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## OPTIMIZATION OF THE VENTILATION PLANT OF THE HSC ENGINE ROOM

Engine room is one of the most important space of a hydrofoil. It hosts all the mechanical components for the propulsion and for the technical facilities of the vessel, such as marine engines and electrical generators. In order to ensure the proper functioning of these components, an adequate air supply has to be guarantee. This is achieved thanks to the ventilation system, which provides the air flow not only for the engines aspiration but also for cooling the room. In fact, each mechanical component produces a certain amount of heat that warm up the engine room. The result is an increase in temperature which may be critical, especially for the engine crew and for the air aspiration conditions. This is a relevant problem for a small engine room, like that one of a hydrofoil where it is necessary to limit the air's warm up in order to ensure a good engines yield. In this paper using a CFD code the optimal design of the ventilation system is carried out in order to assure both the room accessibility to the engine crew that the proper functioning of the engines and the generators.

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