



US Navy trials new combat craft class with CODAG system.

Protecting America's Coastlines From Sea to Shining Sea

Great naval battles for the mastery of the oceans are a thing of the past. In the fight against terrorism, the US Navy needs ships that can adopt a versatile role in coastal actions with lightning-quick speed. The USS Independence is a perfect example.

She has to be swift and agile but also capable of packing a big punch when the situation demands. She also has to be intelligent, because her missions are not getting any easier. The littoral combat ship is the U.S. Navy's answer to the new challenges in the defense of the nation. Over 50 of them are to be built by 2020. In contrast to previous naval vessels designed for the open ocean, the new LCS class cutter is designed to move swiftly through shallow waters, defending the nation from the threat of terrorism close to shore.

A New Design for Defense.

The USS Independence is one of the first vessels in the new littoral combat ship class. At just under 130 meters in length and 30 meters across the beam, she is among the US Navy's

Team Ships website, an official website of the U.S. Navy, "the LCS must be capable of operating at low speeds for littoral mission operations, transit at economical speeds and also excel in high-speed sprints": All of which are

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smaller combat vessels. Her hull is a trimaran design made almost entirely of aluminum, making her light and fast. She is also one of two designs that the U.S. Navy is considering for its LCS fleet. The other design, the USS Freedom, is a single-hull, semi-hydroplaning design produced by Lockheed Martin. The U.S. Navy has yet to announce whether it will choose one design over the other or whether it will use both designs to complete its LCS fleet.

Regardless of the design, the LCS has specific requirements it must meet. According to the

a perfect match for the MTU propulsion system that has been provided for the USS Independence.

"Number 1 engine".

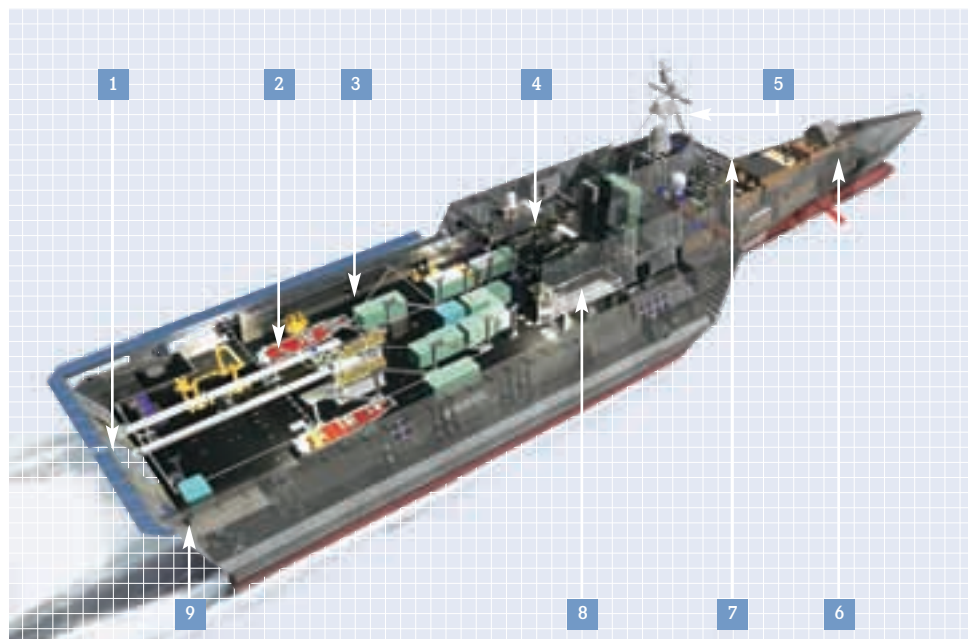
At the heart of the propulsion system are two MTU Series 8000 engines, each driving a waterjet and delivering 9.1 megawatts of power. The Series 8000 provides speed and economy, propelling the vessel up to 28 knots on diesel power alone. When additional power and speed is needed, two GE gas turbines provide even more propulsive thrust.

1 The USS Independence took to the sea for the first time in the summer of 2009 in the Gulf of Mexico.

2 The ship measures roughly 127 meters in length with a beam of 30 meters, a draft of 4.5 meters and a displacement of nearly 3,000 tonnes.

3 On the afterdeck there is a large landing pad for helicopters or drones. Below the deck is a hangar for two helicopters.

Looking back Since 1995, MTU's Series 396 has been the power behind the U.S. Navy's fleet of Mark V Special Operations Crafts. These vessels have contributed to the Navy's improved maritime special operations capabilities, especially in coastal waters. They are used to carry Special Operations Forces, primarily SEAL combat swimmers, into and out of operations where the threat to these forces is considered to be low to medium. They also support limited coastal patrol and interruption of enemy activities.



1 Off-board vehicle launch & recovery system 2 Large flight deck 1,030 sq m for (2) H-60 or (1) H-53 3 Large mission bay, carries mission modules for ASW, MIW or SUW 4 Large hangar area 351 sq m for (2) H-60 P/S 5 Integrated ISR suite 6 57 mm gun 7 Integrated command & control 8 Mission bay lift 9 Port/stbd .50 cal guns

Swift and sleek.

The USS Independence could be one of the first warships in the world to be designed as a trimaran. She has three parallel, ultra-slim hulls. The center hull is the largest, with the two lateral hulls performing a stabilization function. Trimarans are lighter than monohull craft and have a shallower draft. The world's largest trimaran is currently the Benchijigua Express, a high-speed ferry capable of 40.5 knots operated by Fred. Olsen S.A. With a length of 126.7 meters and a beam of 30 meters, the craft sails between the Canary Islands of Tenerife, La Gomera and La Palma. It is powered by four MTU Series 8000 engines. They generate a combined output of 32,800 kilowatts (44,600 hp) and propel the trimaran to a top speed exceeding 40 knots (74 kilometers per hour).

MEMO

That combination of diesel engines and gas turbines (CODAG system) enables the Independence to use the fuel-efficiency benefits of the diesels at medium speeds while retaining the capability for rapid acceleration to as much as 45 knots with the aid of the gas turbines when required. (50 knots unloaded). Bernard Bentgen, Director of Marine Sales at MTU Detroit Diesel, is convinced of the quality of the Series 8000 engines, observing that, „Their exceptional reliability and fuel-efficiency have made them the ‘number one engine’ among numerous leading naval fleets and high-speed ferry operators.“

Coastal capability.

The Independence's shallow draft of only four and a half meters also helps to make her a versatile multitasking vessel. She can move close in to the shore where she can deploy a number of different interchangeable mission modules. She can provide intelligence support by carrying out coastal surveillance, drop or

pick up special forces units, engage small, high-speed hostile craft or submarines, or assist landing craft. Her range of 10,000 nautical miles means she can also take on more extended missions. The producer, General Dynamics, describes the ship as having “the most extensive span of combat-related availability” and „unprecedented deployment efficiency – anywhere in the world and under any conceivable deployment conditions“.

The USS Independence successfully completed sea trials in October 2009 and is due for delivery to the US Navy by the end of the year. The vessel's home port will be San Diego, California.

MIKE PRINCIPATO

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1, 2 The Independence was built by Austal in the USA. The general contractor is the American defense group, General Dynamics.

