

Executive Summary

The Panel concluded that several Lighter-Than-Air (LTA) vehicles currently available could provide the endurance and station-keeping needed for persistent Intelligence, Surveillance, and Reconnaissance (ISR), communications relay, and electronic warfare (EW). These vehicles can provide a desired longer range communication relay for the Marine Corps and can perform port and harbor security missions at low costs.

The Panel believes that LTA vehicles offer the potential to provide an enhanced capability for high-altitude (greater than 60,000 feet) communications and surveillance at significantly lower cost than current heavier-than-air vehicles. LTA vehicles also could provide the capability to lift and deliver more than 500 tons of material or personnel to an operational area. This capability does not exist today. However, the Panel believes that significant technology development is required before LTA vehicles can perform these missions.

To demonstrate the feasibility of LTA vehicles for current and future naval missions, the Panel developed a number of specific recommendations, including field testing of aerostats for port and harbor security, and development of an aerostat that could be employed aboard a Navy ship. The Panel also recommended the demonstration of low-altitude unmanned airships as ISR, communications, and EW platforms; leveraging the Defense Advanced Research Projects Agency (DARPA) Integrated System is Structure (ISIS) program for development of a large-aperture radar that could be employed from a low-altitude LTA vehicle; and further studies to explore the use of a hybrid cargo-lift LTA vehicle to support future sea-basing concepts.