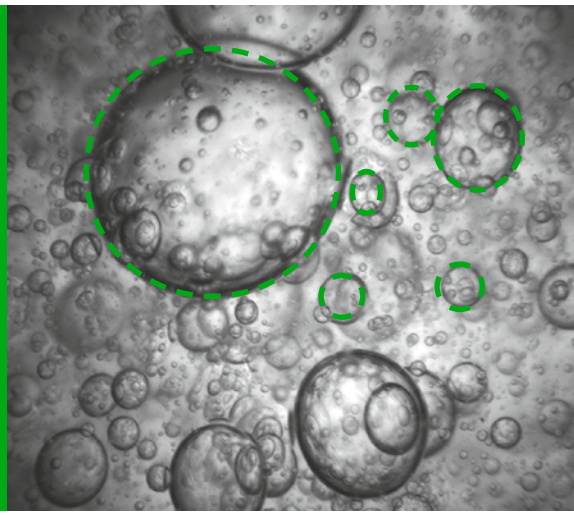
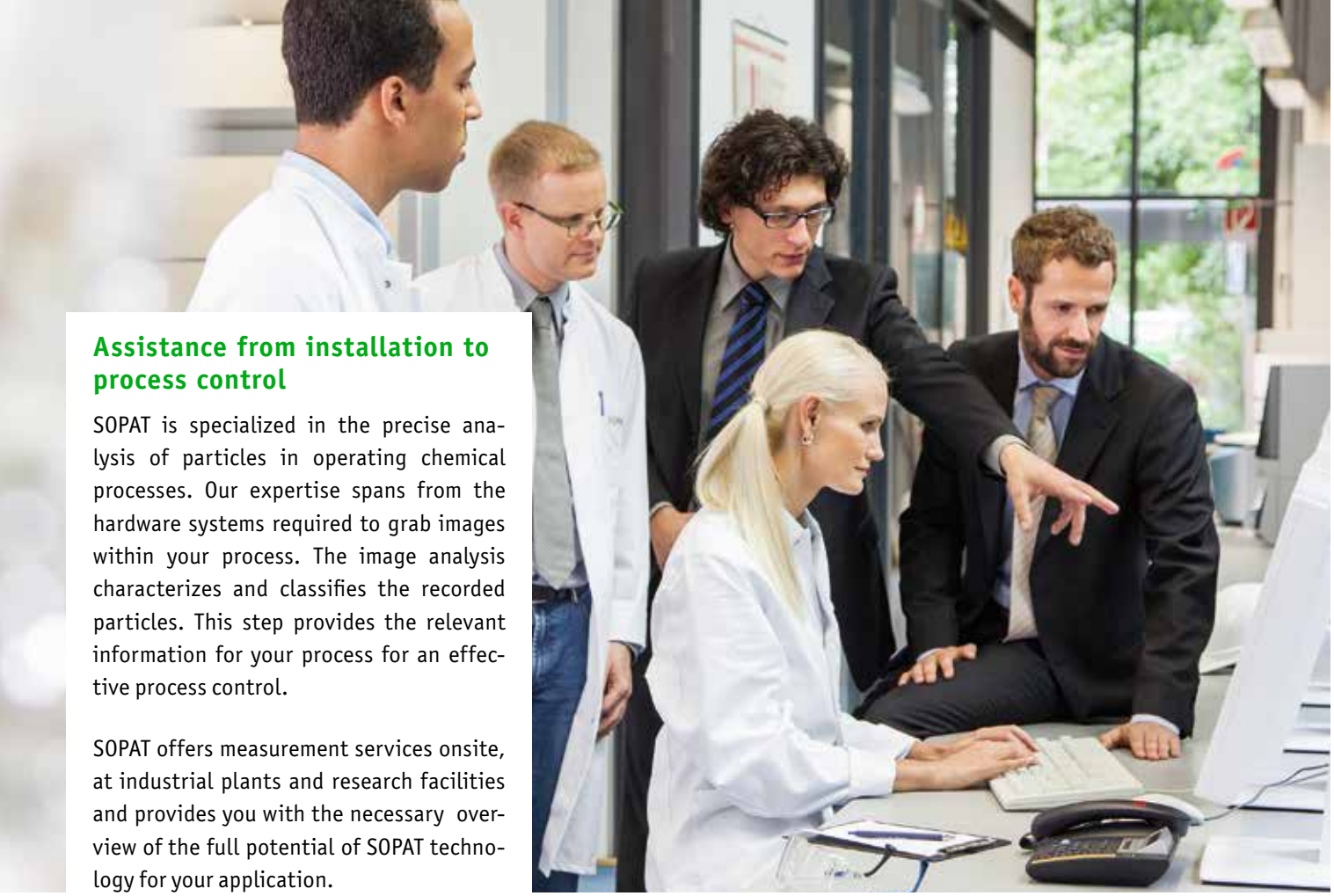
SOPAT
Smart Online Particle Analysis Technology

Measure particles within your process!



