

camsens

AI-BASED MICROORGANISM &
PARTICLE MEASUREMENT
SOLUTIONS



About CAMSENS GmbH

Location Schleusingen & Bremen (DE)

Foundation 2021 – Spinoff Uni Bremen (2019)

Business B2B

Sector Measurement / Sensor
Technology



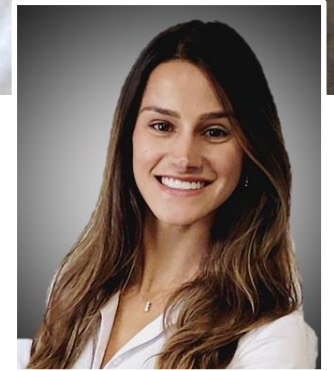
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Our Vision

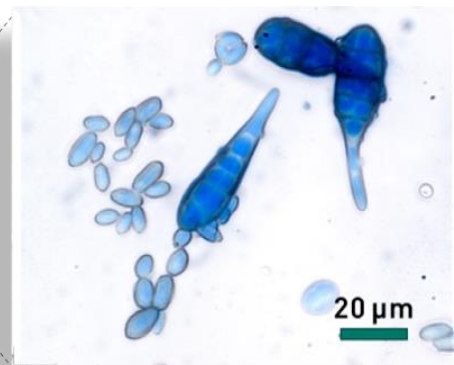
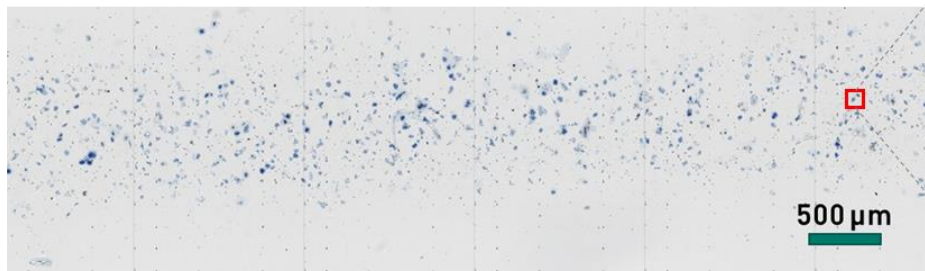
Empower particle and microorganism recognition with **automation and AI technology**, at minimized cost while maximizing performance.





Problem

MANUAL MICROSCOPY



Time-consuming



Cost-intensive



Burdensome

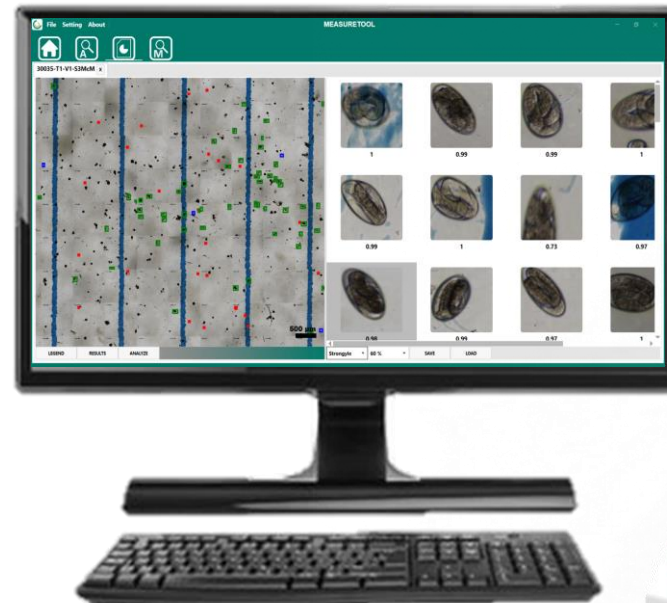
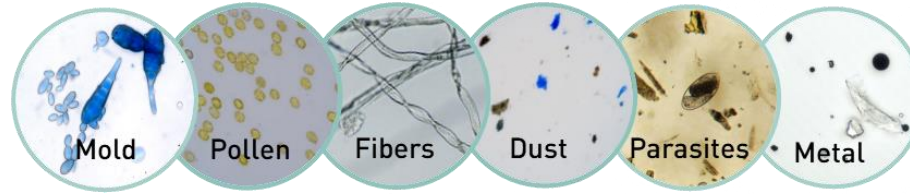


