

FOAMSCOPE™ IN ACTION

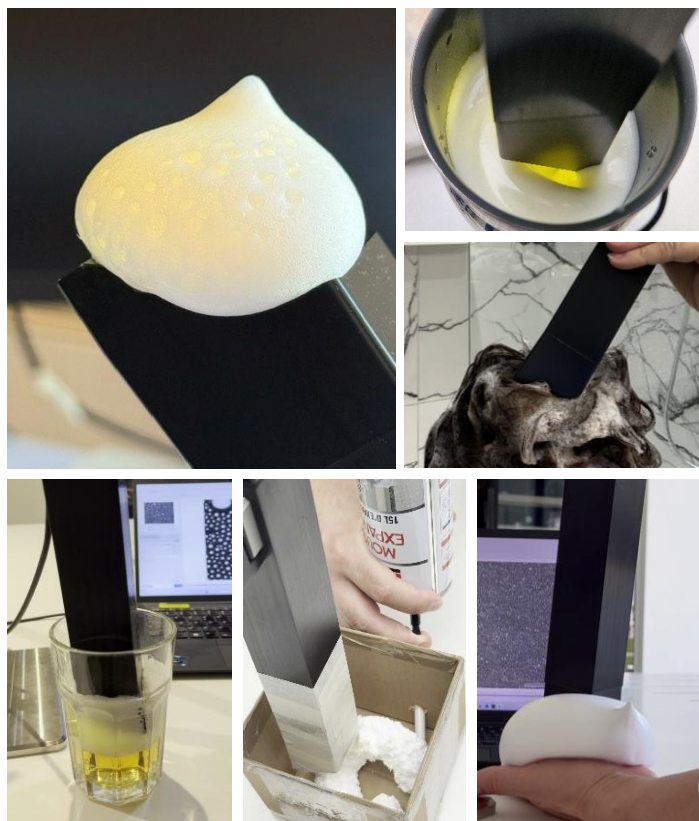
From Foam Images to Quantitative Insights

Different foams, different time scales, different environments for One measurement principle

Since the launch of FOAMSCOPE™, we have explored very different foam systems, from consumer products and food foams to detergents and expanding materials.

These application examples illustrate how quantitative in situ foam structure analysis can help understand foam generation, drainage, coarsening, stability and structural evolution under actual conditions of use.

SEE WHAT HAPPENS INSIDE REAL FOAMS, MEASURE IT, QUANTIFY IT



Bubble size From 10 μm diameter . Acquisition up to 30 fps
Real-time or post-processing analysis.

From rapid foam generation to long-term ageing, FOAMSCOPE™ provides the structural parameters required to understand what is happening inside the foam.

From images to quantitative foam characterization

FOAMSCOPE™ combines a patent-pending immersion optical probe with BubbleStatistics™ software to transform foam images into quantitative structural information.

HOW LARGE?

Bubble size $\Rightarrow$ Mean Equivalent Diameter, Sauter Diameter D32, D10, D50, D90

HOW HOMOGENEOUS?

Distribution $\Rightarrow$ Span, Polydispersity Index, Skewness, Kurtosis

HOW WET?

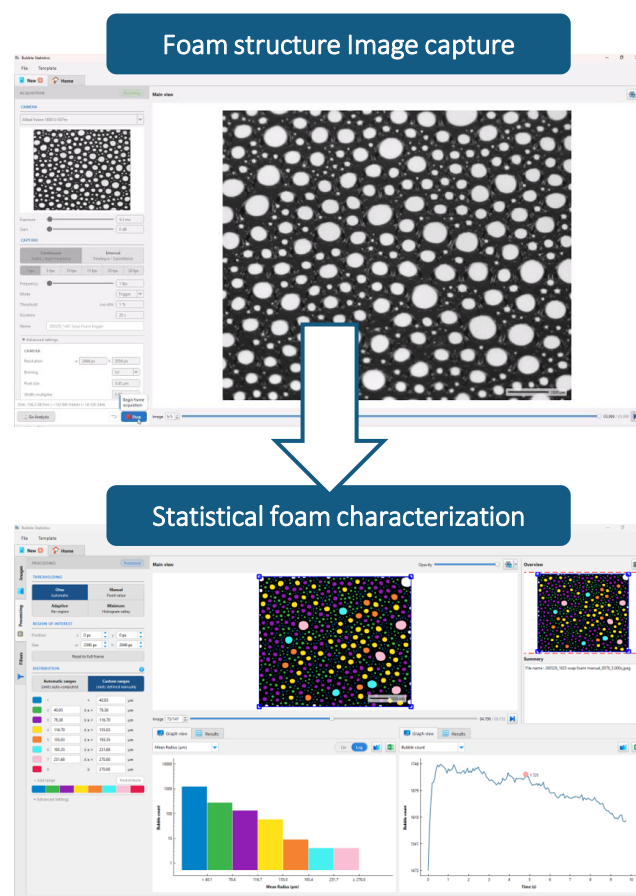
Liquid content & drainage $\Rightarrow$ Liquid Fraction