Measure and characterize droplets, grain, bubbles or any kind of particles

SOPAT-Systems are the effective way to obtain automated precise information about particles that make or break your process and products. SOPAT-Probes capture digital images from within operating processes, and the powerful computer vision detects, classifies and characterizes particles of different materials in real-time.



Assistance from installation to process control

SOPAT is specialized in the precise analysis of particles in operating chemical processes. Our expertise spans from the hardware systems required to grab images within your process. The image analysis characterizes and classifies the recorded particles. This step provides the relevant information for your process for an effective process control.

SOPAT offers measurement services onsite, at industrial plants and research facilities and provides you with the necessary overview of the full potential of SOPAT technology for your application.

Knowing your particles will give you the edge in production

Effectively react to the true state of microscopic particles involved in your processes and achieve your product goals! This can make the difference between a successful product from an ordinary one or accelerate your process and make it more cost- effective and safe.

SOPAT-probes measure precisely drops, bubbles or solid matters in real-time from within operating processes. Measurements are possible as well in liquids as in gases. Our cutting edge image-analysis technology is tailored to your requirements. The results and quality are easily verifiable

SOPAT-systems provide particle size distributions and specific values as known in chemical engineering and are able to transmit this to your process control system via standard interfaces. Examples are the number density distribution (q_0), cumulative number distribution(Q_0), volume distribution (Q_3), various averaged diameters ($d_{1,0}$, $d_{3,2}$, $d_{4,3}$, etc.) and percentiles (dv_{10}, dv_{50}, dv_{90}, etc.).

SOPAT-InView probe

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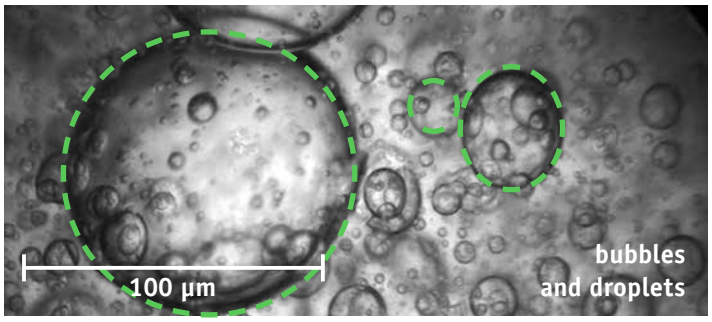
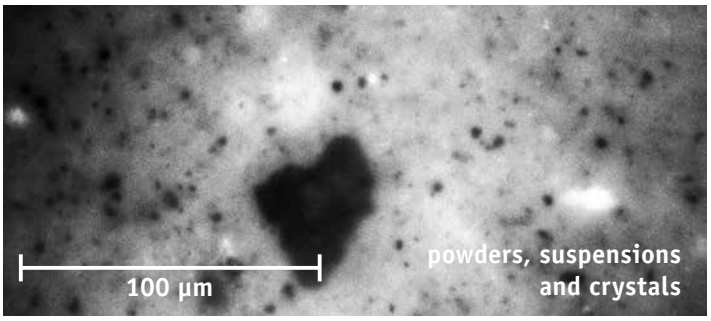
Visualize and monitor all sorts of particles to control your process

Measure directly in your process instead of doing time and cost-intensive manual tests in the laboratory. Bring about an automation by means of our probes. A vast spectrum of applications, products and processes depend on empirical values and thresholds to yield the expected results, but fail to exploit their full potential. Stop guessing what your product and materials are doing and reach a new level of quality, efficiency and safety!