Risk for quality and safety

Solution

AUTOMATED **HARDWARE** AND SMART **SOFTWARE**
FOR MICROORGANISM AND PARTICLE RECOGNITION

- ✓ **Fully-Automated** sample scan and digitalization
- ✓ **Artificial Intelligence** for image analysis and particle recognition
- ✓ **Machine Learning** to enable easy training of new particles
- ✓ **Documentation** for enhanced reliability and traceability



CS-Software

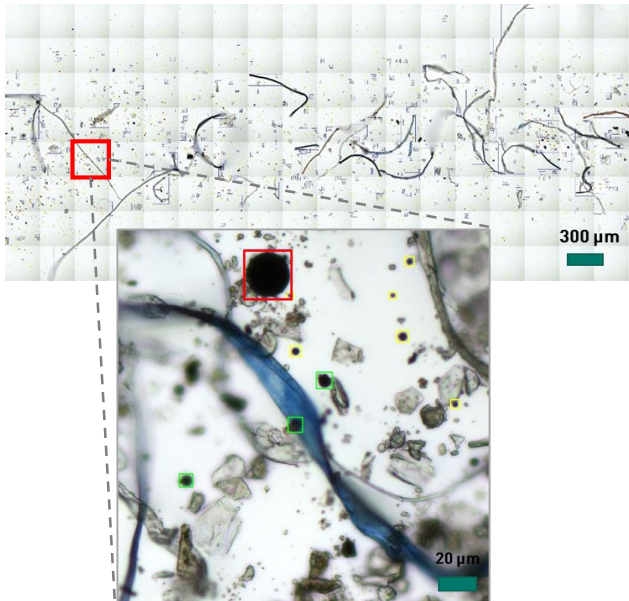


Market and Opportunities

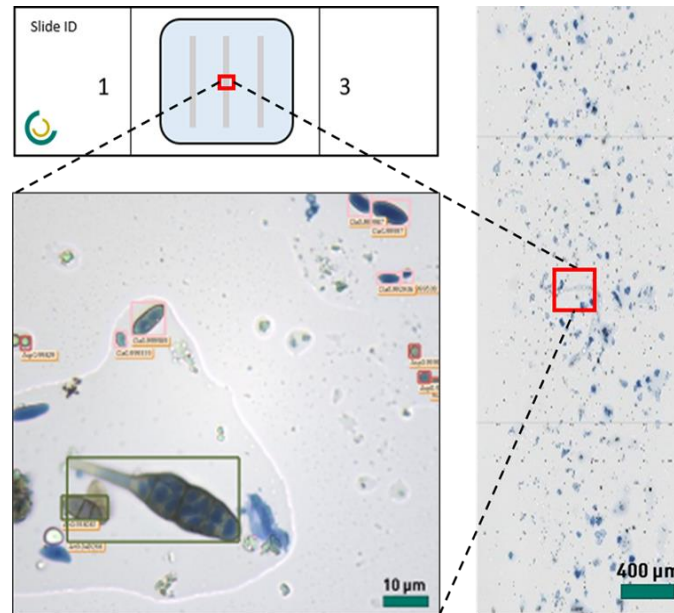
POSSIBLE MARKET POTENTIALS IN ALL AREAS STILL UTILIZING **MANUAL MICROSCOPY** FOR ANALYSIS

