

INTRODUCTION

“We must capitalize on innovation that realizes how to leverage the capabilities of all new systems ...at a pace that maintains the advantage over our adversaries.”

—General Robert B. Neller, 37th Commandant of the U.S. Marine Corps

In this eighth edition of the Program Executive Officer Land Systems (PEO LS) Advanced Technology Investment Plan (ATIP), the top technical issues for each program are identified and prioritized within the organization. The goal of this ATIP is to inform, influence and align Science and Technology investments to help resolve technical issues, transition advanced technology and to bring greater capability to the warfighter as rapidly as possible. The methodology used to develop the ATIP is the focused and repeatable Concept to Capability process (depicted in figure 2.1). This process is designed to encourage communication from the early stages of concept development, throughout the process and culminating in delivered capability. The key to this process is stakeholder engagement within the S&T enterprise, industry, and academia. The concept developer must understand the ‘realm of the possible’ when it comes to developing concepts and requirements. Once developed, requirements become the backbone of program capabilities. Together, these efforts support the ultimate transition of critical and affordable capabilities to the warfighter.

This year’s ATIP theme is **Autonomy**. The Commandants Planning Guidance 2015, written by the former Commandant, General Joseph F. Dunford Jr, and amended in FRAGO 01/2016, Advanced to Contact, by the current

Commandant, General Robert B. Neller, clearly states that the Marine Corps will pursue technologies that enhance our warfighting capabilities through Manned Unmanned Teaming (MUMT), such as unmanned aerial systems (UAS) and robotics, artificial intelligence, and autonomous technologies that provide tactical and operational advantage. PEO LS is looking for innovative solutions and game-changing technologies that will empower our Marine Corps to be dominant in defending our nation on the future battlefields.

Published annually, the PEO LS ATIP is much more than an information source for the PEO LS technology efforts. It is a catalyst for opening communication and collaboration between “3 Circle” partners (Combat Developer, Materiel Developer, and the S&T Developer) and to other DoD and Non-DoD organizations. This year’s ATIP was developed in direct collaboration with the Office of Naval Research (ONR), Army Tank Automotive Research, Development and Engineering Center (TARDEC), Defense Advanced Research Projects Agency (DARPA), Marine Corps Warfighting Lab (MCWL), Naval Warfare Centers and other government agencies. The ATIP is published as an open-source document to increase the probability that it is shared and to allow those outside DoD to propose solutions that might otherwise be missed.

As today's fiscally austere budgets continue to decrease, the Marine Corps must continue to find ways to procure the best equipment for the defense of our nation. The publication of the PEO LS ATIP is intended to find ways to enhance our warfighter's capabilities by:

- 1. Identifying and defining the top technical challenges** that must be resolved within each program, some of which remain consistent from year to year. These challenges are vetted and are advertised in the ATIP to alert and assist industry and government regarding the S&T needs of major ACAT programs within PEO LS.
- 2. Resolving capability gaps and technical issues** by identifying and publishing the technical challenges, PEO LS is delivering input and assistance to the S&T enterprise, industry, and academia.
- 3. Informing, influencing, and aligning S&T investment** by identifying the S&T needs of PEO LS and **supporting the technology insertion and transition into Programs of Record**.

The overall technology requirements for PEO LS programs remain consistent from previous years and are as follows:

- Reliable and efficient electrical power generation to supply energy for our modern force.
- Increased survivability while maintaining mobility.
- Government-owned and operated modeling and simulation capability that can accurately predict cost and performance of systems.
- Open plug-and-play communications architecture in Marine Corps vehicles.

PEO LS Organization

Program Executive Officer Land Systems—located at historic Hospital Point, Building 2210, Marine Corps Base Quantico, Virginia—is the Corps' first Program Executive Office. PEO LS is a separate command that reports directly to the Assistant Secretary of the Navy for Research Development and Acquisition (ASN (RDA)). PEO Land Systems' integral relationship with the Marine Corps Systems Command (MCSC) leverages infrastructure, competencies, and technical authority. The mission of PEO LS is to meet warfighter needs by devoting full-time attention to Marines Corps weapon systems acquisition, while partnering with MCSC to develop, deliver, and provide life-cycle planning for all assigned programs. Figure 1-1 illustrates the current organization of Program Executive Officer Land Systems.

