

Halifax Class Frigate Laser Installation

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More and more, directed energy weapons are escaping the imaginary of science fiction and entering the real world. In order to remain ahead of the rapidly developing threat environment, state military have to remain on the fore front of technological advancement. Lasers will have their role to play in augmenting offensive and defensive capabilities of warships. In this optic, the team was asked to investigate laser weapons with the intention to replace the 57mm gun on Halifax Class Frigates of the Royal Canadian Navy.

The process used to evaluate the feasibility of the design change started with the evaluation of current weapon technology and the characterization of multiple system given sponsor requirements. Each theoretical system was evaluated and the 50kW version was chosen for its operational capabilities, technological relevancy, and because it met all of the stated and assumed requirements. Next, auxiliary systems were specified and arranged within the freed space left by removal of the 57mm gun. This strengthen our assumption that enough space is available on the platform for the change. Finally, the ship was modelled in MaxSurf. The new system weight is significantly less than the old. A plan to correct the ship trim was developed using the platform's ballast tanks.

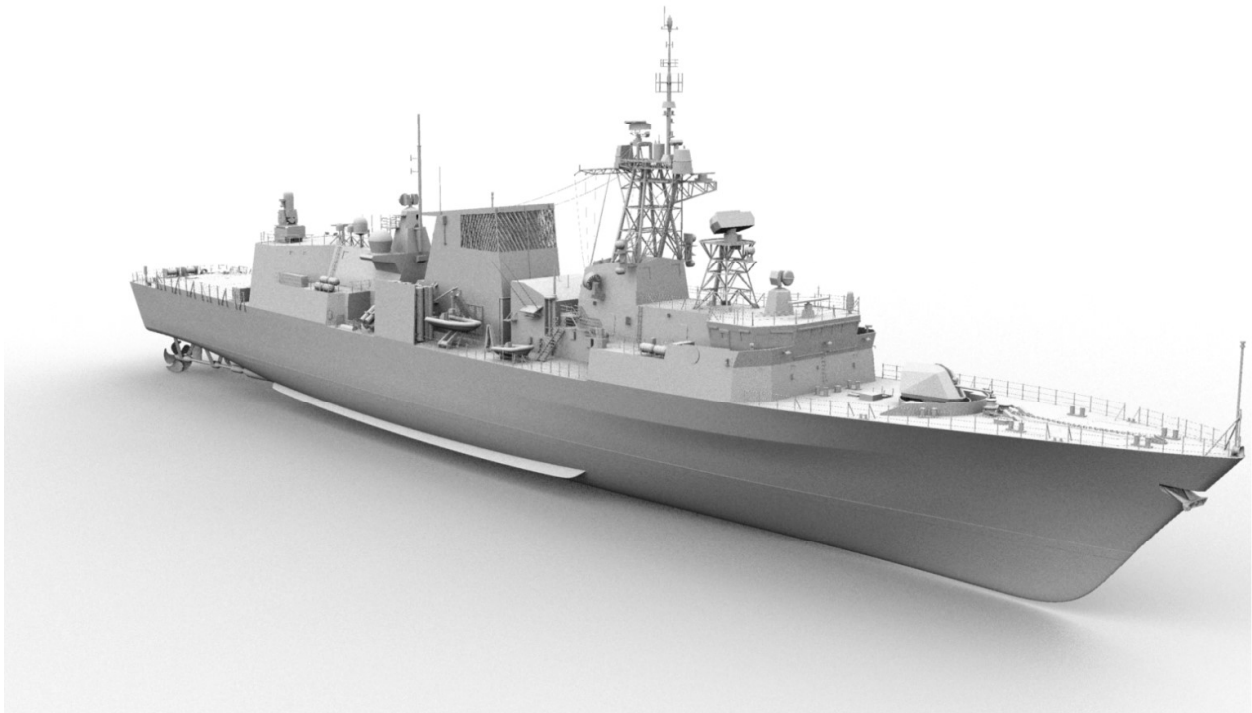


Figure 1: Rendered image of a Canadian Patrol Frigate