61ST AIR BASE WING

The 61st Air Base Wing (ABW) is the host unit at Los Angeles Air Force Base. It provides administrative and base services to the personnel assigned to the Space and Missile Systems Center. The wing was activated in 2006 and is the direct predecessor to the 61st Air Base Group, which was activated at LAAFB in 1994. The 61 ABW can trace its lineage back to World War II.

Key staff functions falling under the wing include 61st Medical Group, 61st Mission Support Group, chaplain services, command post operations, military equal opportunity, legal, security forces, contracting, civil engineering and communications.

SMC WINGS AND PROGRAMS

AIR FORCE MILITARY SATELLITE COMMUNICATIONS TERMINAL PROGRAMS OFFICE

The Protected Extremely High Frequency (EHF) terminals provide worldwide jam-resistant, survivable communications, which ensures low probability of intercept/detection communications for national and strategic leadership. These terminals operate with a number of EHF-capable satellites, to include the Milstar and forthcoming Advanced EHF (AEHF) constellations. EHF terminal programs include the current Milstar Command Post Terminal (CPT) that supports global command and control of strategic forces, and the Family of Advanced Beyond Line-of-Sight Terminals (FAB-T). The FAB-T Program provides a family of Beyond Line-of-Sight satellite communication terminals with an open architecture.

Wideband terminals provide global communications with high data rates. The Global Broadcast Service (GBS) provides one-way ISR full motion video, imagery, weather, streaming video and Web replication to deployed users worldwide. Military Satellite Communications Wing is currently procuring Ground Multi-band Terminals (GMT) that provide the warfighter flexible, integrated tactical communications. The second increment will extend current architecture to achieve high data rate operation supporting high altitude endurance Intelligence, Surveillance and Reconnaissance (ISR) platforms with imagery and video. The High Data Rate–Radio Frequency (HDR-RF) Ground Terminal program is an evolutionary upgrade to the GMT and will provide the high data rate satellite communication needed to support the ISR community. HDR-RF ground terminals will be interoperable with FAB-T Increment 2 and will support the full spectrum of operations from humanitarian support/disaster relief to a major theater war.
SPACe SUPERIORITY SYSTEMS WING

Highlighted by recent satellite collisions and China’s demonstration of offensive capabilities, It has become increasingly evident that defense of the nation and its interests depend upon solid awareness of the ever-changing environment, number of objects, activities and threats in space. Charged with acquiring the Air Force’s Space Situational Awareness (SSA) systems, the SSA squadron ensures the USAF’s superiority in this realm. The Space Based Space Surveillance (SBSS) program will revolutionize SSA by providing the first operational around-the-clock, all-weather, space-based sensor capable of searching, detecting, identifying and tracking man-made space objects. The team is delivering a spacecraft and an operational ground segment to integrate into the existing Space Surveillance Network architecture. The Self-Awareness Space Situational Awareness (SASSA) effort is working to deliver the nation’s first ever standardized, on-board threat warning solution in fiscal year 2010. These efforts include laying the framework for moving data from the sensors to the Command Authorities. They provide a bridge from our current SSA capabilities to those we are investing for future development/deployment.

ADVANCED EXTREMELY HIGH FREQUENCY SYSTEM

The Advanced Extremely High Frequency (AEHF) System is a joint service satellite communications system that will provide survivable, global, secure, protected and jam resistant communications for high-priority military ground, sea and air assets.

The AEHF System is the follow-on to the Milstar system, augmenting and improving on existing capabilities and expanding the Military Satellite Communications architecture. AEHF will provide connectivity across the spectrum of mission areas, including land, air and naval warfare; special operations; strategic nuclear operations; strategic defense; theater missile defense; and space operations and intelligence. AEHF will provide continuous coverage across the North Polar Region for secure, jam-resistant, strategic and tactical communications to support peacetime, contingency, homeland defense, humanitarian assistance, and wartime operations.

The system consists of two extremely high frequency (EHF) communications payloads hosted on satellites operating in highly elliptical orbits. The Advanced EHF (AEHF) ground segments to add EPS capabilities, gateways to provide connectivity into the Global Information Grid (GIG), and modified AEHF communications terminals. EPS characteristics include protected communications services between users above 65 deg N. and users below 65 deg N. (via GIG). The system will provide data rates between 75 bps and 2.048 Mbps, using the AEHF Extended Data Rate (XDR) waveform. System uplinks will operate in the extremely high frequency range and the downlinks in the super high frequency (SHF) range. EPS will be an essential adjunct to the MILSATCOM mid-latitude systems and is the follow-on system for the operational Interim Polar System (IPS).

EVOLVED EXPENDABLE LAUNCH VEHICLE

Evolved Expendable Launch Vehicle (EELV) program includes two families of launch vehicles, infrastructure, support systems, interfaces, mission integration and launch operations activities. Evolved from heritage Atlas II, Atlas III, Delta II and Titan IV expendable launch systems, as well as new applications of existing technology. EELV supports U.S. military, intelligence, civil and commercial mission requirements using contractor-provided launch services. The two EELV families are the Delta IV, developed by Boeing, and the Atlas V, developed by Lockheed Martin. Both families are now operated by United Launch Alliance, a joint venture of Boeing and Lockheed Martin. Each of these systems is designed to meet the full range of National Security Space launch requirements and also to reduce launch costs by at least 25 percent over heritage Atlas, Delta and Titan space launch systems. EELV program is managed by Air Force Space and Missile System Center’s Launch and Range Systems Wing.

