

Space and Cyberspace Priorities

The Air Force defines itself through 12 Service Core Functions: Air Superiority, Building Partnerships, Global Precision Attack, Personnel Recovery, Nuclear Deterrence Operations, Special Operations, Rapid Global Mobility, Agile Combat Support, Global Integrated ISR, Command and Control, Cyberspace Superiority, and Space Superiority. The Secretary of the Air Force designated the AFSPC Commander the Core Function Lead Integrator (CFLI) for the Space and Cyberspace Superiority core functions. In this role, the AFSPC Commander is responsible for defining Service-wide investments supporting these Core Functions, and for establishing a desired end state in the Core Function Master Plans (CFMPs) to guide AF investment decisions. While all capabilities fielded within a CFMP are important to the Air Force, the CFLIs evaluate current military doctrine, operations, policy and potential threats to prioritize capabilities within the core functions. Prioritized capabilities then guide the strategic planning, investment decisions, and development and fielding of space and cyberspace systems.

The **15 Prioritized Space Capabilities** are:

- 1. Nuclear, Survivable Communications.** Global satellite communications designed to operate in a highly contested environment in support of national and military needs. These types of satellite systems are designed to fight in and through an adversary's denial and disruption techniques as well as continue to operate when exposed to high levels of man-made or environmental radiation.
- 2. Launch Detection / Missile Tracking.** These space systems, often supported by ground-based radar systems, have sensors that detect the infrared heat signatures of missile and rocket launches around the world. Through a network of information sharing, this sensor data is processed to provide early warning of launches to US and coalition forces.
- 3. Position, Navigation and Timing (PNT).** PNT, commonly referred to as GPS, provides precise location, elevation, direction and speed for land, sea and airborne assets equipped with a receiver. The timing signal from these space-based systems is also used in many data transfer and communications systems that require precise timing signals.
- 4. Space Situational Awareness & Battlespace Awareness.** Space situational awareness, or SSA, is comprised of both ground and space-based optical and radar systems that provide "visibility" into orbital operations, satellite position and space debris tracking. This information is provided to space operators for cataloging space systems, avoidance maneuver and protection. Battlespace Awareness is the knowledge gained from processing and presenting information necessary to plan and control military space operations.
- 5. Defensive Space Control (DSC).** DSC consists of actions taken (e.g., certain maneuvers) or defensive sub-systems built into our space systems (e.g., shutters to protect sensors) that enhance the survivability of space systems when exposed to the natural environmental hazards of space or when purposely targeted by adversaries who possess electronic, high-energy or kinetic anti-satellite weapons.
- 6. Assured Space Access / Spacelift.** The ability to launch payloads into space, which includes the launch range assets required to conduct space launches.
- 7. Space Command and Control (C2).** Space C2 is the ability to provide reliable and unimpeded observation, orders, direction and effects-based monitoring for military space operations, space units and space systems.
- 8. Satellite Operations.** Spacecraft and payload operations conducted to monitor, configure, maneuver, operate and sustain on-orbit assets. This includes telemetry, tracking and

commanding (TT&C), maneuvering, monitoring state-of-health, and maintenance and sub-functions for the spacecraft and payloads.

9. Protected, Tactical Communications. Satellite communications which are designed to operate in a day-to-day and contested environment to support worldwide national and military communications.

10. Offensive Space Control. Operations conducted to prevent an adversary's hostile use of US and/or third party space capabilities and service, and to negate an adversary's space capabilities (e.g. disrupt, deny, deceive, degrade, or destroy).

11. Unprotected Communications. Satellite communications which are designed to operate in a day-to-day (benign) environment to support national and military communications worldwide.

12. Space to Surface Intelligence Surveillance and Reconnaissance (ISR). This capability is comprised of sensors that can detect or image objects, geographic features, physical change, movement of objects and electro-magnetic spectrum variances on the ground.

13. Terrestrial Environmental Monitoring. Characterization, analysis and prediction of meteorological and oceanographic environment factors (surface, sub-surface and air conditions) that might affect military operations.

14. Nuclear Detonation Detection. Persistent, global and integrated sensor capability providing global surveillance of nuclear detonations and their specific place, height of burst and yield.

15. Responsive Spacelift. The capability to rapidly deploy, augment or reconstitute satellites/payloads, including the capability to responsively place payloads on orbit to meet the warfighter's needs.

The **9 Prioritized Cyberspace Capabilities** are:

1. Proactive Defense. Comprises the continuous measures taken to secure and protect AF and DoD cyberspace assets from attack and exploitation.

2. Defensive Counter Cyberspace (Recon/Counter Recon). The employment of defensive measures that ensure the military can continue to operate in cyberspace.

3. Cyberspace Intelligence, Surveillance and Reconnaissance & Situational Awareness. The integration of systems in support of operations providing accurate, relevant and timely intelligence.

4. Persistent Network Operations. The continuous and agile operation of worldwide AF garrison and deployed networks.

5. Data Confidentiality & Integrity Systems. Activities that safeguard information that resides on the Air Force Network and is provided to the joint warfighter.

6. Cyberspace Operations Center. Activities that provide real-time command and control over military cyberspace forces.

7. Offensive Counter Cyberspace for Global Reach & Access. Operations conducted to project power against adversaries in or through cyberspace.

8. Net Extension and Resiliency. The AF will extend and expand cyberspace services for military and business operations.

9. Influence Operations. Influence operations serve to amplify the effects of traditional military operations and influence perceptions and behaviors of leaders, groups or entire populations by means other than force (e.g., operations security, public affairs, counterintelligence operations, etc).