Naval Surface Ship Weapon Systems
Reliability In Challenging Sea Environments

Moog is a leading supplier delivering high-precision motion control and electronic solutions to many of the world’s naval forces. With a defence heritage dating back to the early 1950’s, Moog provides the reliability and performance required in variable sea states to support vital mission success.

Moog’s comprehensive systems are engineered to perform reliably in the harshest of marine environments, providing the long-life and dependability our customers require. Extending our customers’ investments even further is the scalability and upgradeability designed into every component and system along with through life support.

To ensure reliability, Moog meets a variety of critical Military Standards (MIL-STD) required for the toughest marine requirements.
From new system design to obsolescence management and platform upgrades, Moog supports the complete life cycle of today’s modern naval forces. Moog naval capabilities encompass: design engineering expertise, simulation, complex integration, manufacturing, rapid prototyping, and modeling – all aligned to meet current and expected future needs of naval forces.

Moog’s 30+ year naval heritage delivers affordability, logistics support, high end use reliability and lasting performance to meet the most demanding specifications.

Surface Ship Capabilities

- Naval Turrets, Ammunition Loaders and Gun Control Systems
- Weapon Stores Management Systems
- Brushless Servo Motors and Digital Controllers
- Fire Control, Gun Control and Weapon Stabilisation Systems
- Non-Lethal Stand Off Systems
- Surveillance and Antenna Pan and Tilt Positioners
- Rotary and Linear Actuators
Surface Ship Weapon Systems

RlwP – Reconfigurable Integrated-weapons Platform

RlwP is an innovative remote weapons platform offering multiple weapon options to guarantee tailored overmatch in every combat situation. Recent technology advancements support high-performance target acquisition and unmatched pointing/stabilisation accuracy. These improvements ensure forces see first, engage first and achieve mission success. Additionally, RlwP offers an unprecedented range of platform weapon system interoperability and allows on-vessel weapon reconfigurability.

The RlwP is lightweight and easily integrates on any surface maritime platform.

Customised Weapon Pedestal (CWP)

This turnkey motion control system is ideal for defence maritime platforms. With its advanced stabilisation and drive system, it offers customers a new level of speed, accuracy and agile integration.

The CWP also incorporates expertise in actuation, fire control, power distribution and management, weapons stations, and C4I systems — all foundations of defence systems required by today’s dynamic naval forces.

The lightweight CWP can be optimised for a range of payloads and missiles with minimal deck footprint and intrusion.
**Weapon Stores Management System**

Moog’s Third Generation Weapon Stores Management System (SMS) comprises the Stores Management Computer (SMC), Stores Control Panel (SCP) and Stores Interface Units (SIU), Rocket Interface Unit (RIU), and Multi-Function Display (MFD). This proven, lightweight, rugged system is an affordable solution to stores management on maritime platforms.

The SMS leverages Moog’s extensive experience in systems integration, internal software development, weapons technology, and fire control solutions. The flexible, modular design of the SMS enables fast delivery, rapid integration and future upgrades to the sensors, avionics and weapons.

**Weapon Loader**

Moog heritage is also responsible for the design, manufacture and integration of precision ammunition handling systems for a variety of applications including large caliber rounds for artillery, main battle tanks, and of course, naval gun ammunition.

Our ammunition handling systems involve complex mechanical integration, linear and rotary actuation and sophisticated, ruggedised motor control technologies.

See Moog technology in action. Follow the link below to see multi-axis Ammunition Handling Technology used on the Type 23 Frigate by the Royal and Chilean Navies. This ship features the Mk8, Mod 1, 4.5” gun with Moog ammunition handling drives. [www.moog.com/shipweapons](http://www.moog.com/shipweapons)
Weapon Heritage

Surface Ship Weapon Heritage

With over 30 years of naval heritage, Moog has proven we can meet the needs and exacting performance demands of many countries’ naval surface ship weapon systems. From high-performance and extremely accurate remote weapon system control to large calibre turrets, we have a range of product technologies in use by some of the most significant vessels on the global market.

- Drives and controllers for the Mk46, 30mm gun (LPD-17 and LCS Applications)
- Naval Air Defence Mount (NADM) 40mm gun stabilisation system
- High-performance servo actuation as integrated by Oto Melara for many of the world’s navies
- Electric gun/turret drives, motion sensors, and power and stabilisation electronics for the Rheinmetall (Mauser) MLG 27, 27mm, 3x440V, 60Hz gun drive system
- Gun drive system for the BAE Systems Bofors SAK40, 40mm L70 naval gun platform, 3x440V, 60Hz
- High-performance motors for aiming stabilisation and ammunition loading for the 4.5” Mk8, Mod 1 naval gun, 600 VDC gun aiming drives

![Littoral Combat Ship with Moog Drives and Controls on the Mk46](image1)

Courtesy of U.S. Navy, Mass Communication Specialist 2nd Class Tim D. Godbee

![Royal Navy Ship with Moog Motors, Drives, and Ammunition Loading Technology on the Mk8, Mod 1 Naval Gun](image2)

Courtesy of Royal Navy, MoD/Crown Copyright 2014
**4.5" Mk8 Naval Gun**

**Royal Navy Type 23 Frigate**