PEO LS is responsible for managing multiple Acquisition Category (ACAT) I, II, III & IV programs, which are critical to the support of the warfighter. These programs include: the Marine Corps' #1 ground program, the Amphibious Combat Vehicle (ACV); the Assault Amphibious Vehicle (AAV7A1); the Joint Light Tactical Vehicle (JLTV); the Mine Resistant Ambush Protected (MRAP) family of vehicles; the Common Aviation Command and Control System (CAC2S); the Ground Based Air Defense (GBAD); the Ground/Air Task Oriented Radar (G/ATOR); the Lightweight 155 M777 Howitzer; the Medium Tactical Vehicle Replacement (MTVR); and the Logistics Vehicle System Replacement (LVSr). The monetary value of these programs across the Future Years Defense Program (FYDP) is approximately \$8 billion.

PEO LAND SYSTEMS MARINE CORPS

IT'S ALL ABOUT THE WARFIGHTER

ORGANIZATIONAL VIEW

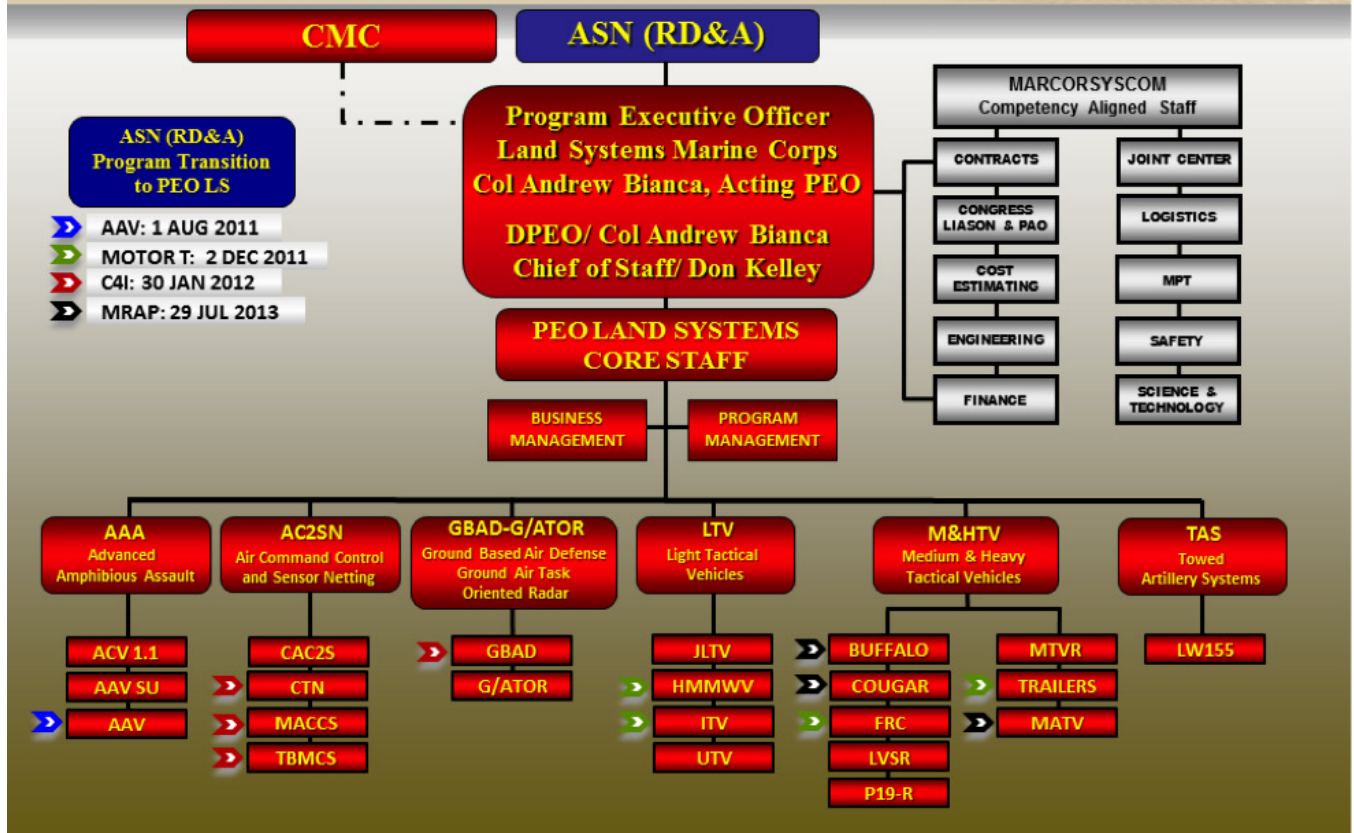


Figure 1-1. Program Executive Officer Land Systems Organization