

GA-ASI and US Navy Fly MQ-20 Avenger Using MD-5 GCS to Perform Command Autonomy Maneuvers



From General Atomics Aeronautical Systems Inc.

SAN DIEGO – 07 November 2024 – On November 5, 2024, General Atomics Aeronautical Systems, Inc. (GA-ASI) used its MQ-20 Avenger Unmanned Aircraft System to perform commanded autonomy maneuvers as part of a demonstration with the U.S. Navy (USN). The USN used its MD-5 Ground Control Station (GCS) with Lockheed Martin's MDCX™ autonomy platform to command and control the jet-powered UAS. Working collaboratively with the USN and Lockheed Martin, the GA-ASI team successfully executed the flight demonstration over a Proliferated Low Earth Orbit (PLEO) datalink.

The USN's Unmanned Carrier Aviation program office PMA-268 used GA-ASI's MQ-20 as a surrogate to demonstrate how its Unmanned Carrier Aviation Mission Control Station (UMCS) can

command a variety of unmanned aircraft. The MD-5 GCS was operated from the USN's test facility at Patuxent River, Maryland, while the MQ-20 was flown out of GA-ASI's Desert Horizon flight operations facility in El Mirage, California.

This flight was the first time a GA-ASI UAS completed bi-directional communications using the UMCS operation codes while performing autonomous behavior. The procedure was completed using the PLEO datalink.

"This effort was a prime example of industry partners and government agencies working together to perform important new capabilities," said GA-ASI President David R. Alexander. "The team efficiently and safely demonstrated aircraft flight control from another government agency's control station. Using GA-ASI's Tactical Autonomy Core Ecosystem (TacACE) software, the team not only executed airborne commands, but did so in a safe, controlled environment."

The demonstration was part of an effort to advance technology for future Collaborative Combat Aircraft (CCA). GA-ASI initiated the demonstration between PMA-268 and Lockheed Martin's Skunk Works to demonstrate connectivity between the Navy's UMCS and GA-ASI's MQ-20 Avenger. MQ-20 is a jet-powered platform used extensively as a CCA surrogate test bed for autonomous UAS technology development. GA-ASI was recently selected for the U.S. Air Force's [CCA](#) program.