

Section 7.4 PEO LS Program

GROUND BASED AIR DEFENSE



Program Background

The Marine Corps' organic Ground Based Air Defense (GBAD) capabilities are centered on the Low-Altitude Air Defense (LAAD) Battalions of Marine Air Wings. LAAD units currently use the Stinger missile, originally fielded in 1981 and upgraded since to Block I configuration, as its primary weapon for air defense. It is expected that the Stinger missile will be the primary GBAD asset for the near future, and the missile is undergoing a Service Life Extension Program (SLEP) to maintain its operational effectiveness. Future GBAD systems are being investigated to take advantage of the new G/ATOR system capabilities and may possibly employ advanced technology, to include a pulsed energy system.

Programs and projects included in the GBAD portfolio are:

- ▶ Stinger Missile SLEP
- ▶ Advanced Man-Portable Air Defense

(A-MANPADS) System Increments 0 & 1

- ▶ LAAD Sustainment
- ▶ Stinger Night Sight Replacement
- ▶ Identification Friend or Foe (IFF) Mode IV Replacement
- ▶ GBAD Future Weapon System

Program Status

Stinger Missile SLEP

A Stinger Missile SLEP was started in FY14 and will complete delivery in FY17. The SLEP is required to meet the War Reserve Munitions Requirement and to provide sufficient training rounds after 2019.

A-MANPADS Increments 0 & 1

A-MANPADS was designated an Abbreviated Acquisition Program (AAP) in 2005 and is executing a single-step to full capability acquisition strategy by integrating commercial off-the-shelf (COTS) and NDI subsystems. The Approved Acquisition Objective for Increment 1 conversion is 38 Section Leader Vehicles (SLV) and 143 Fire Unit Vehicles (FUV), with an Actual Acquisition Quantity (AACQ) of 13 SLVs and 50 FUVs. A Joint Range Extension Sustainment Contract was awarded in September 2013 for five years. All A-MANPADS FUVs will be upgraded to a M1114 Prime Mover platform to rectify obsolescence of the current chassis.

LAAD Sustainment

LAAD sustainment consists of Target Support for Stinger Missile Live Firing Exercises, repair of Stinger Ground Support Equipment, and the Improved Moving Target Simulator (IMTS) upgrade currently

taking place at the two LAAD Battalions. The IMTS upgrade contract was awarded in August 2013.

Stinger Night Sight Replacement

The AN/PAS-18 Stinger Night Sight is being investigated for replacement with a COTS/NDI system.

IFF Mode IV Replacement

GBAD plans to procure a replacement IFF in FY18-20 from the U.S. Army to meet a Joint Requirements Oversight Council requirement to be Mode V capable by 2020.

ONR Directed Energy Effort

GBAD Future Weapon System replacement is being investigated, including the GBAD OTM Future Naval Capability program being funded by the Office of Naval Research and developed by Naval Surface Warfare Center, Dahlgren, VA.

GBAD's Top Technical Issues

1. Stinger Night Sight Replacement

The following characteristics are needed to produce a mountable day/night sight for the Stinger missile to meet the operational requirements:

- 1) Ability to detect traditional air-breathing as well as emerging small/light Unmanned Aerial Systems and cruise missiles.
- 2) Capability to:
 - (a) Distinguish targets up to the current seeker head lock-on range of the Stinger Missile.
 - (b) Provide the operator with a distinguishable outline of the target.

- (c) Provide a field of view of at least 20 degrees in azimuth and 12 degrees in elevation.

- (d) Utilize Naval Sea System Command (NAVSEA) compliant batteries with an operating time of 6 hours.

- 3) Be of cooled or uncooled technology and with a max time from off or standby to operate of 10 seconds.

