



# PERSONAL BIODOSIMETER

## ADVANCED NANOPARTICLES SAMPLING ON-THE-GO

### + WHAT IS PERSONAL BIODOSIMETER?

Airborne biological agents cause various infections, and allergies, as well as create environment challenges and meteorological phenomena. To help combat these problems, **Leti has introduced a portable, silent, highly accurate and autonomous bioaerosol collector** with enhanced airborne pathogen sampling, including bacteria or submicron viruses - a sensitivity lacking in existing biodosimeters.

Particles are collected on a dry surface and then concentrated in a small liquid medium. An analysis can be performed leveraging a variety of techniques, including but not limited to: culture, PCR, immunoassays, mass spectrometry, and Raman spectroscopy.

### + APPLICATIONS

- **Air quality:**
  - Food industry
  - Pharmaceutical and cosmetic industries
  - Public buildings such as hospitals and clinics
- **Worker protection:** prevention of nanoparticles exposure

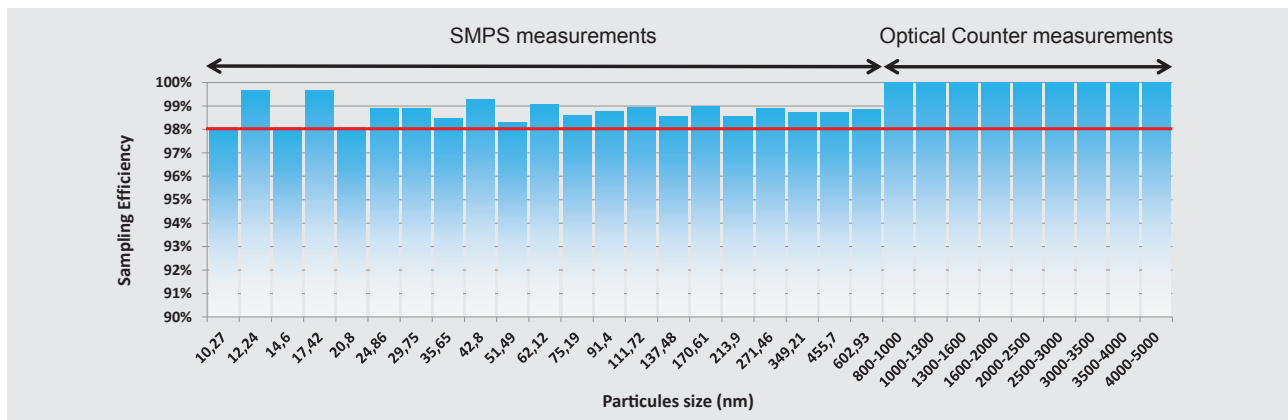
## + WHAT'S NEW?

To develop a highly precise biosimulator, Leti finely tuned the technology and added a new approach:

- **Low flow rate:** to be representative of human exposure, the nominal flowrate of the collector is similar to normal human breathing: 5 to 10 liters per minute (LPM). This approach helps get a more compact, portable and silent device, eliminating the need for heavy and noisy pumping systems
- **Highly performance and accuracy:** up to 98% accuracy for all particles from 10nm to a few microns at 5 LPM
- **Cell culture possible:** keeps viability of some pathogens
- **Silent,** no mobile parts
- System fully compatible with sterilization by hydrogen peroxide (other sterilization techniques can be further tested)
- **Portable** and standalone (battery powered)

## KEY FACTS:

- 2 patents
- French high committee for civil defense Award (Dec. 2013)



## + WHAT'S NEXT?

The technology has been transferred to Bertin Technologies and will be available on the market late 2018. Bertin Technologies already markets the Coriolis® product line, offering a wide range of biocollection air samplers. Leti technology will complement Bertin Technologies product range with an ultraportable device capable of collecting a wide range of samples from nanoparticles to microorganisms, and featuring enhanced accuracy.

## INTERESTED IN THIS TECHNOLOGY?

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