

CROWDGUARD

CROWDGUARD aims to increase salmon farmers' control during crowding operations through development and validation of new and unique technology for data collection during crowding of salmon.

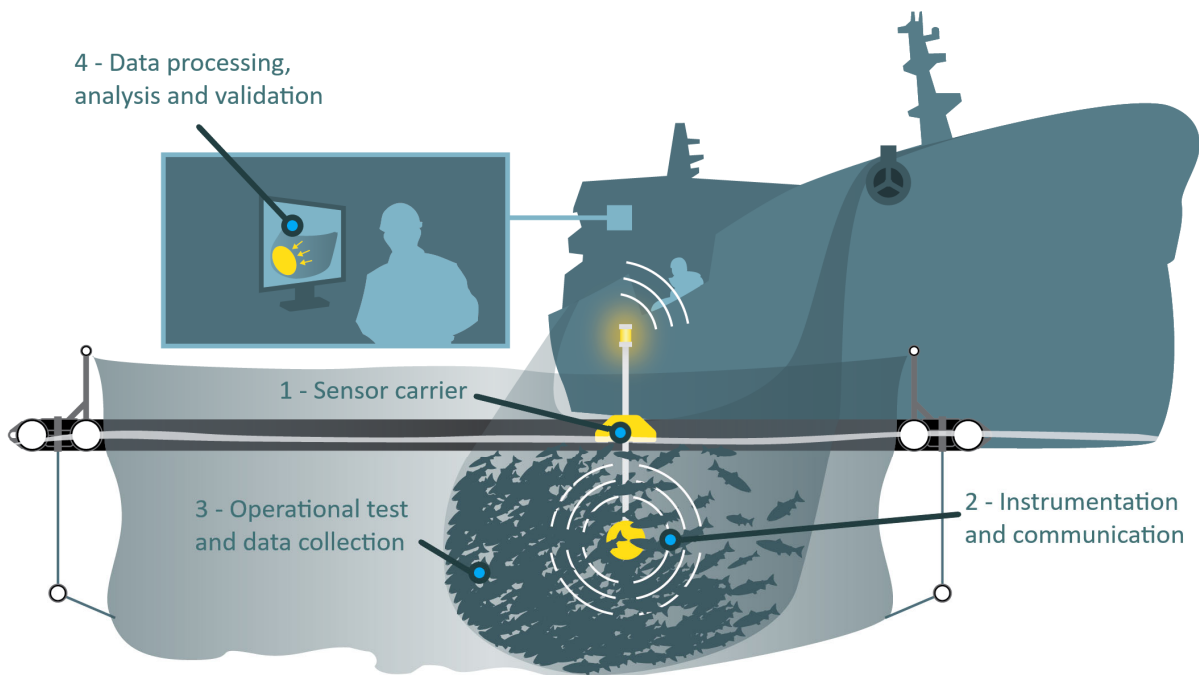


Image 1: The project will develop technology to be used for quantification and documentation of fish welfare during crowding operations focusing on: 1.Sensor carrier, 2.Instrumentation and communication, 3.Operational tests and data collection and 4.Data processing, analysis and validation

The project addresses one of the most demanding operations in aquaculture: **crowding**, which in conjunction with e.g. delousing operations has increased in frequency, and is of great significance for salmon mortality and loss.

The main challenge during crowding is the lack of information about the fish condition and how intense the crowding is at the specific time.

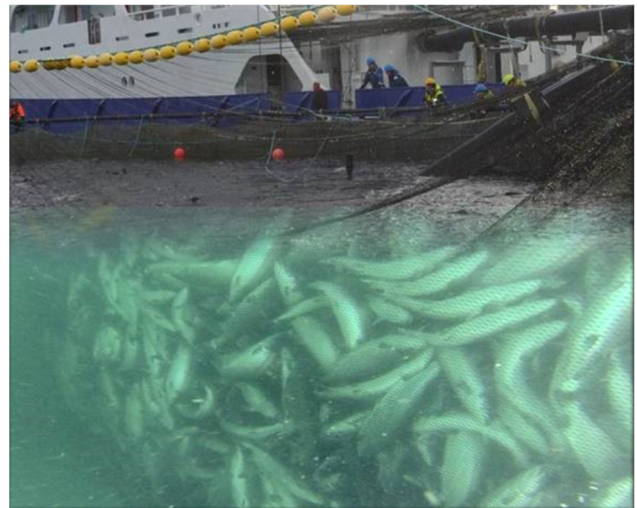
PARTNERS

- Nærøysund Aquaservice
- SHM Enabling Technologies
- SHM Maritime
- Anderaa Data Instruments
- Sinkaberg-Hansen
- Kongsberg Maritime
- Botngaard
- Polyform
- SINTEF Ocean
- NTNU

To harvest fish from a production cage, the fish density is increased by either employing a crowding net or reducing the cage volume. A production cage contains up to 200 000 individuals, and fish may be subject to crowding several times throughout a production cycle. This handling method has in principle remained the same from the beginning of the industry.

The crowding operation affects fish welfare, and the related mortality represents a high cost for the industry. Increasing the understanding of the operation and expanding the toolbox for the operator will be highly valuable for the farmer and the industry.

Image 3: Crowding of salmon.



The time has come to take control over the crowding situation and the biomass density to ensure that the fish is not exposed to excessive physical loads or stress. The project aims at developing technology to be used for quantification and documentation of fish welfare during crowding operations focussing on:

1. Sensor carrier
2. Instrumentation and communication
3. Operational tests and data collection
4. Data processing, analysis and validation

The solution developed in the project will be tested and demonstrated on a fullscale production site.

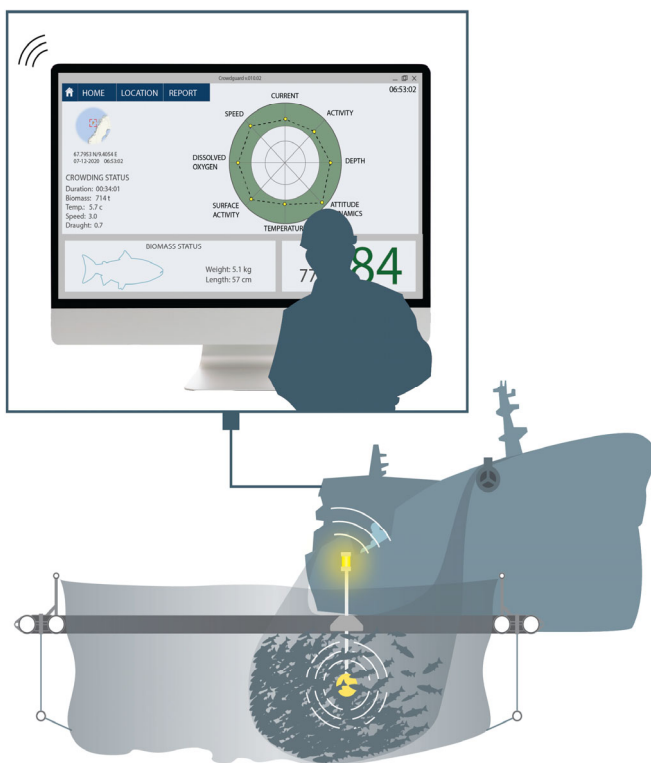


Image 2: CROWDGUARD aims to increase salmon farmers' control during crowding operations.