



HIGH ALTITUDE (HA)



Mission-equipped, high-altitude capabilities developed to make Army formations more lethal and resilient

The U.S. Army Space and Missile Defense Command, the Army proponent for high altitude, is identifying, demonstrating and assessing high-altitude capabilities in support of the Army's needs and in the context of multi-domain operations. System platforms could carry all manner of technologies to include communications; imaging; assured positioning, navigation and timing; and other critical Army capabilities. Potential platforms include balloons, solar aircraft, and airships that could surge mission support, augment existing capabilities globally, and reconstitute lost assets in the air and space domains. USASMDC will continue to assess these promising technologies on behalf of the Army to offer the service a plan for an affordable, resilient capability to meet current and emerging needs of the warfighter.

- Responsiveness – launch on demand, minimal “in-theater” footprint, global reach
- Persistence/Endurance – continual support through station-keeping or replenishment
- Multi-Mission Flexibility – reconfigurable, mission-tailored payloads
- Flight Altitude – wide area coverage into complex terrain, above weather and congested airspace
- Affordability – leverages heavy investment by industry
- Survivability and Cost – high altitude difficult to target, but when targeted, adversaries’ targeting costs favor the Army



The U.S. Army Space and Missile Defense Command's Space and Missile Defense Center of Excellence works with organizations across industry, the Department of Defense, the Army, sister services and government labs to identify high altitude-capable platforms, payloads and command-and-control capabilities that correspond to ground warfighter needs.

As a result of this work, the SMDCoE monitors the development and current capability of all classes of high-altitude balloon platforms and also tracks associated payload maturation.

These classes include small tactical balloons focused on smaller payloads (e.g., extended-range communications); on medium-sized operational balloons with payloads of greater size, weight and power that offer more capabilities in active sensing; network support; position, navigation and timing; and large strategic balloons that can lift heavier, more highly sophisticated payload capabilities.

Additionally, USASMDC tracks continuing technology development of solar aircraft and large airships, as part of an overall strategy to build out the stratosphere (i.e., the high-altitude layer). Findings from these efforts factor into shaping pathways for conducting live experiments designed to assess the military utility of high-altitude systems for Army and joint forces.

USASMDC and the Office of the Secretary of Defense continue to partner to demonstrate balloon platforms and sensor technologies during DOD-wide and Army live experiment venues.

As USASMDC continues to advance its proponent mission to bring high altitude capabilities to Army and ground warfighters, including to build out the stratosphere for multi-domain operations, the SMDCoE remains on task to demonstrate the most mature platform and payload technologies—guiding high altitude capability development through live experimentation, assessment, transition, and the eventual fielding of high altitude resources to Army forces.



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