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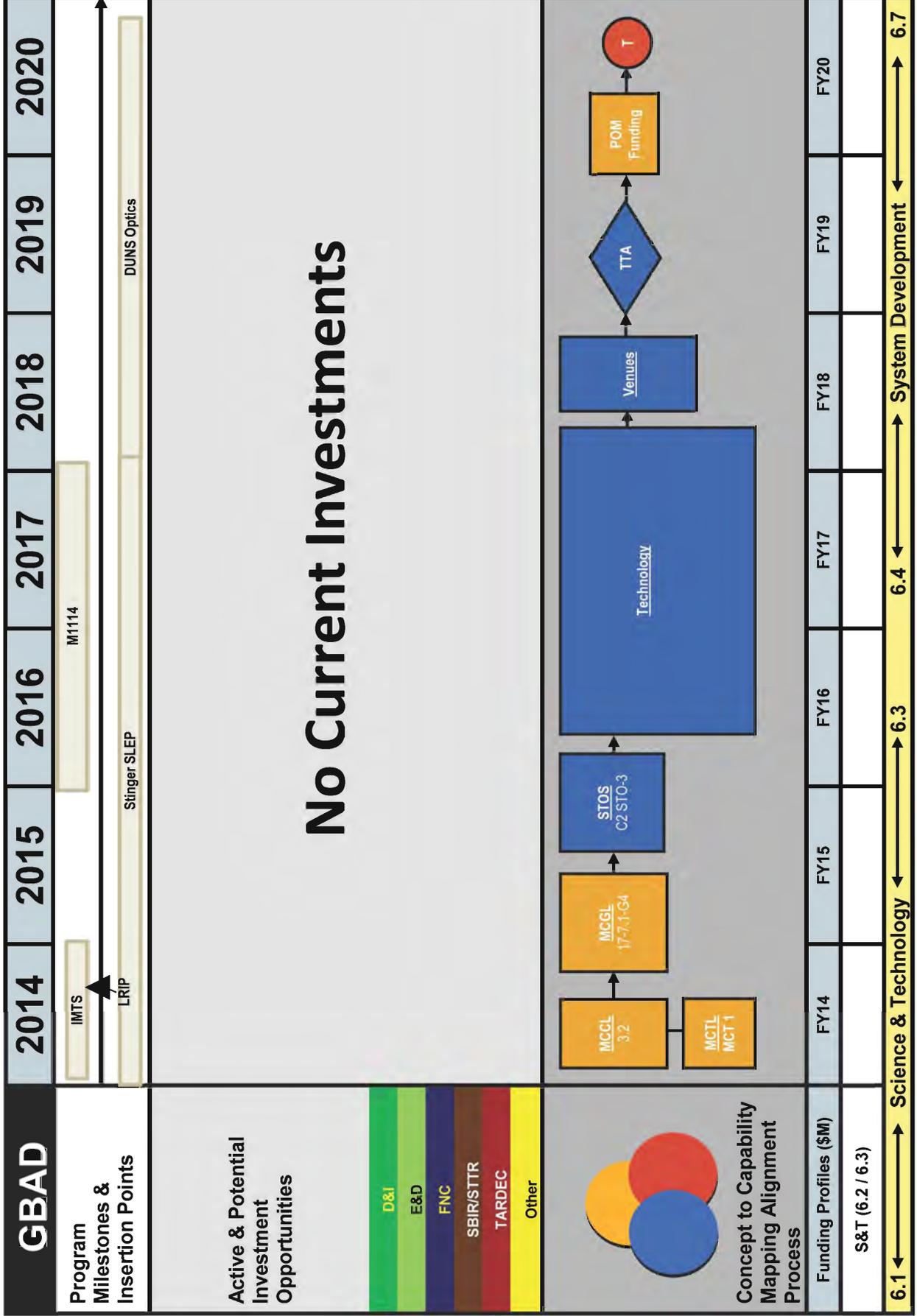
- 4) Have a SWaP comparable to the AN/PAS-18 or smaller

2. Secure Wireless Communication

The A-MANPADS Increment 1 FUV currently has a requirement to allow the gunner to dismount the vehicle and maintain connectivity to the Adaptive Networking Wideband Waveform (ANW2) data network remotely for situational awareness of the current air threat, with the capability for Voice over Internet Protocol transmissions, and with a remote distance of up to 50m. Proposed solutions are being investigated; however, these radio systems are not supported by a Program Manager within MCSC. These radios must be in the smallest form factor that allows for secure (NSA accredited Type I encryption) data/voice transmission over the ANW2 network.



GBAD Technical Issue #1 Stinger Night Sight Replacement





GBAD Technical Issue #2 Secure Wireless Communication

