

Solar Powered Airship Presentation

Organization: Security and Technology Conference

Date / Time: Jul 22, 2003

Address: Tel Aviv

IAI/MLM, exploring the Solar Powered Airship (SPA), established a working team for the development of the airship and applications.

- * The SPA is a stratospheric Solar Powered Airship, an autonomous platform hovering at ~21 **Km** altitude, designed to carry a variety of electronic payloads for different applications.
- * The SPA, with maximum diameter of 30-40 meters and total length less than 200 meters, can be used for military, civil and patrol applications.
- * The airship is geo-stationary or capable to move in order to change location according to immediate requirements.
- * The SPA is powered by solar energy, converted to electric power by a suitable PV array during the day, and stored in an energy storage system (based on regenerative fuel cells ? RFC?s) for operation of the airship and subsystems during the night.
- * At stratospheric height (21 Km), with a ground footprint diameter of 1,000 Km, enables monitoring of far regions and looking beyond the horizon.
- * The airship can be integrated with ground stations, satellites, aircrafts and ships, in order to supply communications, observation, remote monitoring, etc.

* The SPA exhibits a number of remarkable advantages, in terms of cost/benefit ratio

- Combines the best features of Satellite and Unmanned Vehicle
- The SPA is capable to carry a multiple combination of payloads for different applications, within a variety of weights, large volumes and continuous high electric power consumption.
- Upgrading, changing or repairing of payload and subsystems is feasible several times during airship's life (eliminating satellite type redundancy).
- Mobility (re- taskable) of platform - the SPA can be relocated on demand.

* A stratospheric platform as the SPA has attractive civil applications such as:

- Two-way Broadband Communication (Internet, Video-conference)
- Broadcasting (TV, Radio)
- Remote Sensing & Monitoring: traffic, atmospheric conditions, sea-lane control, and remote regions surveillance, etc.