Particle training with AI

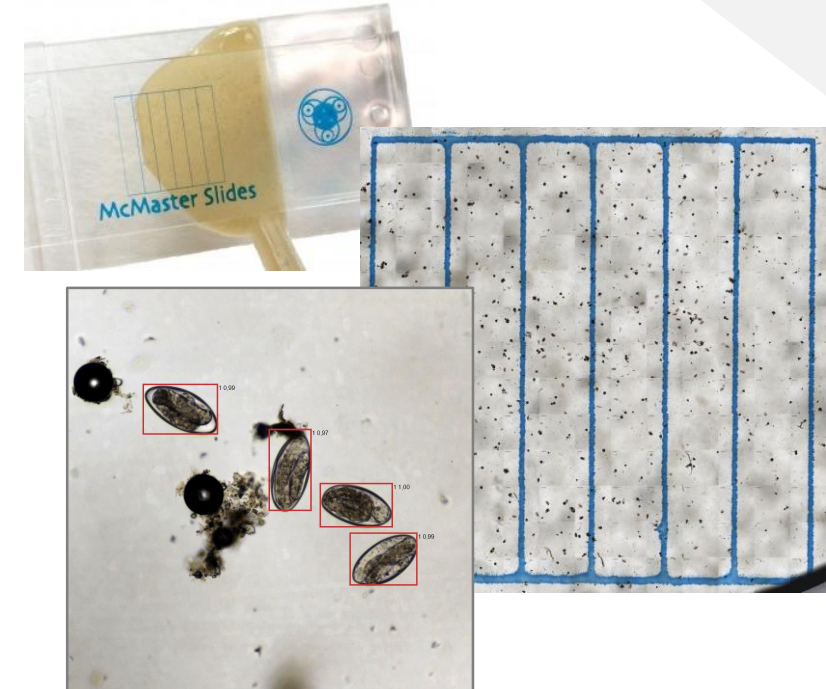
✓ **Metal powder** - atomization & additive manufacturing



✓ **Mold detection** - air quality control in food industries



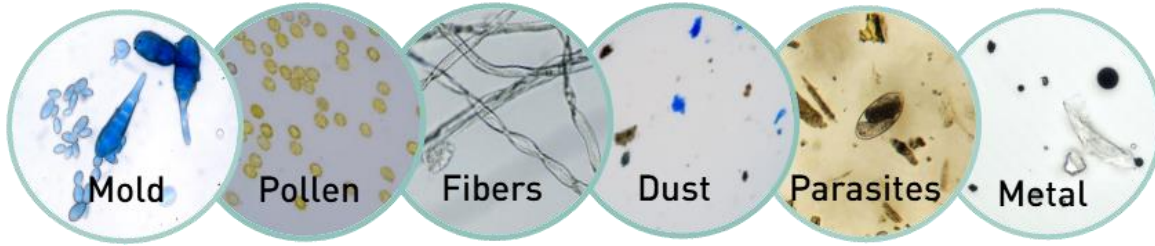
✓ **Parasite recognition** - veterinary diagnosis







