

## Small Surface Combatant “State of the Art for 30 Years”

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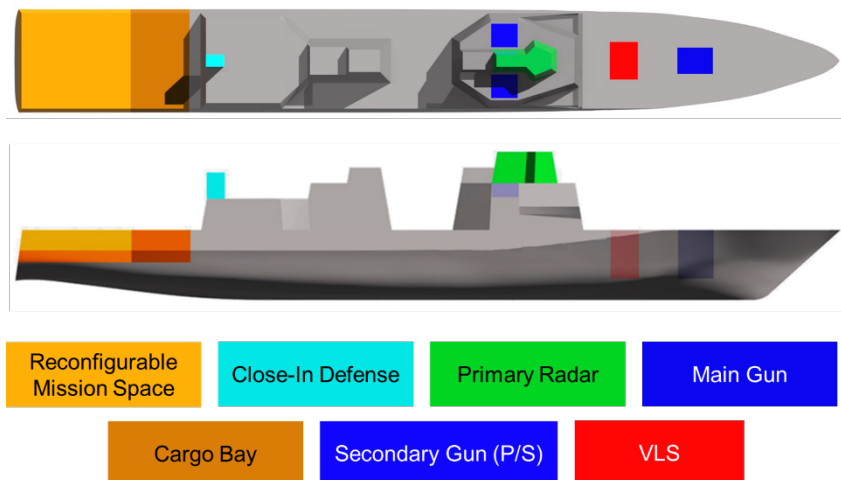
The Small Surface Combatant (SSC) is a frigate-sized warship for 2030-2060 and is capable of both independent and battle group operations. The SSC utilizes *modularity for upgradeability* to advance the concept of the Littoral Combat Ship (LCS), supporting the next generation of weapon and sensor systems. The SSC concept demonstrates that a frigate-sized combatant may be able to fill the US Navy’s anticipated capability gaps as the current LCSs reach end of life, and be built with the capacity to support state-of-the-art systems over a 30-year lifetime.

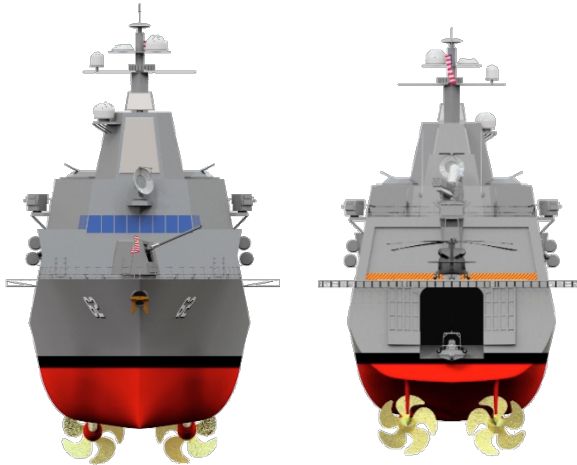
Modularity for upgradeability is the ability of the design, as built, to meet threshold requirements while accepting the impacts of modularity in order to be able to grow to end-of-life desired capability. The primary impact of modularity is excess space, weight, and mechanical/electrical support capability when the ship is launched. Building this modularity into the ship shortens the upgrade timeline later in life and decreases the upgrade cost.

SSC accomplishes modularity for upgradeability through the use of *module stations*, which

- Simplify the in-service upgrade process via careful structural and interface design.
- Accommodate all possibilities in a set of credible present and future systems by supporting the maximum physical dimension, weight, VCG, required power, and support connections found in the set.

**SSC Module Stations**





SSC Characteristics	
Primary Missions	ASW, ASuW, AAW
LBP	139.5 m
Beam	16.4 m
Draft (Full Load)	5.6 m
Weight (Full Load)	7900 MT
Power Plant (57 MW)	(2) GE LM2500 (2) GE LM500
Electrical Distribution	MVDC
Propulsion	(2) 19 MW AIM
Sustained Speed	27.1 kts

With the exception of the MVDC distribution system, all of the systems that would be built into SSC in 2030 are either technically mature or currently in development. The power requirements built into the module stations for future radar and weapons stations rely on current trends and reasonable assumptions about the requirements of future versions of these systems. However, two aspects of the SSC, the NSC based hullform and MVDC electrical distribution system, introduce risk into the design and create an overall risk assessment of medium-high.

The SSC does not represent or require a change from the CONOPS of current frigate-size through destroyer-size ships. In fact, the SSC represents an improvement in operational flexibility compared to the LCS. The module stations can accept legacy systems as built to keep cost down, yet the ship has the capacity to accept future weapons and sensors, including those requiring high energy. This provides the Navy with options to meet capability and cost requirements through the life of the vessel.