HOW DOES IT EVOLVE?

Foam population & ageing $\Rightarrow$ Bubble Count, Bubble Density, Size evolution

WHAT SHAPE?

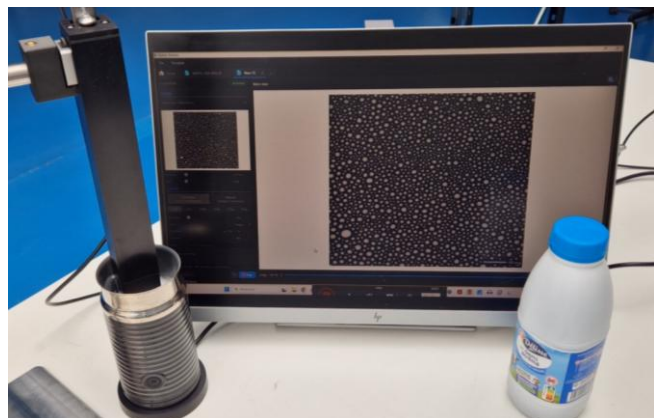
Bubble morphology $\Rightarrow$ Circularity, Eccentricity, Elliptical Ratio



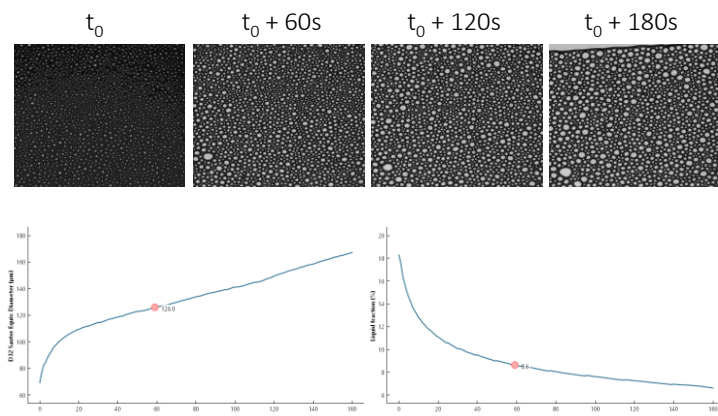
One analyzer, Different foam challenges

- FOOD & BEVERAGE -

Milk Foam: How does milk foam evolve after foaming?



Semi-skimmed cow's milk was foamed in a commercial milk frother and monitored directly with FOAMSCOPE™ after the end of foaming.



- D32↑: Progressive bubble growth and foam coarsening.
- Liquid Fraction ↓: Rapid initial drainage followed by slower liquid loss.

FOAMSCOPE™ provides a quantitative characterization of foam fineness, drainage and short-term microstructural stability.

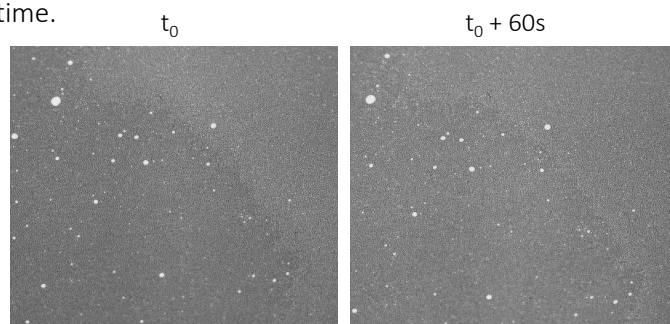
APPLICATIONS: Compare milk formulations, proteins, stabilizers, plant-based alternatives, foaming devices.

- PERSONAL CARE -

Shaving Foam: Does the foam maintain its structure during application?