Case Study 1 - Details

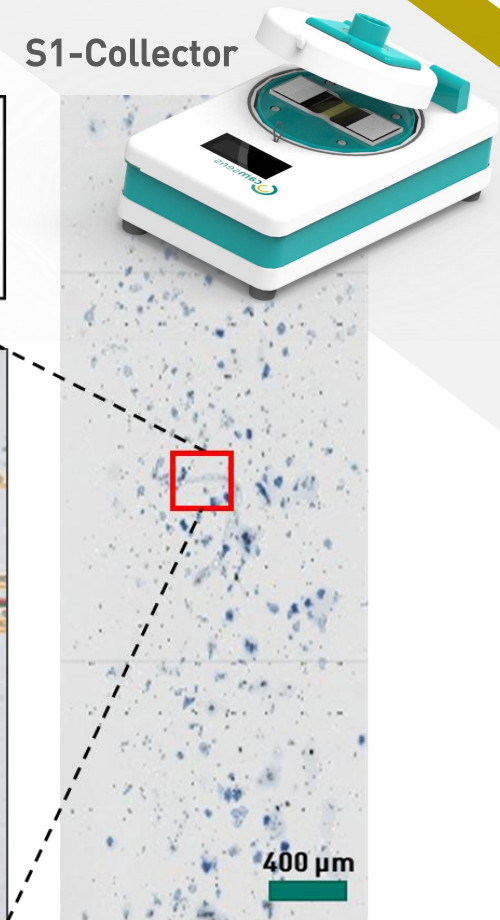
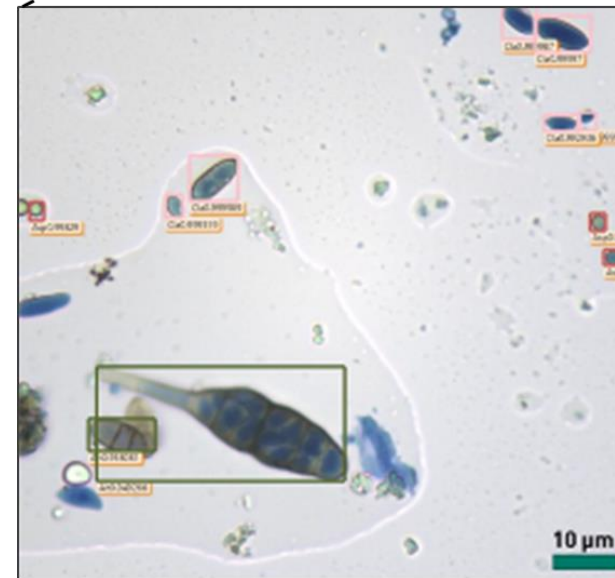
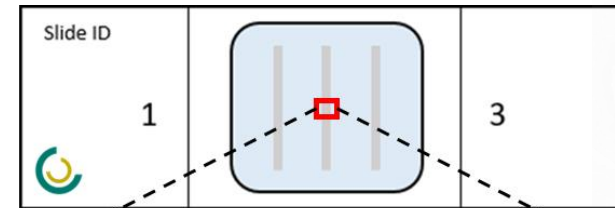
A RISK FOR **HEALTH SAFETY** AND **PRODUCT QUALITY**
IN MANY INDUSTRIAL SECTORS

✔ **Particle training with AI** for database expansion



Airborne particulate

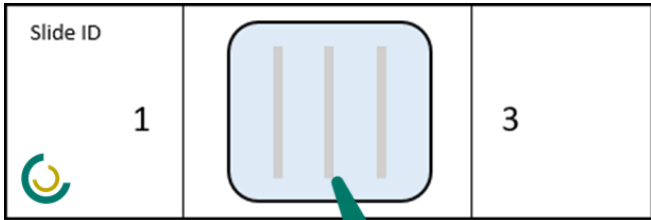
-  Dairy Industry
-  Pharmaceutical
-  Environmental Labs
-  Powder metallurgy industry



Case Study 2 - Details

AI-BASED TECHNOLOGY FOR PARTICLE RECOGNITION

Metal powder detection

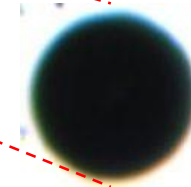
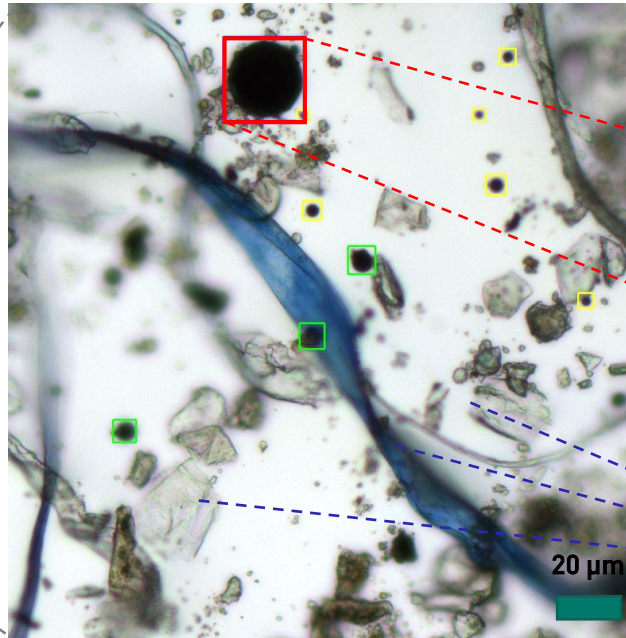


