

A productive start for new centre

In 2011, fishers and researchers could stand on the bridge of a fishing vessel and watch live video of the fish entering the trawl net. Trawl doors with adjustable hatches and a system that automatically identifies and sorts fish are two of the other innovations that have helped to give the CRISP centre a good start.

BY JOHN WILLY VALDEMARSEN AND KJARTAN MÆSTAD

CRISP, which is an acronym for the Centre for Research-based Innovation in Sustainable fish capture and Processing technology, was founded on 1 April 2011. CRISP is a centre for research-based innovation (Norwegian acronym: SFI), supported by the Research Council of Norway. The centre, which is hosted by the Institute of Marine Research, brings together four partners from the fishing industry and four research partners.

The main goal of the centre is to assist Norwegian fisheries-related companies to become leading suppliers of equipment and seafood to a global market. This can result in more efficient and environmentally friendly catch methods, and will raise the quality and competitiveness of the fish and fish products.

THREE KEY PILLARS

Work at the centre is focused around three pillars.

The first pillar deals with measuring instruments for identifying and monitoring of fish and gear. An important aim is to develop instruments that can determine the fish species and size prior to capture, and that can monitor fish behaviour and the performance of the gear during fishing.

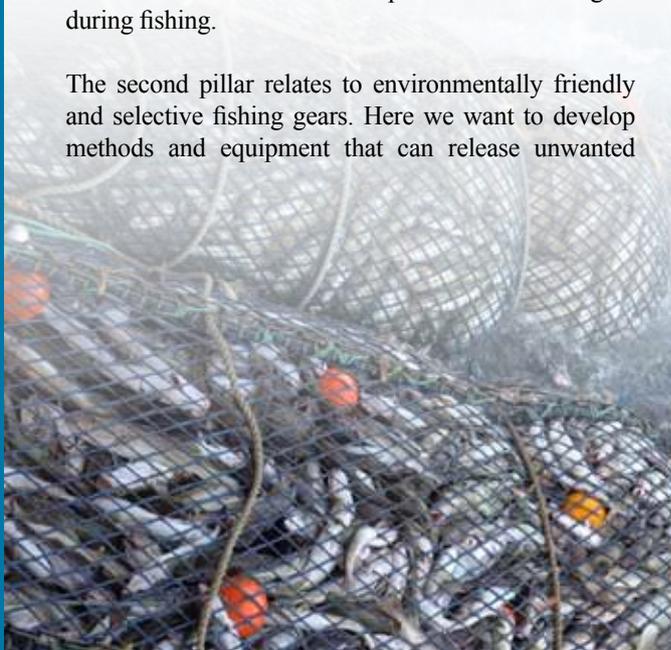
The second pillar relates to environmentally friendly and selective fishing gears. Here we want to develop methods and equipment that can release unwanted

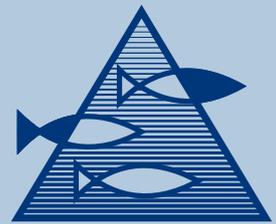


Figure 1: High-quality imaging inside a trawl can be used to estimate size and species.



Figure 2: Combining observation with sonar and camera during trawling.





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bycatches, as well as new trawl gears that minimise damage to the sea bottom and reduce energy consumption.

The final pillar is to improve quality and adding value. Here, the focus is to develop gentle capturing and handling methods, in order to optimise quality and value. We will also analyse and document the financial benefits for the fishing industry.

INNOVATIONS:

For several of the participants involved in CRISP, it has been a speedy start from the very first moment.

Last summer, on the bridge of the fishing vessel "Ramoen", researchers and fishers could watch live video showing fish inside the trawl net. For the first time it was possible to compare observations from the sonar located in the opening of the trawl net with a live video during trawling on a commercial fishing vessel. The new device,

developed by the Simrad division of Kongsberg Maritime AS in collaboration with the Institute of Marine Research, sends the video signal to the boat through the same cable as the trawl sonar signals.

Scantrol AS is another of the partners at the centre. Together with the Institute of Marine Research, the company is developing a system to automatically identify the species and size of the fish in a trawl net. After further development, this system will be used to select fish that are to be caught and to release the unwanted ones.

Hatches in the trawl door that can be opened and closed are another project. Trawl doors are used to keep the trawl net open when it is being dragged behind a fishing vessel. By individually adjusting the hatches during trawling, fishers can keep the doors at the right depth, even in difficult currents, while turning and when trawling on a slope. This project is the work of another partner, Egersund Trål AS, while the Institute of Marine Research has tested the prototype adjustable trawl doors.

WHERE WE GO FROM HERE

The above mentioned projects will be continued with the aim to develop commercially competitive products.

Other projects include developing new fishing sonars that provide more detailed information about schools of fish both before and after they have been caught in the purse seine. We will also continue to work on developing low-impact trawl designs for pelagic/semi-pelagic fishing. Meanwhile, intensive studies will be done on how to improve the quality of catches on fish trawlers. Economic analysis of trawling and the potential benefits from quality improvements will also be carried out.

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Figure 3:
Hexagonal meshes shaped as a brick wall can become the future trawl net.



Figure 4:
Trawl doors with hatches that can be opened/closed to adjust performance while fishing.

Figure 5:

Fish traces in the trawl mouth recorded with a trawl sonar in echo-sounder modu.