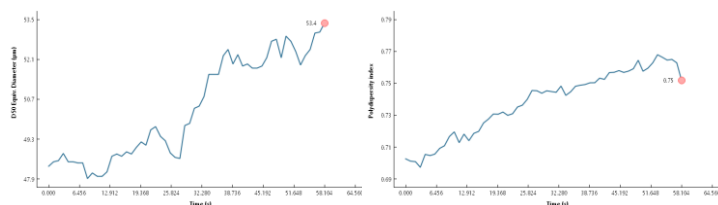


Shaving foam was dispensed directly onto the FOAMSCOPE™ and monitored over the typical application time.



After 60 seconds, structural changes remain difficult to assess visually. Quantitative analysis tells a different story:

- D50↑: Bubble population shifts toward larger sizes
- PDI↑: Bubble-size distribution becomes less homogeneous



FOAMSCOPE™ reveals subtle structural changes that visual observation alone cannot quantify.

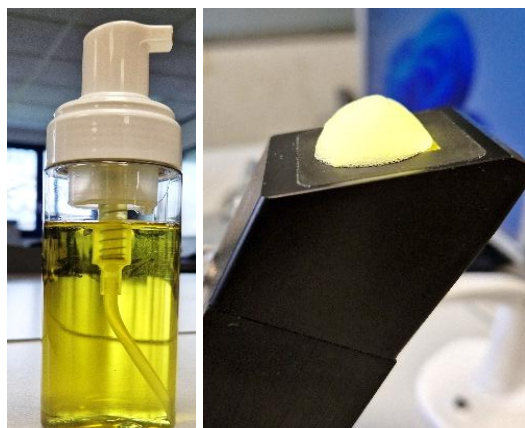
APPLICATIONS: Compare formulations, dispensing systems, foam texture, stability during use.



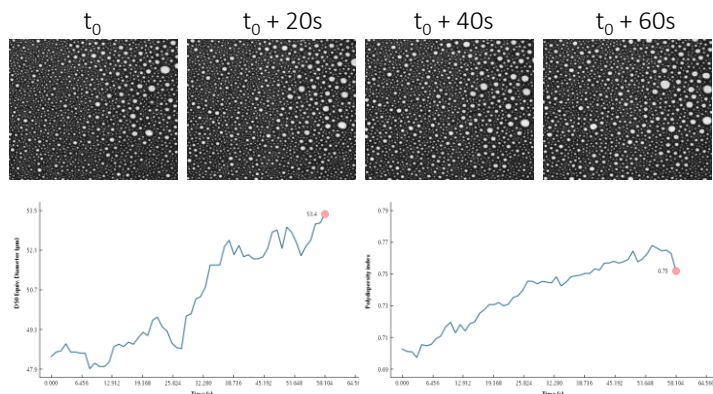
From formulation to process monitoring

- PRODUCT DEVELOPMENT -

Dispenser Foam: How does the combination of formulation and dispensing device determine the foam you deliver?



The foam generated by the dispenser is deposited directly onto FOAMSCOPE™ to characterize its initial structure and monitor its short-term evolution.



At t_0 : Bubble size, homogeneity, density and liquid fraction provide a quantitative fingerprint of the initial quality of the foam generated by the device + formulation combination.

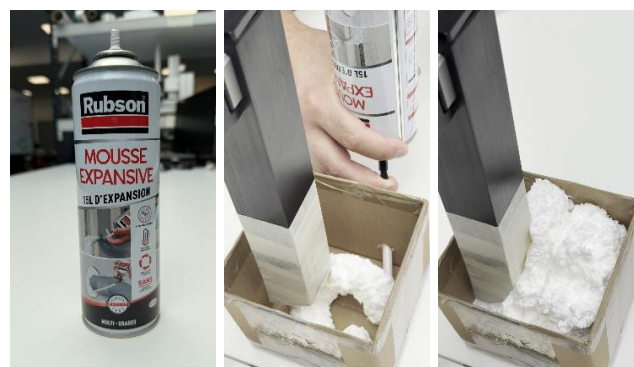
Over time : Changes in bubble size, distribution, density and liquid fraction quantify short-term stability.

FOAMSCOPE™ makes it possible to **evaluate the device + formulation as a complete foam-delivery system**, rather than characterizing the formulation alone.

