

# New tools designed to achieve big fuel savings in fishing vessels

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The bridge of a modern ship

The 'GESTOIL' system is an economic, easy-to-operate piece of technology, and when actively used it enables significant fuel savings to be made. With this tool the skipper can from the bridge of the vessel see fuel consumption displayed instantly; this puts him in a position to be

able to optimize it depending on the sailing conditions at each moment. The proactive use of this system can achieve savings of up to 25% in troll fishing, about 10% in purse-seine vessels, and between 2% and 9% in trawling.

The 'GESTOIL' software has a built-in specific consumption model for each fishing [vessel](#); this also allows the amount of fuel expected to be used on a specific route to be very accurately estimated; that way consumption in alternative operating practices can be assessed.

This [technology](#) has the competitive advantage of being low-cost and the fact that it can be applied to all segments of the fishing fleet.

## **Energy audits on fishing vessels**

On a fishing vessel knowing how much fuel is used, when and why is a basic requirement that allows effective energy efficiency (fuel-saving) actions geared towards the specific case of each vessel to be carried out.

Energy audits involve analysing the availability of the vessel's machinery, generation equipment and fuel-consuming equipment. Depending on the customer's requirements, portable and fixed equipment is used to monitor the functioning of the vessel to provide subsequent data analysis. The latter is contrasted with crew interviews to see how the operating conditions and [fuel consumption](#) in these conditions relate to each other.

The energy audit methodology developed at AZTI thus enables a breakdown to be made of the fuel consumption in the different phases in the vessel's operation. This knowledge makes it possible to come up with technical and operational improvements that will optimize energy consumption and which can be adjusted to the specific conditions of each vessel. Finally, technical and operational improvements are

proposed; here, their technical as well as economic viability are assessed to facilitate decision-making in the fishing company.

## **Benefits for the companies**

The tools presented by AZTI can be adapted to the specific nature of each sector in terms of operating features and regulations. Implementing them leads to significant benefits, such as a cut in operating costs, improvement in competitiveness and a greater contribution towards environmental protection. What is more, they can be incorporated into newly-built vessels.

The Gestoil and Audoil tools are geared towards the following sectors: ship owners who want to cut their operating costs and eventually the public administrations interested in improving the environmental sustainability of the fleet. They are of equal interest for naval engineering fields and, in particular, for the shipyards that are committed to building new vessels which are more effective and sustainable from the energy and environmental perspective.

Provided by Elhuyar Fundazioa

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