



Test centre for new aquaculture solutions



Who is ACE?

Research and development, and the testing of technology at sea put demands on a purpose-built infrastructure. We are talking about suitable sites, aquaculture facilities, instruments and expertise. The aquaculture facilities and volumes of fish involved must be comparable with those actually employed in the industry. The equipment used must be able to withstand the great forces resulting from exposure to wind, waves and currents. At the same time, the safety of personnel and students must be guaranteed.

We are at the mercy of nature when we carry out field tests. It is vital to obtain adequate data and prepare sound documentation about what is really going on. We are talking about the behaviour of the fish, the forces acting on the aquaculture facility and equipment, and the environment in and around the facilities themselves.

It is also important to employ an effective system for the transfer and storage of data collected during the projects for use in subsequent analyses.

Sites

Different problems place different demands on sites and facility design. By virtue of its partnership with SalMar Farming, ACE offers sites of varied exposure in relation to factors such as:

- » wind
- » currents
- » waves
- » a variety of generations of fish



Equipment and instruments

ACE also participates in the development and testing of new methodologies, measurement equipment and communications systems.

The company is assembling an instrument portfolio consisting in collaboration with SINTEF Fisheries and Aquaculture for use in projects. With this we are able to document environment, biology and technology and includes:

- » camera solutions
- » meters for wind, waves and current
- » CTD
- » temperature meters
- » hydrophones
- » oxygen meters
- » echo sounder
- » sonars
- » accelerator
- » load cells
- » salinity meters



Service and support

ACE has staff with broad aquaculture experience, and obtains specialist expertise in a variety of technical fields when necessary, primarily from our partners SINTEF and NTNU. The company also has great experience in developing, organizing and installing technical solutions for monitoring and registration of test results on site. Close cooperation with suppliers ensures good quality documentation.

ACE offers design, management and administration of projects. The company's vessel, Torra, transports scientists rapidly to the fish and facilities and is custom-built for research purposes. It is well equipped with relevant technologies and is adapted to be able to manoeuvre close to aquaculture facilities.

Communication / e-Infrastructure

Resilient solutions for communication are established with reliable capacity to the sites. This is prepared in cooperation with SalMar Farming and SINTEF Fisheries and Aquaculture and ensures efficient implementation of projects.

- » Instrument cabinets on cages for connecting computer equipment and sensors.
- » Remote access for configuration and monitoring of sensors.
- » Data transfer from ACE sites to SINTEF's ITC laboratory

Documentation

The projects have different documentation requirements. ACE bases its activities on established Norwegian and international standards, where these are available. The company also develops its own science-based procedures and protocols in collaboration with research institutes and industry suppliers. ACE has joint agreements with other onshore laboratories, which offer testing facilities for certain products.

Education and training

The aquaculture industry is moving from being an experience- to a knowledge-based sector. This is most true in the fields of science and technology. ACE works closely with Frøya secondary school,



- TECHNOLOGY FOR THE FUTURE

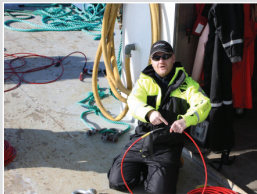
ACE is a hub connecting R&D institutions, suppliers and producers. Our projects are focusing on the main challenges in the aquaculture industry by using technology and how this effects people, fish and environment.

Large-scale facilities at ACE are designed to develop and test new aquaculture technologies. Researchers are conducting practical experiments and tests both under optimally controlled and realistic conditions.

ACE has offices in Trondheim and on the island of Frøya. Research activities are carried out in mid-Norway depending on the aim of the project. Main research facility, vessel and equipment are located at Frøya.



ACE participates in AquaExcel, an EU-project gathering different R&D infrastructures in different countries. In this project ACE offers its facilities to other research institutions in Europe through TNA (Trans National Access).



AquaCulture Engineering AS
mail@acequa.no • www.acequa.no