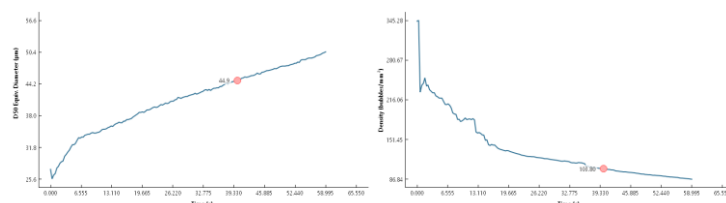
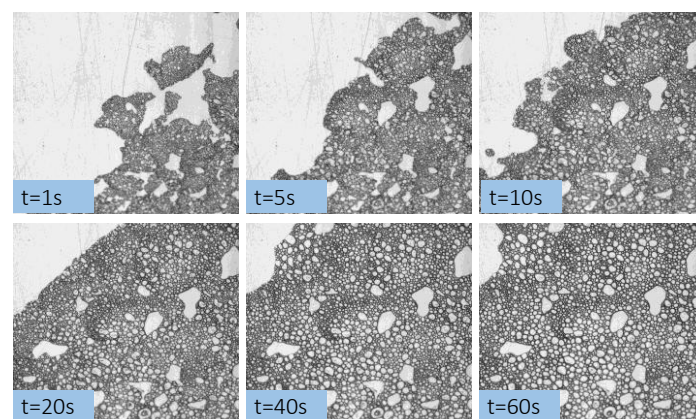
APPLICATIONS: Compare formulations, dispensing technologies, formulation/device combinations.

- MATERIALS -

Polyurethane Foam: Can foam structure be quantified while the material is expanding?



FOAMSCOPE™ continuously captures the structure of an expanding polyurethane foam, from the first observable cells to structural stabilization.



FOAMSCOPE™ provides a quantitative fingerprint of cellular structure development, enabling **formulations and processing conditions to be compared throughout expansion**.

APPLICATIONS: Expanding foams, formulation development, process optimization, Foam-based materials.



FOAMSCOPE™ across applications

From consumer products to industrial processes, FOAMSCOPE™ brings quantitative foam structure analysis directly to the application.

 FOOD & BEVERAGE Texture, ageing, drainage, foam generation	 PERSONAL CARE Sensory properties, product application, structural stability
 HOME CARE Surfactant formulation, foam persistence, drainage	 MATERIALS & PROCESSES Cellular structure, foaming events, process monitoring, antifoam evaluation
 BIOPROCESSES Fermentation, aeration, foam evolution	 EMERGING APPLICATIONS Flotation, Firefighting, Energy

From foam development to real-world performance

 FORMULATE⇒  OPTIMIZE⇒  CORRELATE⇒  MONITOR

Compare formulations, optimize foam generation and connect foam microstructure with product and process performance under real operating conditions.

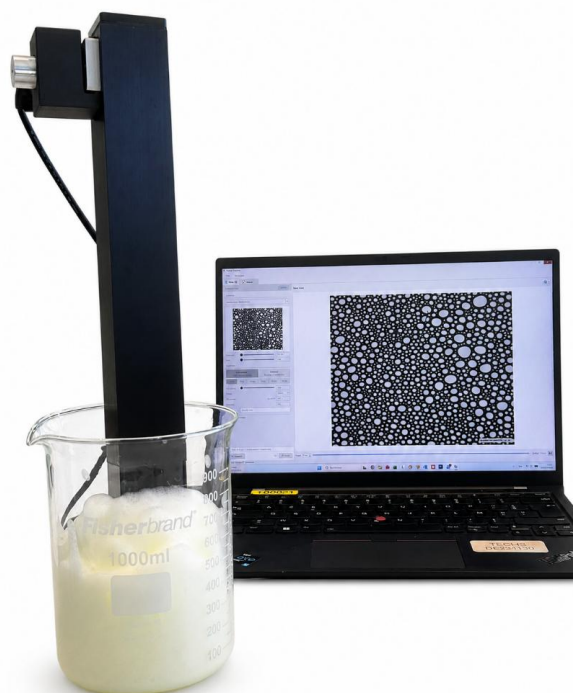
Discover what else FOAMSCOPE™ can do!

Explore more application examples and experimental results.

[EXPLORE ALL USE CASES](#)

FOAMSCOPE™ connects what happens inside the foam with how the product or process performs.

- ☑ Measure directly in real conditions
- ☑ Quantify foam structure in real time
- ☑ No sampling or foam reconstruction



WHAT ABOUT YOUR FOAM?

Let's see what FOAMSCOPE™ can reveal about your foam

[CONTACT US](#)

