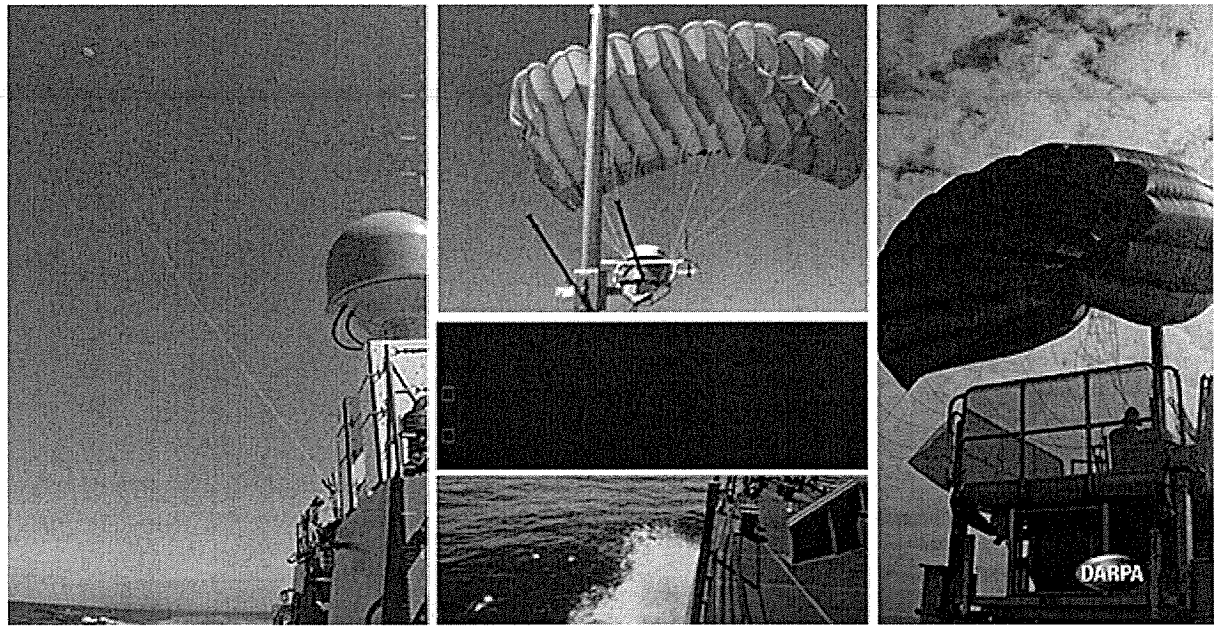
TALONS Tested on Commissioned U.S. Navy Vessel for First Time

Prototype of low-cost, elevated sensor mast improves ship's communication range and ability to detect, track, and classify contacts of interest

outreach@darpa.mil

8/15/2017



DARPA's Towed Airborne Lift of Naval Systems (TALONS) research effort recently demonstrated its prototype of a low-cost, elevated sensor mast aboard a commissioned U.S. Navy vessel for the first time. The crew of USS Zephyr, a 174-foot (53-meter) Cyclone-class patrol coastal ship, evaluated the technology demonstration system over three days near Naval Station Mayport, Florida.

TALONS demonstrated safe and routine operation from the ship's deck under a variety of sea states and wind conditions without adversely affecting the ship's operational capability. In tests, the system significantly improved the ship's ability to detect, track, and classify contacts of interest. It also increased communications range between the ship and remote platforms such as the Zephyr's rigid hull inflatable boats (RHIBs).

Towed behind boats or ships, TALONS could persistently suspend intelligence, surveillance, reconnaissance (ISR) instruments and communications payloads of up to 150 pounds at altitudes between 500 and 1,500 feet above sea level—many times higher than current ships' masts—greatly extending the equipment's range and effectiveness.

"We're very pleased with the USS Zephyr testing, which showed that a future system based on TALONS could provide operational benefits for even small Navy vessels," said Scott Littlefield, a program manager in DARPA's Tactical Technology Office (TTO). "In the next year, we will continue our cooperative relationship with the U.S. Navy and work toward fully automating launch and recovery, which would make the system even easier to use on manned vessels and compatible with unmanned surface vessels."

"Expectations were really exceeded with the ease of not only deployment, but the recovery of the system," said Lt. Cmdr. Cameron Ingram, commanding officer of the Zephyr. "Beyond the initial

launch, it immediately stabilized, and it had a very smooth transition all the way up to altitude. I was very impressed with how stable it was."

The TALONS test on USS Zephyr built upon a successful joint test last year with DARPA's Anti-Submarine Warfare (ASW) Continuous Trail Unmanned Vessel (ACTUV) program. ACTUV's technology demonstration vessel set sail with TALONS as its first payload as part of open-water testing off the coast of California.

TALONS is part of DARPA's Phase 1 research for Tern, a joint program between DARPA and the U.S. Navy's Office of Naval Research (ONR).

Image Caption: *DARPA's Towed Airborne Lift of Naval Systems (TALONS) research effort recently demonstrated its prototype of a low-cost, elevated sensor mast aboard a commissioned U.S. Navy vessel for the first time. The crew of USS Zephyr, a Cyclone-class patrol coastal ship, evaluated the technology demonstration system over three days near Naval Station Mayport, Florida. Click below for high-resolution image.*

# # #

Media with inquiries should contact DARPA Public Affairs at outreach@darpa.mil