# VBact Water Scanner

## Real-Time Microbial Water Quality Actionable Insights
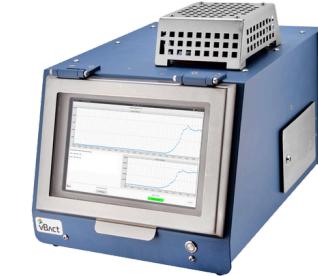
**Real-Time. Continuous. Reagent-Free. Revolutionizing Water Quality Monitoring**

VBact **AI-driven Water Scanner** delivers live, automated detection and quantification of bacteria, micro-particles, and population shifts in water — continuously, in real time, and without reagents or manual intervention.

It transforms bacterial and particle monitoring into actionable, data-driven control for water quality management, early contamination warning, and process optimization.

## Key Advantages

- **Continuous, in-line operation**
  no sampling or manual handling
- **Reagent-free**
  exceptionally low operational cost (OpEx)
- **Immediate alerts**
  real-time detection of irregularities
- **Fully automated 24/7 monitoring**
  minimal maintenance required
- **Remote data access**
  via secure web-based dashboard
- **Direct Imaging & AI powered Tech.**
  Direct single-cell resolution & instant complex data interpretation

## Core Applications

- Beverage and bottled water production
- Municipal water supply and treatment facilities
- Water based food production
- Ultrapure water systems and pharmaceuticals
- Cleaning in Place systems
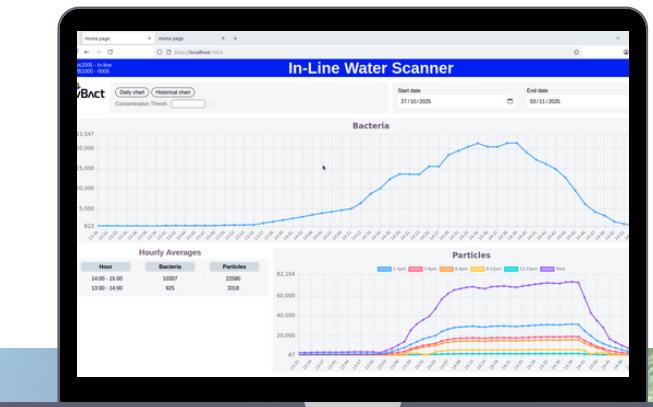
**Water Scanner Viewer - Web Based Dashboard**

# How it Works
## Advanced Detectors for Complete Water Insight

**vBAct**

### 1. Bacterial Detector
Continuously detects and enumerates bacteria in real time at single-cell resolution. Provides total bacterial count and identifies rapid changes in bacterial count.

### 2. Micro-Particles Detector
Quantifies particles and provides size distribution of all detected micro-particles including bacteria in water. Detects sudden increases in concentration, indicating filter failure, process disruption, or emerging contamination.

### 3. PhenoMonitor™ Classifier
Analyzes bacterial population composition and phenotypic parameters, identifying early population shifts caused by emerging bacteria, chemical contamination, or biological matter. Acts as an early warning system for water quality changes and can identify and track specific bacterial contamination.

## Microbial Big Data for Smarter Operations

- **Single-cell resolution analysis**
  thousands of accurate measurements / day
- **Immediate alerts for:**
  bacterial / biological / chemical contamination
- **Event timeline insight**
  precisely identifies the start, magnitude and end of each contamination event
- **Early detection**
  of contamination or process instability
- **The first microbial Big Data platform**
  broad, meaningful datasets for new operational insights
- **Trend visualization & historical data**
  - analytics tools
- **Remote monitoring**
  seamless integration into plant networks

## Turning Data into Water Quality Insights

VBact solutions empower water-dependent industries to:

- **Detect contamination** the moment it happens
- **Prevent recalls**, production losses and costly shutdowns
- **Optimize treatment**, disinfection, filtration & maintenance operations
- **Ensure safer**, more reliable water across all production processes
- **Increase compliance**