Air sample collected in working place



Microscope slide automatically scanned with CAMSENS device

Field of view – particle load



Recognized metal powder



Other airborne particles present in the room – not critical for health safety

Case Study 3 - Details

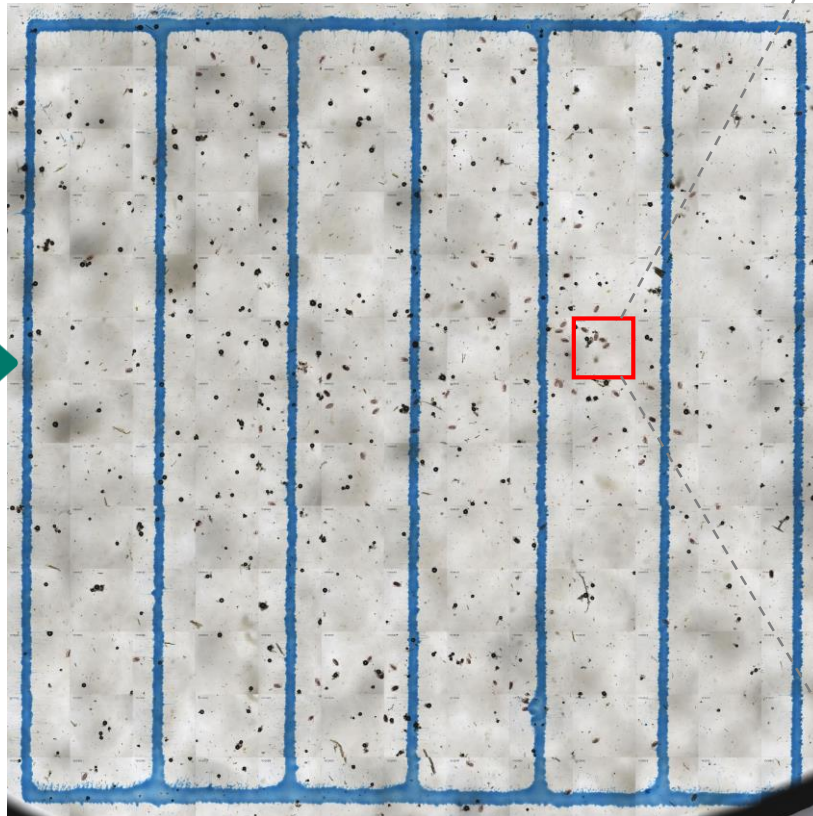
SUPPORTING DIAGNOSIS IN FARM ANIMALS

Parasite egg detection in farm animals

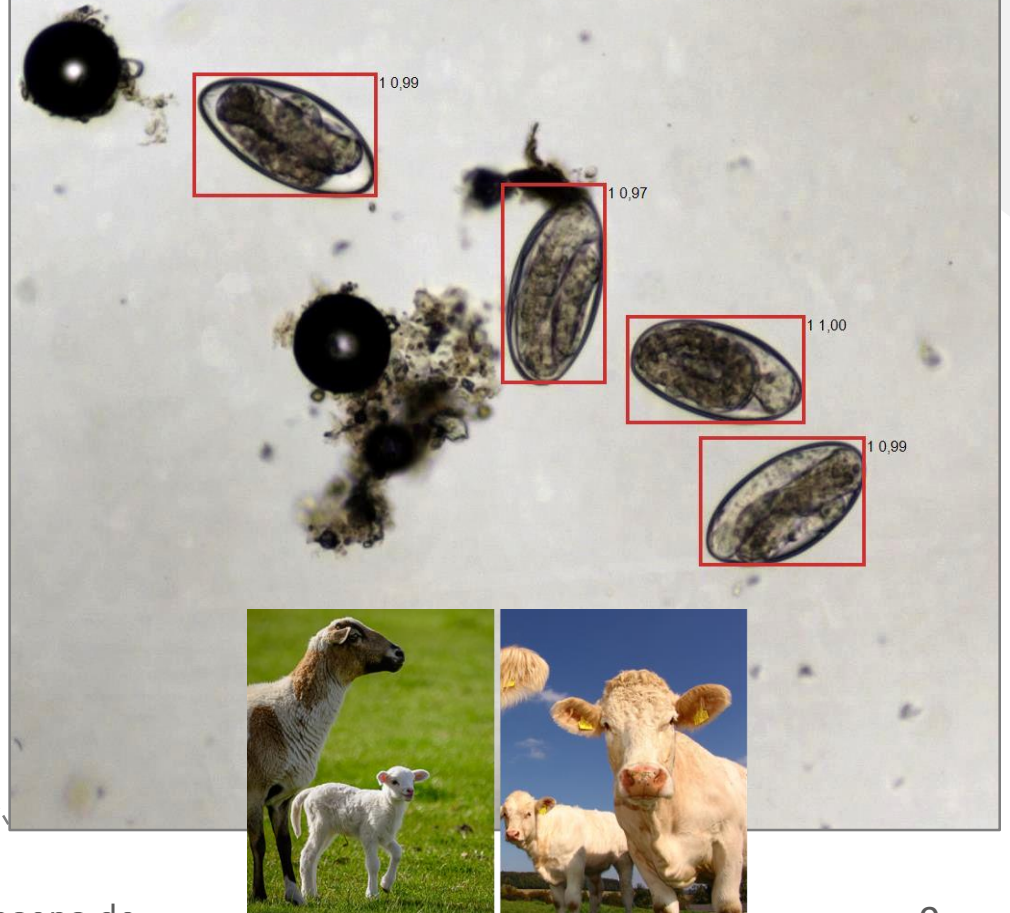
