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Innovative solutions for the integration of medical facilities on dual-use naval ships

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According to the historical and social context and the evolution of technologies, medical care on board ships has been a requirement of variable priority throughout in the ship design. Strangely, this statement is much more evident in the field of naval ships, where there is a greater probability of injured or sick personnel on ships when operating in warfare scenarios or humanitarian operations.

NATO provides simple prescriptive indications, which indicate the health care and assistance capabilities that naval units must offer. The classification describes the operational capabilities of the ship's health facility using the word "Role", depending on the response in terms of available treatments. The level is assigned with progressively increasing capabilities from Role 1 up to Role 4, which requires a complete operational response. On naval ships, the need to integrate numerous requirements minimises the design margins regarding the use of on-board volumes.

In spite of the particular mission profile of naval units, the medical treatment capability is often underestimated. Indeed, it is necessary to reserve an appropriate part of the overall space on board to rationally allocate adequate medical facilities. In this paper, the integration of innovative medical facilities with Role 2 Enhanced capability within the general arrangements of an LPD ship is presented. Furthermore, the hospital 90 m² wide enables the dual-use of the military ship more effectively. Specifically, the accommodations on board are convertible to beds for patients, whilst complying with all safety and survivability criteria.

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