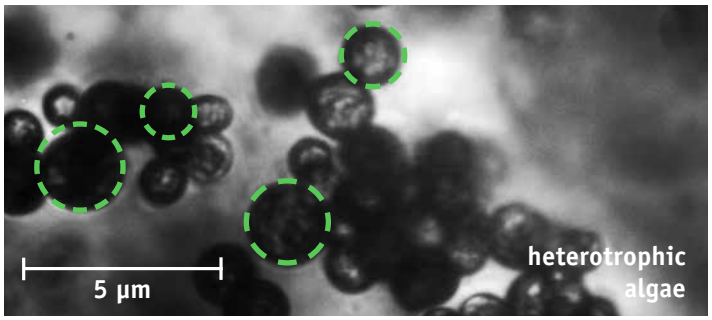
SOPAT-VI probe



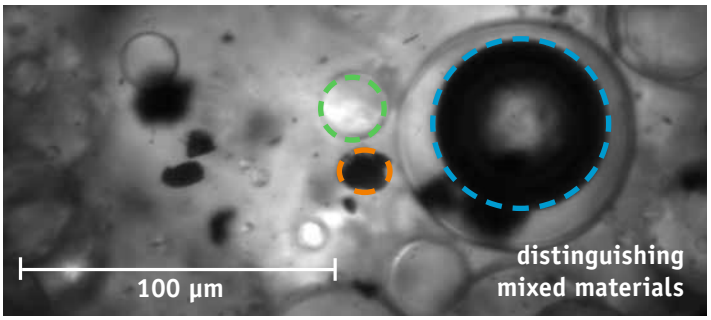
The properties of droplets in multiphase systems (e.g., water/oil) influence separation efficiency and mass transport. Knowing their size will enable you to minimize energy cost and waste.



Undesired sizes of grain in processes can lead to costly productloss, damage in the machinery or filtration systems and lead to safety risks. Monitoring powders in real-time will give you enough time to react correspondingly.

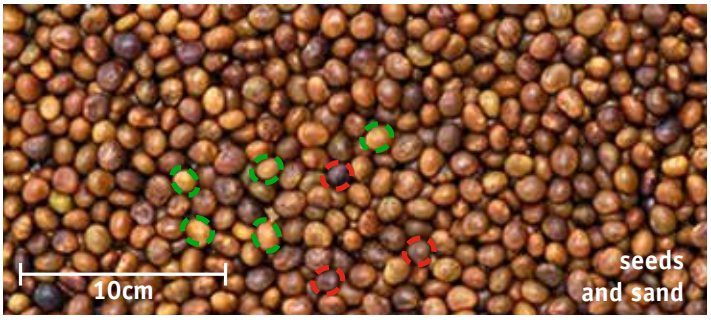


Instead of taking a sample of your product to the lab, why not observe it directly inside your process? Quality control can be a time and resource costly effort, that bind personnel resources. You will be able to automate with our probes.



Real processes and materials vary in their properties and nature. Our intelligent software is able to distinguish between different materials and render separate size and characteristic distributions accordingly.

Assert the quality characteristics of your product automatically. Stones or similar objects are recognized automatically and their shape, size and other characteristics are sent to your process control system.



No two seeds are the same but our systems are able to distinguish the good from the bad. Automate quality control to get reproducible results around the clock.

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Product category	SOPAT-MM		SOPAT-VR / VI					InView
Product model	**MM-Li**	**MM-Ho**	**Ma**	**Pl**	**Sc**	**Pa**	**Kr**	**-**
Measuring range [microns]	0.9 – 90	1 – 170	1.5 – 280	3 – 350	9 – 1200	19.5 – 2600	70 – 9300	260 – 26000
Field of View [mm]	0.295	0.385	0.64	0.8	2.7	5.85	21	60
Probe length [mm]	270		320 – 2000				320	215
Probe diameter [mm]	24.5		12				20	130
Pressure range [bar]	-0.5 – 10		-0.5 – 150				-0.5 – 40	-0.5 – 3
Temperature range [° C]	-10 – 250		-50 – 450					0 – 50
Back-end temp. [° C]	-10 – 45		-10 – 65					
Probe window material	Sapphire/BK7		Sapphire					Quartz glass
Probe tube material	1.4571		1.4401, 1.4571, 2.4602 (Hastelloy C22)					1.4404
Probe housing material	Aluminum, 1.4404							
Weight (without cable) [kg]	7		4					
Focusing	Manual		Automatic					Manual
Frame rate	0.1 – 20 Hz							
Certifications	CE, IP65, CIP/SIP							CE, IP65

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