

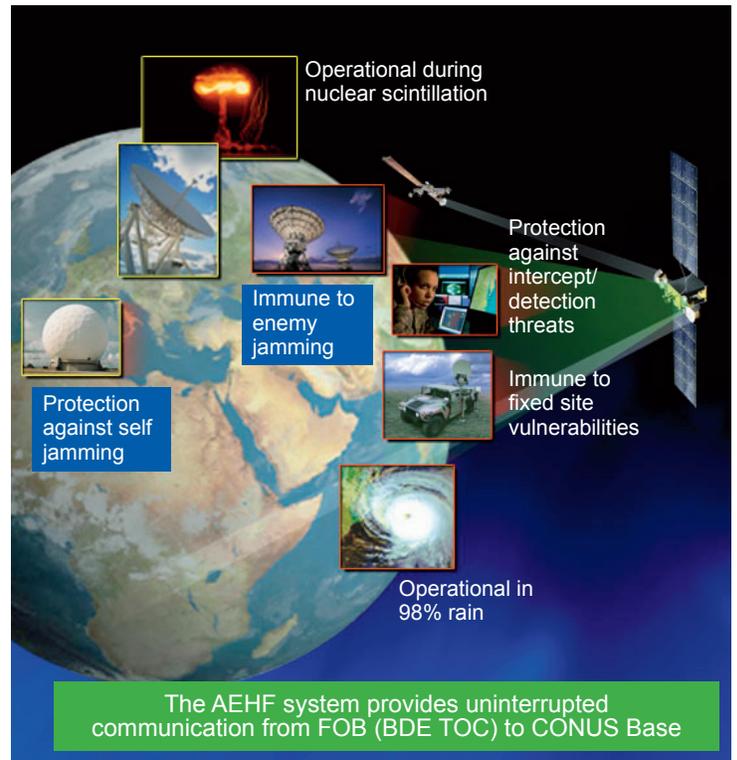
**LOCKHEED MARTIN**   
*We never forget who we're working for®*

**Advanced EHF**  
Assured, Protected, Survivable



## Advanced Extremely High Frequency

Advanced EHF is a protected MILSATCOM system designed to provide significant performance enhancements over legacy systems for a broad set of mission areas, including land, air, naval, special operations, strategic nuclear, missile defense, space, and intelligence operations. AEHF provides assured, protected, and survivable SATCOM to the US Government and international partners, (United Kingdom, the Netherlands, and Canada). As the backbone of US MILSATCOM, AEHF satellites are integrated with a mission control segment, a mission planning element, and user terminals. The AEHF program is also considering a capability insertion program, to meet future operational needs. These improvements will provide additional capacity, improved Anti-jam service, and support for mobile units. The mission planning element, for both MILSTAR and AEHF, provides efficient network and resource allocation across both constellations. Starting with the first space vehicle reaching orbit in October 2011, AEHF will provide near-global 24-hour coverage for a wide array of warfighter applications, including broadcasting, data networking, voice conferencing, and strategic reportback. By exploiting features not found on other SATCOM systems, only AEHF will provide connectivity to warfighters in all threat conditions in a contested wartime environment.



### AEHF Features

<b>Secure Communications</b>	With robust protection against jamming or detection, AEHF provides uninterrupted communications through frequency hopping, low average power signal, use of the EHF band, a robust, covert waveform, on-board signal processing, and Anti-Jam nulling antennas.
<b>High Performance</b>	430 Mbps protected capacity, 10X throughput improvement over Milstar.
<b>Maximum Flexibility</b>	On-orbit processing provides the flexibility needed to rapidly establish and reconfigure networks to meet dynamic command and control requirements. Distributed communication planning capability supports assured access responsive user control of available resources.
<b>Survivability</b>	AEHF is hardened for nuclear event survival; and features satellite autonomy, cross-links, and distributed mission planning to support operations in the event of ground system failure.

### Future of AEHF, Capability Insertion (CIP)

- AEHF space vehicle provides significant margin for enhancement (3K lbs in mass and 4KW in available power).
- CIP is a funded program to study the evolution of advanced missions for AEHF as part of a low-risk technology insertion program, including Communications On-The-Move (COTM), crypto enhancements, and others.
- CIP is an effort of the Air Force Space and Missile Center Advanced Concept Group.

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