



# MK41 VERTICAL LAUNCHING SYSTEM

**LOCKHEED MARTIN** 

# MK 41 Vertical Launching System

**Produced more than 13,700 VLS Modules, 4,500 + successful missile firings. The MK 41 Vertical Launching System (VLS) is a combat proven launcher that eliminates problems associated with conventional and single purpose launchers on surface ships. Installed below deck, MK 41 VLS significantly enhances performance in operational availability, survivability and versatility with minimal staffing and training requirements. MK 41 VLS has been deployed by 17 navies on more than 30 ship classes on more than 200 ships. It is truly the worldwide launcher of choice.**

## Missiles for all missions

MK 41 VLS is the only launching system that can simultaneously communicate with weapon control systems and missiles of every warfighting mission area: anti-aircraft, anti-surface, anti-submarine, ballistic missile defense and land attack. The system is designed to accept any missile into any cell — a capability that provides unparalleled flexibility.

## Modular configuration

The basic building block of the system is an eight-cell MK 41 VLS module that can be assembled in desired numbers to meet specific mission and hull requirements. MK 41 VLS is currently deployed in 13 configurations, ranging from a single module with eight cells to 16 modules with 122 cells. The basic module is available in two sizes: strike and tactical length. The strike module is approximately 25 feet (7.6 meters) long and capable of launching large missiles, such as those that support sea-based midcourse ballistic missile defense and long-range strike. The tactical module is approximately 22 feet (6.7 meters) long and is capable of accommodating the same missile types as the strike length with the exception of the Tomahawk cruise missile and missiles designed for a ballistic missile defense role.

## Arsenal expansion

The launch control system features an open, distributed architecture that allows for easy integration of future technologies. Open architecture both in the weapon control interface and the missile mechanical and electrical interface allows the system to support any missile in any cell. This is a capability unique to MK 41 VLS. The missiles currently integrated with MK 41 VLS include Evolved Sea Sparrow Missile (ESSM), Tomahawk Cruise Missile, Standard Missile 2, Standard Missile 3, Standard Missile 6 and Vertical Launch ASROC (VLA). Lockheed Martin has consistently demonstrated the ability to integrate new weapons. Future missile integration could include Long Range Anti-ship Missile (LRASM), Common Anti Air Modular Missile (CAMM), ASTER, Future Cruise/Anti-Ship Weapon (FC/ASW) and Barak.

## Continuous spiral development

Since the mid-1980's, MK 41 VLS has maintained a common mechanical structure, and the system electronics have been continuously upgraded. The upgrades incorporate new missile integration capabilities, mitigate obsolescence and leverage the benefits of commercial off the shelf products and open system architecture to provide an affordable product. The evolutionary design process provides customers with the latest state-of-the-art capabilities and enables unparalleled integration flexibility for a multi-mission vertical launching system.

