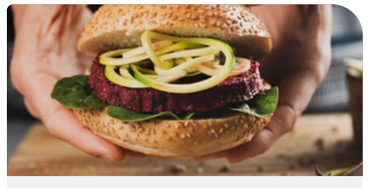
Why microencapsulation?
Fluffier texture, freshness



Flavoured products

RAPS product solution
Flavocaps (onion, garlic,...)

Why microencapsulation?
Taste, handling, microbiological benefits



Meat alternatives

RAPS product solution
Coated buffered vinegar / citric acid

Why microencapsulation?
Stability, pH management

SPECIALITY APPLICATIONS

Discover our broad portfolio of solutions – combining your demands with our technical reliability.



Flavocaps

RAPS product solution
FC garlic, FC onion, FC cinnamon

Why microencapsulation?
Processability, flavour protection, various carriers



Amino Acids

RAPS product solution
CT L-Carnitine, CT Cysteine

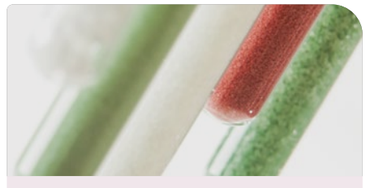
Why microencapsulation?
Masking, processability, stability



Vitamins

RAPS product solution
CT ascorbic acid

Why microencapsulation?
Stability, processability, avoiding unintended reactions



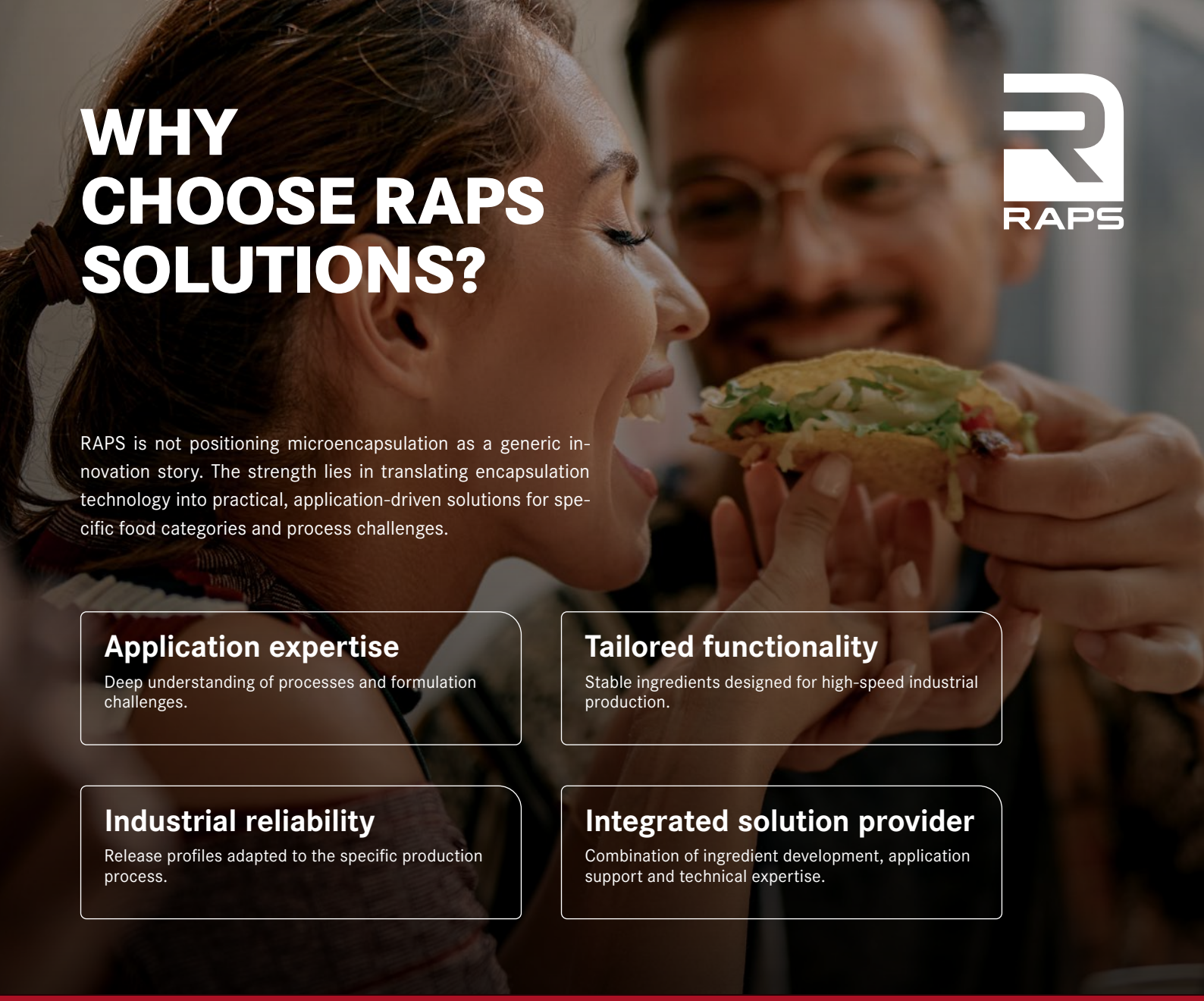
Enzymes

RAPS product solution
CT Glucoseoxidase, CT a-amylase

Why microencapsulation?
Avoiding unintended reactions

Other ingredients & solutions

Microencapsulation helps solving your problems!
Let‘s explore some out-of-the-box ideas together. Get in touch with our experts today!



WHY CHOOSE RAPS SOLUTIONS?

RAPS is not positioning microencapsulation as a generic innovation story. The strength lies in translating encapsulation technology into practical, application-driven solutions for specific food categories and process challenges.

Application expertise

Deep understanding of processes and formulation challenges.

Tailored functionality

Stable ingredients designed for high-speed industrial production.

Industrial reliability

Release profiles adapted to the specific production process.

Integrated solution provider

Combination of ingredient development, application support and technical expertise.

LOOKING FOR A SOLUTION THAT WORKS IN YOUR APPLICATION?

Contact our RAPS experts today to discover how our microencapsulation products can add value to your product developments.

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