

# WINGS OF GOLD

Voice of Naval Aviation Yesterday, Today and Tomorrow

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# GENERAL ATOMICS AERONAUTICAL SYSTEMS, INC.

By Scott J. Nyberg

*This is the first in a series of articles on Corporate Members of the Association of Naval Aviation. General Atomic's Aeronautical Systems, Inc. joined ANA in 2007.*

General Atomic's Aeronautical Systems, Inc. (GA-ASI), a privately held affiliate of General Atomic, is proud to support the Association of Naval Aviation as a Corporate Member. GA-ASI is a leading manufacturer of unmanned aircraft systems (UAS) and tactical reconnaissance radars. GA-ASI's Predator series UAS have amassed nearly 400,000 flight hours and are currently operating at a rate of over 15,000 hours per month in support of U.S. and allied forces. Predator series UAS are routinely operated via satellite, enabling seamless beyond line-of-sight control from anywhere in the world.

GA-ASI is dedicated to providing highly reliable, long-endurance, mission-capable aircraft and sensors to meet demanding and diverse customer requirements. The company is revolutionizing aviation by expanding the capabilities of UAS, making them viable alternatives to manned aircraft for a variety of missions. GA-ASI pushes the envelope with innovative high-tech UAS solutions that have spawned an ever-growing line of versatile, reliable, cost-effective, and combat-proven aircraft.

### *Predator*

Predator® is the most combat-proven UAS in the world. Providing essential situational awareness for the warfighter, Predators continue to excel in combat missions focusing on intelligence, surveillance, reconnaissance, targeting, forward air control, laser designation, weapons delivery and bomb damage assessment. First flown in 1994, Predator aircraft have accumulated over 370,000 flight hours, with over 80% of that time spent in combat operations. It is the first-

ever weaponized UAS and features precision air-to-ground weapons delivery capability. Offering unprecedented reliability, Predator has the highest operational readiness rate in the U.S. Air Force and is also operational with the U.S. Navy and the Italian Air Force.

Flying up to 25,000 feet and with an endurance of 40 hours, Predator incorporates numerous payloads, including electro-optical/infrared (EO/IR) video cameras, laser designators, and Hellfire missiles. Additionally, the aircraft may be equipped with GA-ASI's Lynx Synthetic Aperture Radar (SAR), a highly



**GA-ASI Mariner Demonstrator II, a marined Predator B, takes part in the Navy's Trident Warrior 2006 Exercise off the coast of Southern California.**

sophisticated all-weather radar that displays photographic quality imagery of targets.

The U.S. Army's Predator variant, the I-GNAT ER®/Sky Warrior® Alpha, provides the precision capability to detect, identify, track and engage time-sensitive targets in support of Army and Marine Corps ground forces.

### *Predator B*

Building upon Predator's proven success, GA-ASI's multi-mission Predator B provides 30+ hours endurance, speeds up to 240 KTAS, operates above 50,000 feet, and has a 3,850 lb payload capacity that includes 3,000 lb of external stores. The aircraft provides a long-endurance, persistent surveillance/strike capability

for the warfighter. Predator B is engineered to exceed manned aircraft reliability standards and is equipped with redundant avionics and flight control systems. Remarkably versatile, Predator B carries multiple mission payloads, including EO/IR with laser designator, Lynx SAR, Electronic Support Measures (ESM), Signals Intelligence (SIGINT), and precision-guided weapons. When equipped with a multi-mode maritime radar, the aircraft provides a superior maritime surveillance capability. This capability was successfully demonstrated for the U.S. Navy in exercise Trident Warrior 2006, and subsequently for the

Australian Department of Defense during the Northwest Shelf UAS Trial in September 2006. A variant of Predator B, the Mariner® UAS, has been offered to the Navy to meet its Broad Area Maritime Surveillance (BAMS) requirements. Predator B also provides the armed reconnaissance capability essential to support USMC operations.

