Safe monitoring of water quality in fish farming

Netilion Smart System for Aquaculture of the Office for Forests of Basel (Amt für Wald beider Basel)

Daniel Zopfi

Fish farming tank

Amt für Wald beider Basel

The aim of the Office for Forests of Basel is to preserve forests and wildlife for present and future generations. In the municipality of Giebenach, the Office for Forests of Basel runs a fish farm to enrich the natural fish stocks in public waters. The main focus is on the breeding of salmon for the reintroduction of fish into the Rhine.

"Netilion Smart System for aquaculture gives us security in our daily work and significantly reduces manual measurement efforts. We always know the conditions our fish grow up with and are able to improve them through specific interventions. In addition, we are always up to date thanks to the notifications, even when we are not on site."

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A continuous monitoring of the water quality in the fish farming tanks enables the Office for Forests of Basel, to make sure that their fish grow in optimal environmental conditions. It also enables the user to react quickly in the event of deviation.

Customer challenge

The Office for Forests operates a fish farm in Giebenach with the aim to reintroduce or stabilize populations of extinct and endangered fish as well as crayfish species in open waters within Basel and its surroundings. In the past, water quality monitoring of the breeding tanks was only realized on a selective basis. Deviations from the targeted water quality were detected only late or even never.

Our solution

Netilion Smart System for Aquaculture SSP200 ensures reliable breeding operations:

- The digital, optical sensor Oxymax COS61D measures dissolved oxygen in water fast and continuously
- A digital ammonium and nitrate sensor ISEmax CAS40D (incl. compressed air self-cleaning) directly measures nitrate and ammonium, avoiding expensive preparation of test samples
- Multichannel transmitter Liquiline CM444 collects measuring data
- The Modbus Edge Device transfers this data to the Netilion Cloud
- A smartphone application brings the measuring, diagnosis and alarm information direcly to the customer's hands

Result

All of this results in continuous water monitoring, even if no employee is on site. Alarms ensure that the staff is immediately informed in the event of deviations in water quality – and is thus able to react quickly. Information about instrument status reveals maintenance requirements and underlines the reliability of the displayed measured values. The extra addition of a compressed air cleaning system reduces maintenance efforts and guarantees consistent accuracy.

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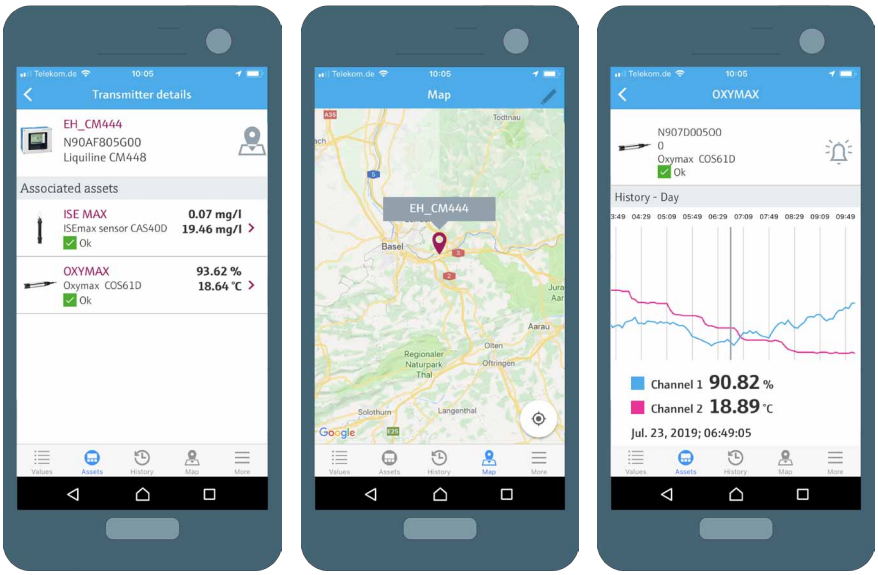
Advantages at a glance

- Continuous monitoring of the water quality
- Direct information in the event of deviations
- Optimum water quality for healthy fish
- Diagnostic information on instrument status
- Data export to Excel for statistical analysis

Modbus Edge Device and multichannel transmitter Liquiline

Installed sensors at the water inlet



Netilion Smart Systems app, examples: device information, geo-map and display of measured values

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