

PROBLEM TITLE

Danger in the Docks: Micro Unmanned Aerial Systems Threats to US Navy Vessels

CHALLENGE

US Navy ship security teams in ports need to learn how an enemy might place an object on a ship using Micro Unmanned Aerial Systems (mUAS) in order to fortify vessel defenses in port.

BACKGROUND

During normal travel, Navy ships periodically dock “pier side” at ports located around the world. The local populations usually have clear line-of-sight to both the military base and the docked ship. With the proliferation of sophisticated commercially available Micro Unmanned Aerial Systems (mUAS), the US Navy needs to be on guard against novel risks to vessel security. mUAS’s have dimensions ranging from the size of a large insect to 30-50 cm long. They are extremely small in size, are very lightweight, and can be used for spying and biological warfare.

While improvised drone “bombers” are a known threat, there is an underappreciated risk for an adversary employing mUAS’s to covertly place a circuitry component on the exterior hull of a ship. The ability to conduct testing will allow the Navy to better fortify their current defenses and develop insight into adversary exploitation tactics.

OPERATIONAL CONSTRAINTS

- Students will not be able to learn the specifics of the mUAS surveillance systems, but students will test for possible circuitry-based threats against a real US Navy ship.

PROBLEM SPONSOR

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PROBLEM SPONSOR LOCATION

Pearl Harbor, HI

SENIOR LEADER

This is someone in a leadership position who is aware that the problem sponsor is working with a student team and supports the process. (Rank, Name, Title, Organization, Email)

To be filled in by Lt Conley

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