McMaster egg counting chamber



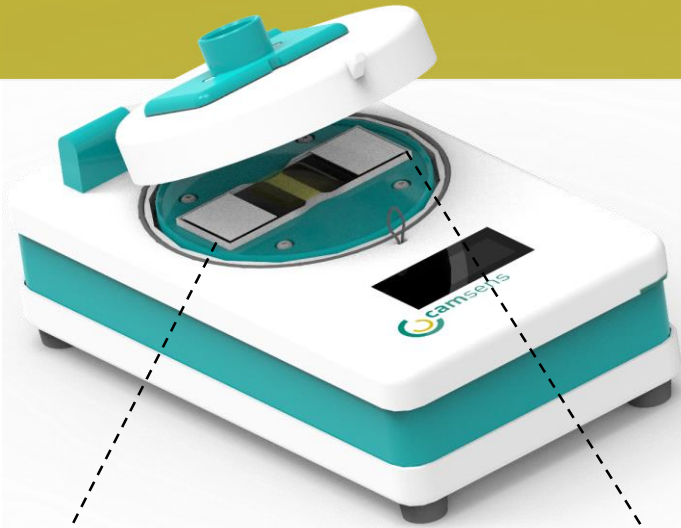
Scanned sample



Recognized parasite eggs

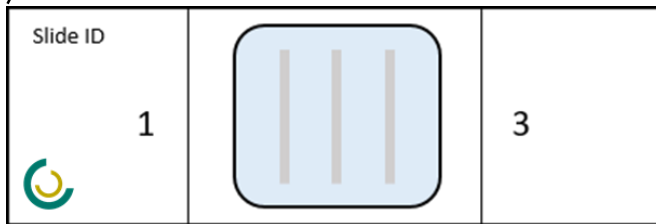


Our Hardware Devices



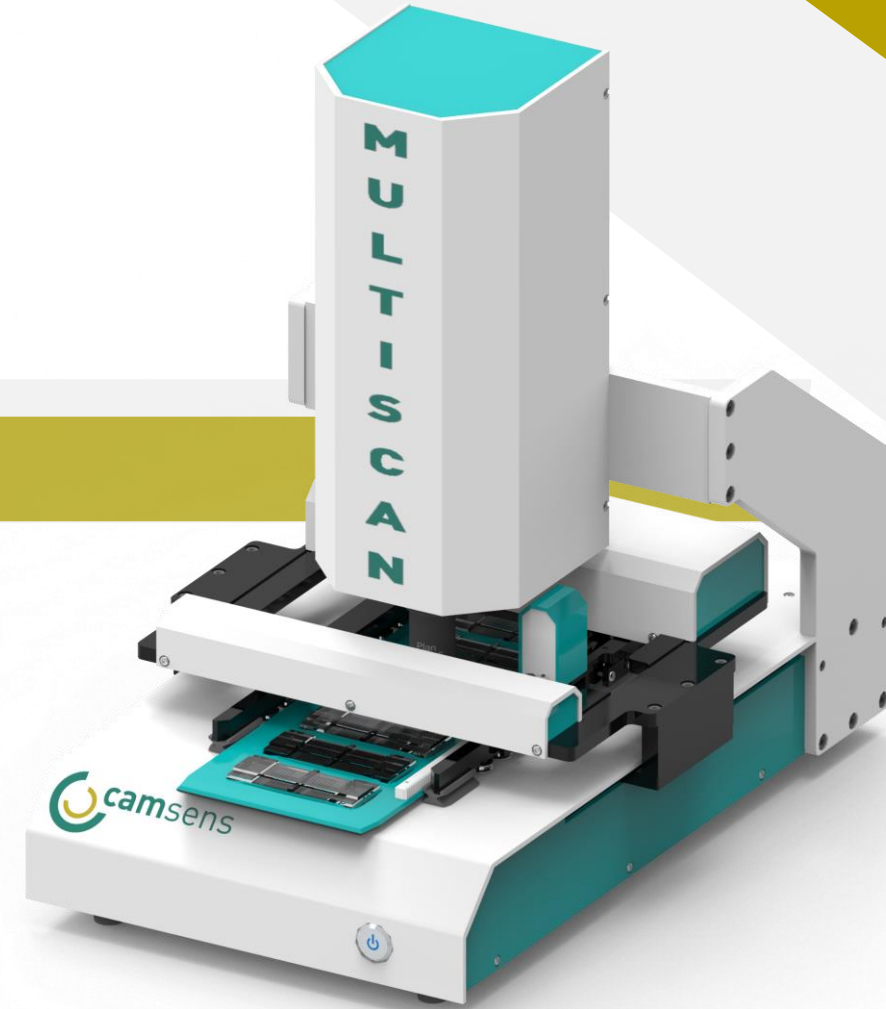
S1-Collector

Air sampling system by impaction onto microscopic slide of a defined (adjustable) volume of air.



CS-Multiscan