Operational with the U.S. Air Force as

MQ-9 Reaper, Predator B has also been acquired by the U.S. Navy, NASA and the Royal Air Force. Additionally, it is operated on the nation's borders – and soon its maritime approaches – by the U.S. Department of Homeland Security, for whom the aircraft plays a pivotal role in safeguarding U.S. borders from terrorist and illicit activities.

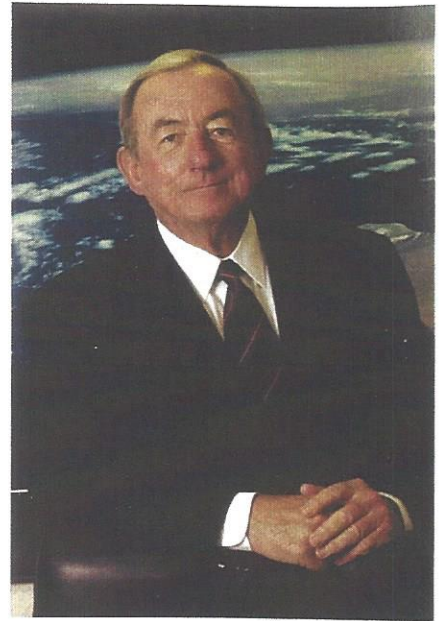
### *Sky Warrior*

GA-ASI designed and developed the Sky Warrior UAS to meet the U.S. Army's Extended Range/Multi-Purpose (ER/MP) requirement for a non-developmental solution to perform persistent surveillance, communications relay, and weapons delivery missions. An improved Predator derivative, Sky Warrior is pow-

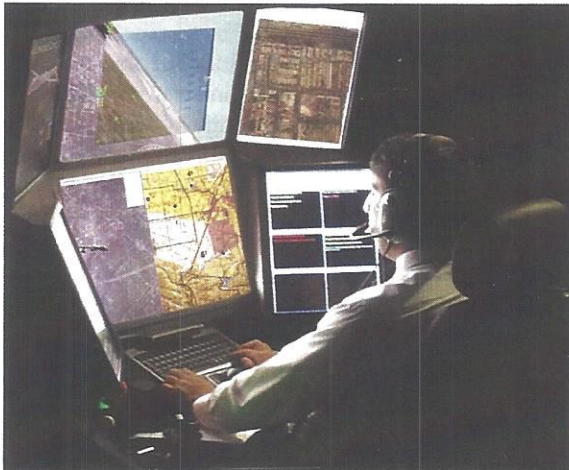




The first Sky Warrior Block 0 takes flight over GA-ASI's Flight Operations Facility in the Mojave Desert.



RADM Thomas J. Cassidy Jr., USN (Ret.), is President of the Aircraft Systems Group of GA-ASI that produces the Predator Unmanned Aircraft System Series. A Naval Aviator, he served on active duty for 34 years. Among his assignments were Command of the Pacific Fleet Fighter and Airborne Early Warning Wing, CO of NAS Miramar, and CO of VF-161 aboard USS Coral Sea during the Vietnam War. He also held numerous high level posts in the Washington D.C. arena.



Currently under development, GA-ASI's Advanced Cockpit GCS greatly enhances situational awareness for UAS pilots and sensor operators.



At right, a U.S. Navy Predator flies over Alaska in July 2004 during USCG operations originating in Southern California.

ered by a heavy-fuel engine, features redundant avionics and doubles Predator's weapons capacity.

#### *Ground Control Stations*

GA-ASI manufactures a variety of digital ground control stations (GCS) that are in operation around the world today. Highly mobile and portable, these stations allow direct, real-time control of Predator series aircraft and may be located on

any land base, in any aircraft, or on any ship around the world. GA-ASI's GCS have controlled airborne Predator series aircraft from a submerged submarine, an amphibious ship, and on an airborne C-130.

Currently in development, GA-ASI's next generation Advanced Cockpit GCS will be equipped with numerous new features designed to improve GCS operator

efficiency and increase situational awareness. It includes 3-D maps, intuitive touch screen technology, ergonomic design, and wrap-around synthetic vision.

For more information about GA-ASI, see [www.ga-asi.com](http://www.ga-asi.com). ■

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