Oyster Farmers Helped by 'Real Time' Water Data

Project Background

An oyster farmer's paddock is an estuary - a complex ecosystem where water quality is of the utmost importance in production. Unwanted inputs can easily find their way into an estuary, from ash and rainfall to sewage or deoxygenated water from floodplains. Any significant change to water quality prompts an immediate review of pathogen risk by regulatory authorities, often prompting an estuary harvest closure.

The Transforming Australian Shellfish Production project (NSW Farmers (Oyster Growers), Food Agility Cooperative Research Centre, NSW Food Authority, the NSW Department of Primary Industries, and the University of Technology Sydney) aims to provide a responsive "real-time" framework for harvest area openings and closures, which will deliver cost efficiencies for oyster farmers.

Water Quality Monitoring Solution

Low salinity levels and water temperature changes can prompt estuary closures. The collection of real-time water quality data offers the potential to reduce in estuary closure times and increase the periods over which oysters can be harvested by producers.

ICT International has been engaged to build, install, and maintain a water quality monitoring network which now delivers near real time salinity, water temperature and depth data from 12 oyster producing estuaries in NSW. Supported by the MFR-NODE with CAT-M1 communications, sensors installed included:

- AWQ-C4E for water temperature, EC, salinity and TDS-KCI
- ECL 8439 submersible pressure transducer
- PRP-02 for rainfall (at select locations)
- ICT THERM-EP thermistor with THERM-RS radiation shield for measurement ambient temperature (at select locations)

Data is displayed in the Dataview web platform and made available to growers, regulatory authorities and UTS researchers via either dashboard login or open URL.

Data is provided directly to the oyster growers' mobile phone. In the words of one oyster grower: *"It speeds up the process and helps us with farming. The data comes almost automatically - exactly from where the oysters are to be collected."*