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## Comparative test in design of hydrofoils for a new generation of ships

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Compared to all traditional fast ferries, Hydrofoil represents the best solution for the fuel economy and reduction of ship motions. These advantages are still undisputed primates of the wing supported means.

It is then wondering why hydrofoils are not so used in modern commercial fleets even despite the high management costs from the maintenance point of view, the initial acquisition cost higher than other similar solutions.

The article shows results of a tank tests campaign performed by Liberty Lines on new class of hydrofoils "Admiral-250", designed and built by Liberty Lines, where fundamental points have been touched upon, such as: the wing hydrodynamic optimization by means of model testing; the structural study of new wing systems and the update of the production processes with new construction techniques, and the improvement in comfort for passengers in terms of accelerations and vibrations.

The tests for above outlined hydrofoil projects have been carried out in main towing tanks in Europe, showing a significative gain for new projects.

The know-how achieved, following the definition of the "Admiral-250" project, has made it possible to develop a challenge: the "Admiral-350" class, the largest passenger cargo hydrofoil ever produced, equipped with POD propulsion.

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