

## Circulation in fish tanks in Singapore Current sensor in Wintershine closed floating aquaculture facility

### Current sensor in Wintershine aquaculture farm

Aanderaa [Doppler Current Sensors](#) have been tested recently in Singapore, at a [Wintershine](#) fish farm, a closed tank floating facility for the production of Barramundi fish and white snapper. The sensors are typically used in various waterbodies, from surface waters to the deepest oceanic trenches, down to 11,000m. In independent tests conducted prior to this one, the single point sensors (DCS) outperformed other technologies by their better ability to measure in clear water and to compensate for the tilt, up to 50°.

### Measuring water circulation in fish tanks

The tanks at the Wintershine aquaculture facility are designed to perform a self-cleaning process and reduce bacterial growth by subjecting the tank walls to high water velocities. For better control of circulation and fouling effects in the 8m diameter tanks, a robust method to measure



View from inside of barge



Wintershine floating production plant

circulation was needed. The DCS was fixed to the tank wall for the test; placed in mid-depth in the 2.5m deep tanks and two of the four transducers were turned off and directed into the flow. The systems worked well and delivered consistent and reliable information on circulation speed.

Acoustic backscatter information was also collected to find out if this could be a fouling insensitive method to determine the concentration of suspended particles in the water.

## New application of the DCS

The trial deployment revealed a new application of the DCS. With the proof of concept carried out successfully, the ability to monitor multiple tanks circulation can be carried out by connecting several DCS sensors to a single cable (up to 400m-long) through an AiCAP CanBUS network to a [SmartGuard](#) logger/sensor hub.

Aanderaa has delivered numerous multi-parameter turnkey systems for Aquaculture and is involved in research and development work like the [Crowdguard](#) project with the goal of minimizing fish loss during “crowding operations”, which typically occur during sea lice treatment of salmon.



DCS on wooden stick prior to testing



Close view of fisk tank

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