SPACE DEVELOPMENT AND TEST WING

The Space Development and Test Wing (SDTW) develops, tests and evaluates Air Force space systems, executes advanced joint space development and demonstration projects, and rapidly transitions capabilities to the warfighter. The wing was activated August 1, 2006, with assets to perform operations for DoD, USAF, Research and Development, and post-operational satellites—including system development, test, evaluation, launch and on-orbit operations. The SDTW coordinates activities throughout the United States and around the world for experiments and testing involving foreign governments and institutions of higher learning that require use of resources like the Space Shuttle and International Space Station. SDTW maintains a 100 percent launch success rate for its Minotaur family of vehicles. Lastly, SDTW is unique in its ability to rapidly field systems that support the nation’s need for operationally responsive space.

SATELLITE CONTROL AND NETWORK GROUP

provides upgrades and legacy system sustainment for the Air Force Satellite Control Network (AFSCN). The AFSCN is a globally distributed network of command and control centers, remote tracking stations, and communication links operated 24/7 to support all phases of satellite life for DoD, national, allied, research and development, and test and evaluation space missions. It provides highly reliable command and control, communication, and telemetry and tracking, ensuring accessibility to space systems and enabling distribution of space system information to military operations around the world. The AFSCN is critical for meeting real-time and near real-time warfighter environmental, missile warning, navigation, intelligence, surveillance, reconnaissance and communication needs. It is required for all DoD, and most civil, launch and early orbit operations and is the world’s only high-power network for launch and early orbit determination and satellite anomaly/emergency operations. The AFSCN is a critical asset for National Security Space operations and space support to the joint warfighter.

SPACE BASED INFRARED SYSTEMS

Space Based Infrared Systems (SBIRS) provides timely and accurate missile warning supporting the Department of Defense mission to deter war and protect the security of the United States. SBIRS Program Office develops, acquires and sustains space-based infrared surveillance, tracking and targeting capabilities for the following mission areas: missile warning, missile defense, technical intelligence and battlespace awareness.

The SBIRS baseline program consists of four Geosynchronous Earth Orbit (GEO) satellites, two Highly Elliptical Orbit (HEO) payloads
GPS receiver units that acquire command and control network and consists of a worldwide satellite addition to the satellites, the system L-band frequencies, L1 and L2. In timing signals on two different emitting continuous position and circle the Earth every 12 hours to users worldwide. GPS satellites, navigation and timing information positioning system consisting GPS is a space-based radio-system

Endeavors such as mapping, aerial refueling, geodetic surveying, and search and rescue operations all benefit from GPS accuracy. GPS capabilities are integrated into nearly all facets of U.S. military operations, with receivers in nearly every type of system used by DoD: aircraft, spacecraft, ground vehicles and ships. GPS-guided munitions have showcased their increased accuracy with unprecedented precision, thus improving military capability while decreasing the number of weapons required to achieve military objectives.

WIDEBAND GLOBAL SATCOM Wideband Global SATCOM (WGS) provides flexible, high-capacity communications for the nation’s warfighters and combatant commanders and supplies high-capacity connectivity to the Defense Information Systems Network. WGS is a multi-service program leveraging commercial methods and technology to design, build, launch and support a constellation of highly capable military communications satellites. On October 10, 2007, WGS-1 became DoD’s highest capacity communications satellite. WGS-2 launched April 3, 2009, and is now supporting U.S. Central Command Area of Responsibility.

The constellation provides service in both the X- and Ka-band frequency spectrums. WGS supplants X-band communications previously supported by Defense Satellite Communications System satellites, provides a one-way Ka-band service and makes available a new two-way Ka-band service, critical for increased UAV usage.

WGS-3, the final Block I satellite, is slated to launch in late 2009/early 2010. Block II satellites 4, 5 and 6 are anticipated for launch in 2011, 2012 and 2013 respectively. WGS can launch on either the Delta IV or Atlas V Evolved Expendable Launch Vehicles (EELV).

DEFENSE METEOROLOGICAL SATELLITE PROGRAM The Defense Meteorological Satellite Program (DMSP) is managed by the Space and Missile Systems Center, Los Angeles Air Force Base, Calif. System command and control is provided by a joint-operational team at the National Oceanic and Atmospheric Administration, Suitland, Md. The DMSP mission is to generate terrestrial and space weather data for operational forces worldwide. The Air Force is the Department of Defense’s executive agent for this program. The Department of Commerce furnishes DMSP-generated data to the civil community.

The DMSP satellites are designed to meet unique military requirements for worldwide space and terrestrial weather information. Through these satellites, military weather forecasters can detect developing patterns of weather, track existing weather systems over remote areas, and alert the civil and military communities of anticipated hazards in space to satellites and astronauts.

DMSP satellites provide meteorological data in real-time to Air Force, Army, Navy and Marine Corps tactical ground stations and Navy ships worldwide. This data is also stored in recorders on the satellites for later transmission to one of four ground stations located near Fairbanks, Alaska; New Boston, N.H.; Thule Air Base, Greenland; and, Kaena Point, Hawaii.