

Project Spartan – An Innovative Light Frigate Design



Steller Systems Ltd. has developed an innovative design for a configurable, modular, survivable, affordable and exportable ship that will meet the Royal Navy's current and future requirements for a General Purpose Frigate (GPF). Our innovative solution includes a reconfigurable aft mission space with ramp access to embark Unmanned Vehicles (UXVs), sufficient power generation to accommodate systems growth over the next 30 years, and survivability designed in from the outset through the configuration of the vessel rather than relying on complex systems for this purpose. Our underlying focus on exportability has produced an affordable design solution that will support the UK shipbuilding and defence systems industries and, in turn, will enable the Royal Navy to build fleet numbers.

Steller Systems has worked closely with both the Royal Navy and export customers to define the range of roles and high-level requirements for a light frigate. Engaging with potential operators early in the design process has enabled our team to produce a single solution which meets the most onerous requirements yet through the use of Nodal Modular Physical Architecture can be scaled back to suit individual budgets.

In order to allow for the highest levels of survivability, Spartan has been designed with three separate powered zones, separated sensors and primary weapons and an alternative Operations Room. The CODLAD propulsion system also has sufficient redundancy to maintain propulsion even after significant damage. The configurability of the design allows for the survivability to be dialled back for export customers to suit their needs and budgets.

With a large, reconfigurable multi-mission stern garage with access to a stern ramp, Spartan has been designed to be adaptable in a rapidly changing world. This adaptable space is designed to accommodate waterborne assets such as Rigid Inflatable Boats (RIB), Unmanned Underwater Vehicles (UUV), Unmanned Surface Vehicles (USV), humanitarian aid stores and equipment containers. The large hangar has space for an NH90 sized helicopter as well as additional hangar space with access to the flight deck for Maritime Unmanned Aerial Vehicles (MUAV). The hybrid propulsion system also gives a significant electrical surplus, allowing for future weapon systems to be fitted.

Spartan is a highly configurable design that meets many navies' needs now and in the future. The Royal Navy will benefit from a survivable and highly capable ship that will be the backbone of the fleet for many years. Ensuring that the design remains attractive to the global export market will bring economic advantages to the Royal Navy through efficiencies of scale, and will result in wider benefits to UK plc.

About Steller Systems Ltd.

Steller Systems is a privately owned, completely independent naval architecture consultancy. We bring judgement, experience, intellect and a strategic and whole system viewpoint to our projects. Our carefully selected team of naval architects, structural and systems engineers have completed work on some of the most complex programmes in Defence, including current and future ships and submarines for UK and foreign navies.

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