Automatic high-resolution scanner with extensive sample flexibility (Slides, MacMaster, and Petri dishes) for **air and liquid** samples. Its capacity for simultaneous, **multi-sample scanning** allows for efficient data collection in a **single run**.



AI-based Continuous Monitoring

NEXT GENERATION OF AUTOMATED SOLUTIONS
for indoor environment and other critical areas

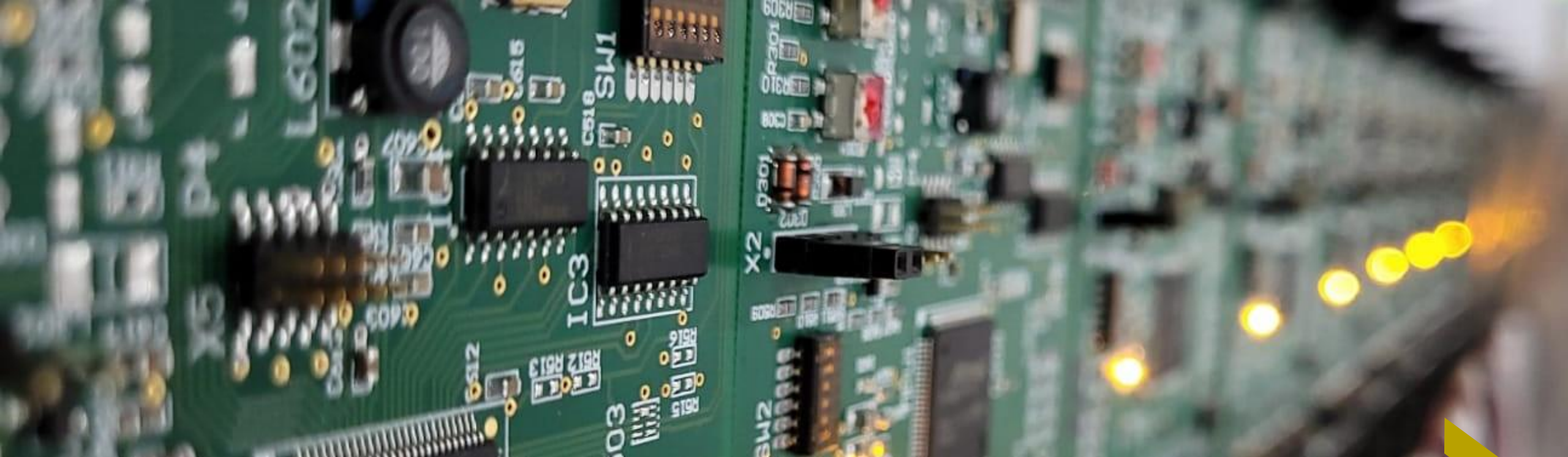
Real-time Monitoring of Particles and Microorganisms



