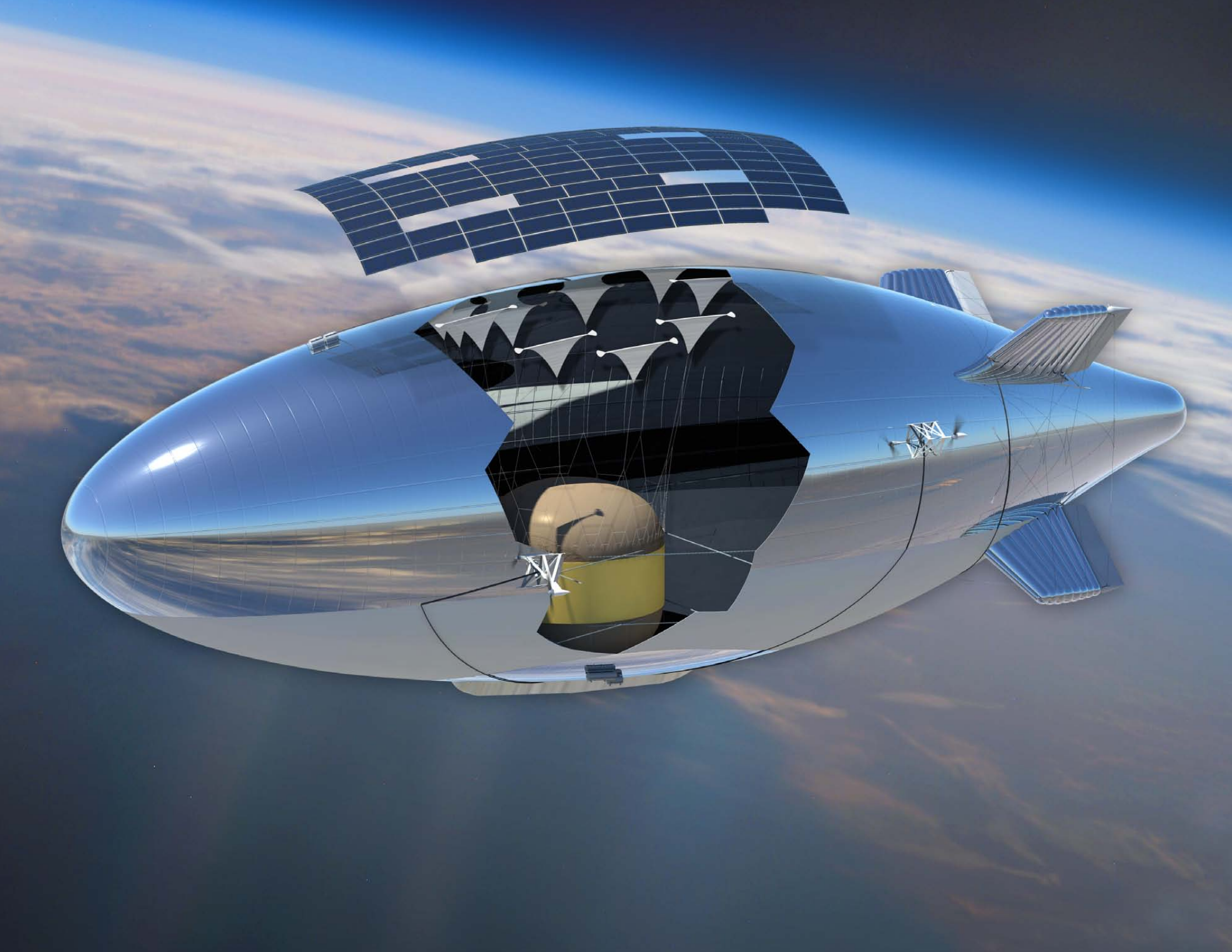

ISIS – Integrated Sensor Is Structure
Disruptive, Affordable, C2ISR Persistence

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The Defense Advanced Research Projects Agency (DARPA) ISIS program goal is to develop a large dual-band aperture radar integrated into a stratospheric airship. The ISIS system will enable autonomy with years of persistence providing Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) for air, dismount, ground, maritime and foliage penetration tracking of moving target indicators.

ISIS will develop the capability to track advanced cruise missiles at 600 km and dismounted enemy combatants at 300 km. In addition, it will be able to detect and track ballistic targets at ranges greater than 1500 km. This will be accomplished by the development of a large lightweight phased-array aperture.

ISIS uses a large aperture instead of high power to meet radar performance requirements. This approach reverses the current technical solutions of fixed-wing C2ISR assets that rely on high power and are limited by aperture. ISIS will demonstrate advances in solar power, regenerative fuel cells, propulsion, avionics and in advanced lightweight radar design and fabrication.

Persistence

ISIS will deliver unprecedented persistence over the battlespace or in permissive airspace providing vital intelligence deep into contested or denied territories. The ISIS program objective is to build in durability and reliability to sustain 10 years of continuous airborne operations, equating in disruptive operations over areas of interest.

Multi-Mode

ISIS will be capable of simultaneously discovering and tracking a myriad of targets for tomorrow's warfighter:

- Small low-flying air targets, enemy dismounts
- Urban operations targets, maritime surface targets, ballistic targets
- Ground vehicle targets, foliage/camouflage/concealed targets

Forward Deployed

ISIS will be tasked and monitored remotely. Track data coming back from ISIS can be handled in-theatre by current airborne and ground C2ISR assets, Naval Surface Action Group (SAG), Distributed Common Ground Stations (DCGS), or Joint Intelligence Operations Centers (JIOC). ISIS requires no forward deployed logistical footprint.

Remote Access

ISIS will be fully net-enabled for tactical communications and will be tied into the Command and Control Battle Management and Communications (C2BMC) architecture supporting the Missile Defense Architecture.

ISIS – The Future

ISIS will pave the way for dramatic jumps in C2ISR capabilities and demonstrate the ability to fill many capability gaps. ISIS redefines persistence and is a disruptive capability.

P11-1155528

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