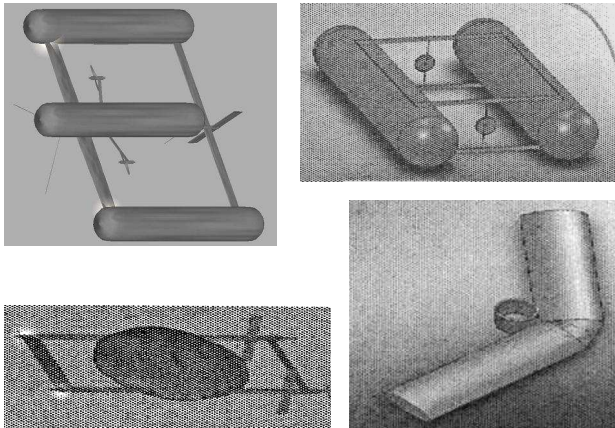




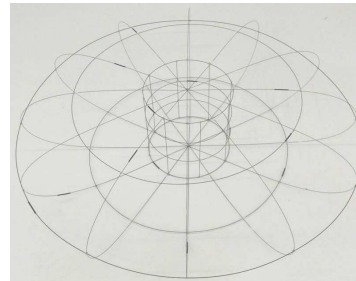
Endo- and Exo-skeletal Framed Envelopes for Lighter Than Air (LTA) Platforms

Lighter Than Air (LTA) platforms are deployed in space, near space for persistent communications, surveillance and reconnaissance. High altitude LTA platform permits the offloading of communication traffic from high-cost commercial satellites and future military satellites. LTA platforms requires ultra light weight structures. ARIS successfully demonstrated a feasibility of building endo- and exo-skeletal framed envelopes through a unique design, fabrication, and test evaluation to address the Army needs of the LTA platforms. The unique features of ARIS's envelopes is that it lift itself by its buoyancy, carry a payload, and retain its shape when the envelope is punctured by an enemy action.

LTA Platforms (Edge et. al., 2009)



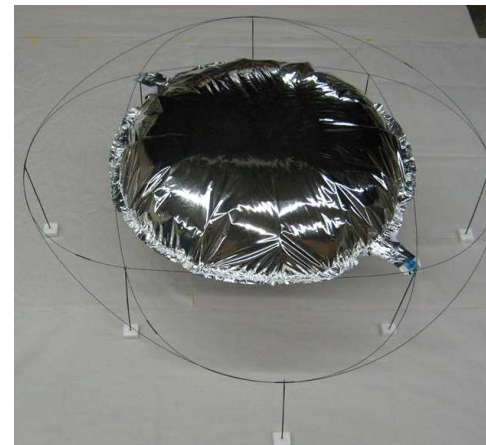
Endoskeleton Frame (2 ft x 1/2 ft)



Envelope (2 ft x 1/2 ft)



Endo- and Exo-skeletal Framed Envelope (3.2 ft x 1/2 ft)



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