BY SEA OR BY AIR

At age 40, Harpoon anti-ship missile is more capable than ever

By Garrett Kasper

In October 1967, a surprising event changed military maritime strategies around the globe. A tiny, unassuming gunboat sank a 1,700-ton (1,540-metric-ton) destroyer with a Soviet-built Styx anti-ship missile at a then-incomprehensible range of 15 miles (24 kilometers).

During World War II, the German Luftwaffe experienced some success deploying radio-controlled missiles against Allied ships at short range. The Soviet Union advanced this concept into the 1960s with the development of the Styx. And although the United States had been developing anti-ship missiles throughout the 1960s, there now was an urgent need to compete with this new threat.

Originally called the Air-Launched Ship Attack Missile, or ALSAM, the U.S. Navy wanted to create an all-weather, long-range anti-ship missile but with one critical advantage: It wanted the flexibility to launch the same type of missile either by sea or by air. In January 1971, Naval Air Systems Command announced it would take bids for what would aptly become known as "Harpoon."

In June 1971, Secretary of the Navy John Chaffee announced that Boeing heritage company McDonnell Douglas Aeronautics had been awarded a $60 million development contract as the prime contractor for the Harpoon missile system.

Since then, Boeing has built more than 7,200 missiles for the U.S. and 30 international navies, and Harpoon now accounts for more than $200 million in annual business for Boeing Military Aircraft's Missiles and Unmanned Airborne Systems division, headquartered in St. Charles, Mo.

"I've worked almost exclusively on the radar seeker for 26 years, and I've watched Harpoon evolve from its earliest models," said Mike Kelly, Harpoon Test and Evaluation lab technician. "It's very impressive to see current the Harpoon version's improved longevity and reliability and imagine what's yet to come if we're only halfway through this program."

In 2011, as Boeing celebrates the program's 40th anniversary, Harpoon has long been considered the world's premier anti-ship missile.

"Our 40-year relationship with the U.S. Navy on the Harpoon program is a testament to Boeing's commitment to understanding and responding to the warfighter's needs, while consistently delivering results," said Debbie Rub, vice president and general manager for Military Aircraft's Missiles and Unmanned Airborne Systems. "Our workforce's adaptive and versatile spirit continues to keep Harpoon as relevant today as it was when we first introduced it."

Harpoon is more than just the missile, emphasized Jim Young, program manager for Harpoon and its derivative cousin, Standoff Land Attack Missile Expanded Response (SLAM ER). It is an entire system for launching and training the warfighter on a variety of delivery platforms, including more than 600 ships and 180 submarines, 12 different types of aircraft and even land-based launchers.

Nearly 300 Boeing team members develop, build, maintain and provide operational support for Harpoon at the St. Charles facility, which opened in July 1979.

"As world threats have evolved, Boeing has improved Harpoon's capabilities," Young said, noting that the latest Block II Harpoons are modern, accurate and reliable and incorporate improvements such as a data link to enhance interoperability.

Boeing's Harpoon team also is working with the Navy to finalize an innovative trade-in process known as the Harpoon Recapitalization Program. As part of this new chapter in Harpoon's life cycle, the Navy can return unused Harpoons to Boeing for refurbishment and recycling in exchange for credits toward the purchase of enhanced missiles, lowering its weapon modernization costs.

"After many decades of cooperation," Rub said, "we continue to find innovative ways to help our Navy customer meet their warfighting needs while enabling Boeing to affordably develop and deliver the best missile system today and well into the future." ■

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PHOTOS: (Below) First Harpoon Block II test launch from USS *Decatur* in May 2001. U.S. NAVY **(Insets, from left)** U.S. Navy sailors load a Harpoon missile onto an aircraft; Boeing employees assemble a Harpoon missile at the St. Charles, Mo., facility, which opened in 1979; the 4,000th Harpoon missile was delivered to the U.S. Navy on Dec. 17, 1986.
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