WIRELESS SYSTEMS FOR PROCESS MONITORING

Tech ID: 17548 / UC Case 2005-113-0

ABSTRACT

Chemical, biochemical and agricultural processes such as fermentation, vaccine production, require close monitoring for quality control and process optimization. For some processes, production of gaseous emissions must be constantly monitored to insure worker safety or compliance with environmental regulations.

Systems for many of these process monitoring applications can be very expensive and inflexible; for example where deployment requires fixed wiring for power supplies and data transmission. Systems can also be difficult to retrofit when existing facilities are used for new processing operations, or sensors must be added for monitoring new or different gaseous species.

Researchers at the University of California, Berkeley have developed a wireless monitoring system for liquid processing operations. The system is designed to monitor a variety of processes, including the fermentation of wine, beer, and spirits. The system allows for rapid deployment of self-organizing sensor networks for the monitoring within production equipment (such as fermentation tanks or vats) as well as at other locations within and outside the production facility. The network can also be expanded to monitor post processing steps such as bottling or packaging. The network utilizes small, wireless sensors that are low cost and highly scalable, and the system allow for rapidly deployment into evolving liquid processing environments.

APPLICATIONS

Optimization of liquid processes such as fermentation, Environmental compliance, Worker safety

ADVANTAGES

Flexible, low cost system, rapidly deployable, can monitor the total production cycle, easily expandable to accommodate monitoring of additional processes

CONTACT

Curt A. Theisen (Deceased)
curt@berkeley.edu
tel: 510-643-7214.



OTHER INFORMATION

KEYWORDS

agriculture, engineering, food, general engineering, sensors, fermentation, electronics packaging, materials, food chemistry

CATEGORIZED AS

- **Agriculture & Animal Science**
  - Other
- **Materials & Chemicals**
  - Electronics Packaging
  - Other

RELATED CASES

2005-113-0

© 2009 - 2010, The Regents of the University of California
Terms of use | Privacy Notice