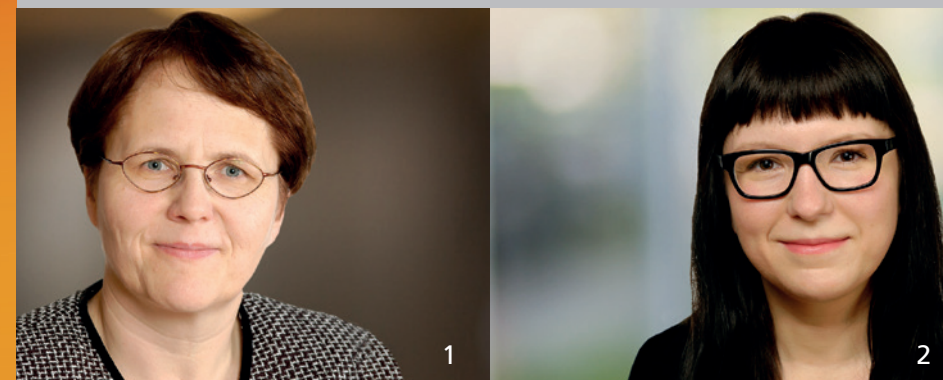


WE OFFER YOU

- more than 30 years of experience and know-how in microencapsulation
- a broad range of encapsulation principles, techniques and materials
- analysis of your process and concept design
- development of tailored solutions based on your needs and limitations
- analysis of the patents and academic literature concerning specific topics
- participation in our Microencapsulation Technology Platform
- a scale-up to 6 kg of microcapsules/batch (depending on the encapsulation technique)
- polymer and particle analysis



CONTACT

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OUR MICROENCAPSULATION SOLUTIONS – FOR YOUR CHALLENGES

IS MICROENCAPSULATION A SOLUTION FOR YOU?

MICROENCAPSULATION MIGHT BE A SOLUTION FOR YOU IF YOU ANSWER »YES« TO ANY OF THE FOLLOWING QUESTIONS

- Does one of the components in your mixture react/interfere with the other component(s) in the mixture? Would you like to keep the component in your formulation but avoid a reaction?
- Would you like to protect one of your components from environmental attack (oxygen, water, light)?
- Do you have trouble obtaining a good filler distribution in your polymer composite (agglomeration/weak adhesion issues)?
- Would you like to reduce the amount of functional additive in your formulation while maintaining the same level of performance?
- Would you like one or several components in your mixture to be released on demand?
- Do you have trouble handling paste or wax-like materials and viscous liquids? Would turning them into powder help?
- Would you like to introduce a "smart" function (self-healing, self-lubricating, energy storage (PCMs), thermochromic effects etc.) into your product and/or activate the function under certain conditions?
- Would you like to stabilize an emulsion, but avoid using surfactants?



CORE MATERIALS

SMART MATERIAL COMPONENTS

- phase change materials
- thermochromic pigments
- lubricants
- reactive components

REACTION COMPONENTS

- catalysts
- initiators

FOOD/FEED COMPONENTS

- vitamins
- colorants
- biocides
- living microorganisms
- micronutrients

COSMETIC COMPONENTS

- fragrances

COMPONENTS FOR AGRICULTURE

- fertilizers
- pesticides
- insect repellents

PLASTIC ADDITIVES

- flame retardants
- pigments

WALL MATERIALS

SYNTHETIC POLYMERS (REACTIVE ENCAPSULATION)