S1-Guard

- ✓ **Airborne particles in indoor environment** risk factor for health safety, e.g., metal particles, carbon fibers, dust
- ✓ **Airborne Microbial Measurement**
CFU/m³ determination for biological applications
- ✓ **Continuous monitoring and early detection** made possible
- ✓ **Decreased contamination risks** to and by employees
- ✓ **Work and occupation safety**
increased and controlled according to regulations



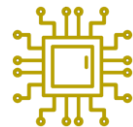


Our Additional Services

WE OFFER CONSULTING, TECHNICAL SUPPORT, AND **CUSTOM-SPECIFIC DEVELOPMENT** FOR QUALITY CONTROL SOLUTIONS.



Mechatronics



Electronics



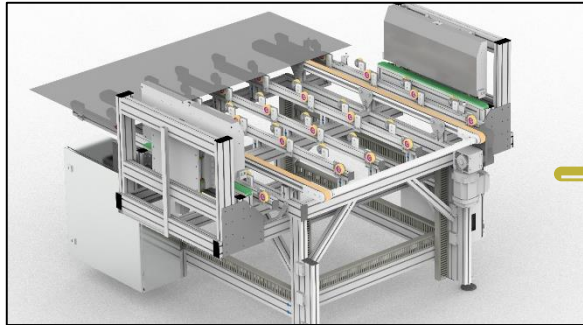
Custom-specific

Further Solutions We Provide

CUSTOM-SPECIFIC SOLUTIONS FOR THE MANUFACTURING LINE

EXAMPLE OF REFERENCE PROJECT

Solar panel production – quality control



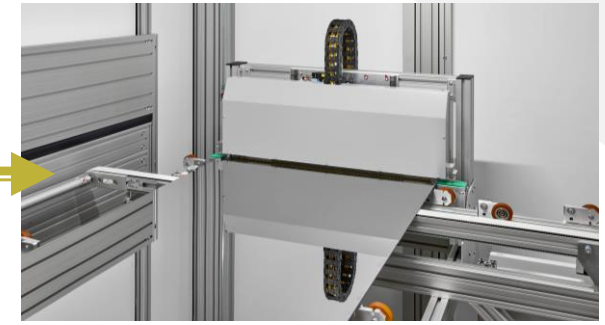
Concept solution and development of key-work packages, project duration and final solution scope.



Implementation step of machinery, software, and electronics.



Assembly, testing, and evaluation of our systems.



Continuous support and commitment to the functionality of our products.

Get in touch to know more about **CAMSENS** and our development solutions.

Why work with CAMSENS?

YOUR ADVANTAGES AS A PARTNER



Enhanced analysis conditions and increased work safety

Worker conditions | Higher sample throughput | Documentation



Flexible Business Model

Hardware as a Service with Software License | Direct sales
Training of new particles / Documented results



Your specific needs

Customized Solutions | **Cooperation Projects**



10 years of Experience

in Mechatronics, Electronics, Software,
AI-based measurement and Particle Technologies

Trusted by





**Empowering Automated
Particle Recognition with
AI Technology**