



Customer Case Study

Bioethanol Production

Real-Time Yeast and Contaminant Monitoring
Increases Productivity by **16%** and Yield by **7%**

**Yeast
Monitoring**

**Fermentation
Yield**

**Process
Stability**

**Contamination
Control**

The Challenge

In bioethanol production, maintaining yeast health and controlling contamination are critical for maximizing yield and process efficiency. Without clear insights into yeast vitality or bacterial levels, fermentations risk lower productivity and costly bacterial overgrowth.

The Approach

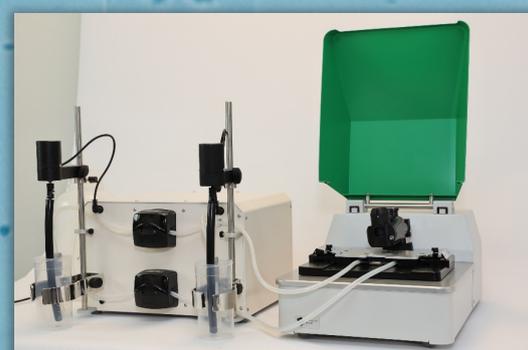
The ParticleTech Analyzer was used in pilot-scale fermentations to monitor yeast concentration, morphology, & growth - key indicators of yeast health and nutrient status. It also quantified bacterial contamination and identified bacterial types, enabling targeted corrective actions to maintain productivity and maximize yield.

The Implementation

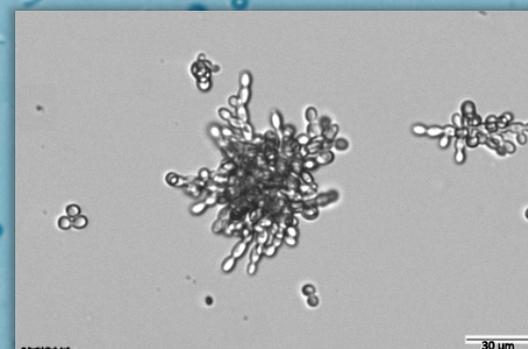
Findings from the pilot were scaled to full production, with rapid at-line analysis performed from yeast propagation through the main fermenters. Real-time visibility into yeast health and contamination now enables fast, data-driven adjustments throughout the process, maintaining high productivity and maximizing yield.

The Result

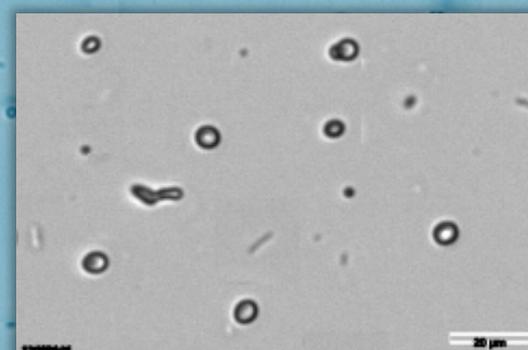
Fermentation consistency and bioethanol yield have improved through tighter yeast control and early bacterial detection. Continuous monitoring is now standard, safeguarding process stability and maximizing output.



ParticleTech Analyzer



Detection of Yeast Aggregation



Yeast & Bacteria Quantification