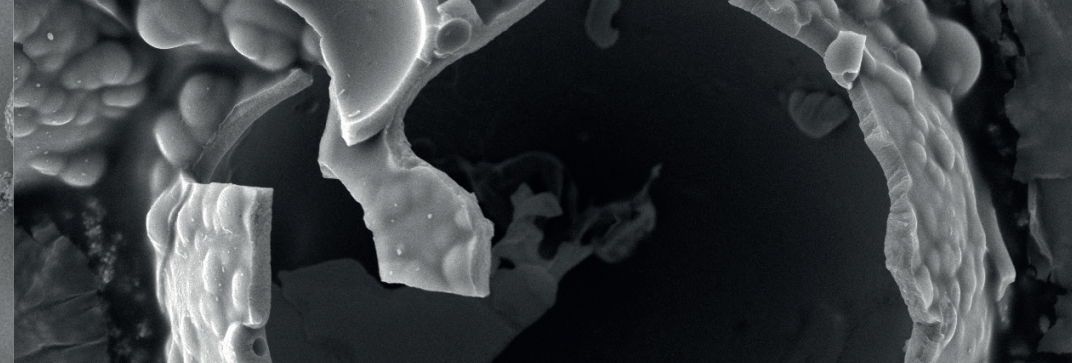
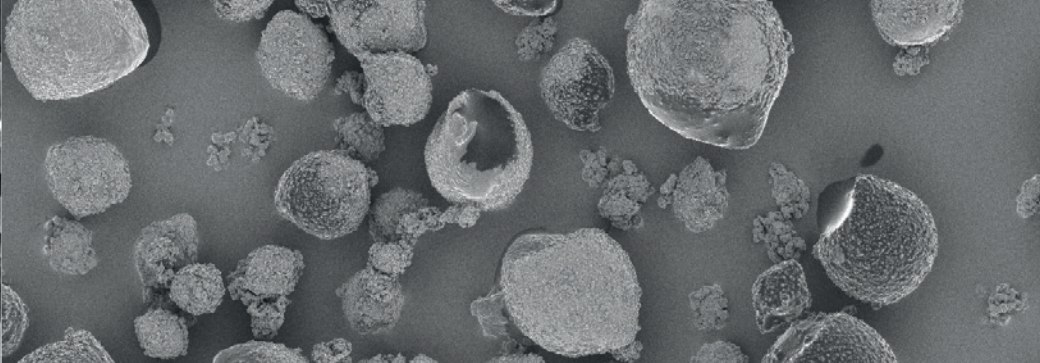
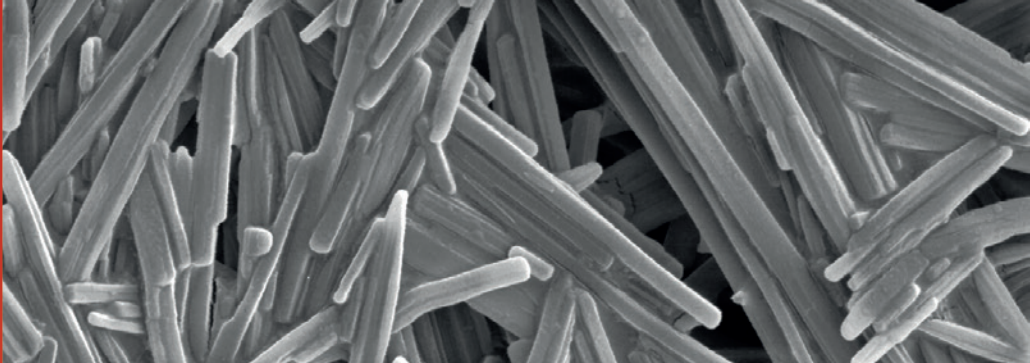
- melamine-formaldehyde,
- formaldehyde-free melamine resins,
- polyurethane/urea
- polyamide
- silicone, silica and composites
- acrylates and copolymers
- styrenes and copolymers

NATURAL POLYMERS

- starch and derivatives
- cellulose and derivatives
- chitosan and derivatives
- gelatin
- plant proteins
- alginate, carrageenan
- natural gums

SYNTHETIC POLYMERS (PREFORMED)

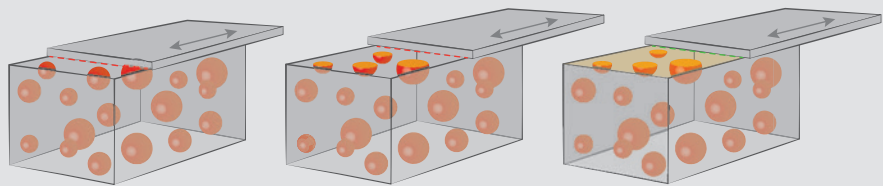
- polylactic acid (PLA) and copolymers
- any polymer that can be dissolved



EXAMPLES OF APPLICATIONS

MANUFACTURING OF FUNCTIONAL POLYMER COMPOSITES

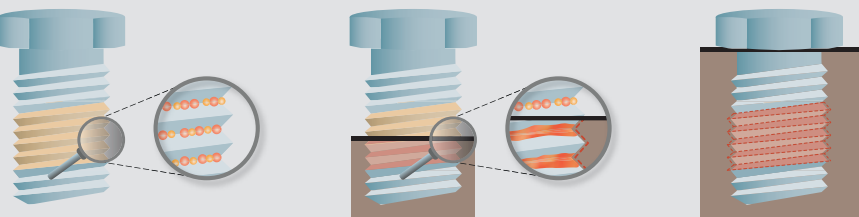
- antifouling coatings
- self-healing composites
- self-lubricating composites
- materials with built-in damage detection



Microencapsulated lubricants enable lifelong autonomous lubrication in polymer and metal composites.

TRIGGERING OF CURING IN REACTIVE SYSTEMS

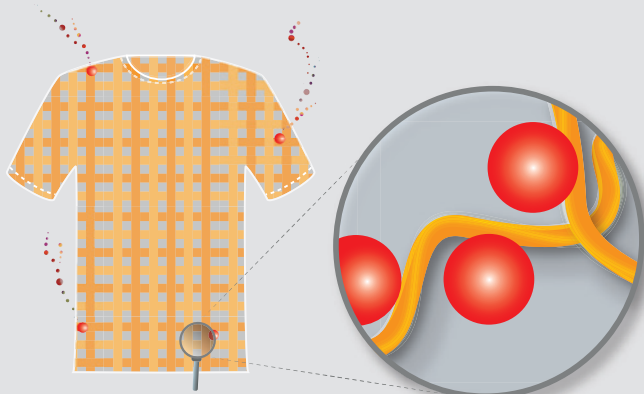
- adhesives
- sealants
- self-healing materials



Microencapsulated glue components enable autonomous fixation of screw nuts upon use.

DEPOSITION/ATTACHMENT OF ACTIVE COMPOUNDS ONTO SUBSTRATES

- textiles
- hair/animal fur
- skin
- paper



Microencapsulated fragrances last longer and deposit onto textiles more effectively.

