

The Sensor Platform to Simplify Your Bioprocessing

DOTS is a combined network of sensors and actuators with a powerful software to provide actionable insights into your bioprocess where and when it matters most. Start monitoring every point of interest to connect the DOTS in your bioprocessing.

The DOTS Platform

Sensing & Controlling



Application- & Vessel-specific Sensors



Multiparameter Sensors (Future)



Actuators

Monitor Critical Process Parameters (CPPs) around the clock with modern sensors designed for the most common vessel types in bioprocessing and a broad variety of applications.

Data Transfer & Integration



Hubs & Gateways

Hubs and gateways collect all vital information and transfer it to the DOTS Software. Integrate with 3rd party equipment or software for further processing and storage.

Sensor Handling & Data Monitoring



DOTS Software

Use DOTS Software to visualize and control multiple sensors and experiments. Gain access to actionable insights and make informed decisions about your bioprocess.



What Our Customers Say

“With the DOTS Platform I can combine sensors and actuators in a simple way to perform completely new applications like biomass-based feeding in shake flasks. My shake flasks can now operate similar to small-scale bioreactors, keeping the ease and cost-effectiveness of flasks but adding the sensor and control options of bioreactors. This is truly revolutionary for me and my experiments.”

– **Christoph Kutzner (Badische Peptide & Proteine GmbH, Heidelberg)**

Applications

- ✓ **Strain development, screening, and characterization**
- ✓ **Bioprocess optimization**
- ✓ **Biomass-based feeding**
- ✓ **Media optimization**
- ✓ **Growth characterization (including toxicity tests, substrate-/product-inhibitions, and oxygen-limitations)**
- ✓ **Timing of workflows (such as inoculation, induction, sampling, feeding, or harvesting)**
- ✓ **Product characterization**
- ✓ **Scale up**
- ✓ **Quality control**

Current DOTS Sensors & Actuators



Cell Growth Quantifier (CGQ)

Non-invasive and real-time monitoring of biomass in shake flasks via backscattered light detection.



CGQ BioR

Non-invasive and real-time monitoring of biomass in bioreactors via backscattered light detection.



Liquid Injection System (LIS)

Automated and parallelized feeding of liquids in shake flasks.



Flow Cells

Continuous monitoring of pH and dissolved oxygen (DO) in flow loops via optical chemosensors.

The Future of DOTS

We will continue to expand our portfolio of sensors, actuators, and software applications to include new parameters and vessel types. Here is a snapshot of what is coming.



Multiparameter Sensors

Our future multiparameter sensors will measure a broad variety of conditions. Simply mount the sensor at your point of interest and measure your parameters wirelessly, regardless of vessel type or application.



IoT Infrastructure

We are building a wireless sensing and IoT infrastructure to allow devices to be connected, sensed, and controlled remotely, ensuring the best sensing experience for you.



Third Party Integration

We will expand the ability to integrate with existing laboratory bioprocess equipment and data management systems for ultimate flexibility.



Want To Connect The DOTS In Your Bioprocessing?

[Contact Us](#)