CHAPTER 4

MAJOR ACQUISITION PROGRAMS

This chapter provides background on key acquisition programs the Marine Corps is pursuing. Many of the programs are joint efforts with Marine Corps participation or leadership, and many of the Aviation Combat Element programs are funded with Navy appropriations. Rather than attempt to discuss every one of the nearly 600 acquisition efforts currently involving Marine Corps participation, this chapter highlights some of the larger programs that either enter production in the near term or that exploit technological advances to improve our interoperability with the joint force; Marine Air-Ground Task Force (MAGTF) command, control, communications, computers, and intelligence (C4I); MAGTF speed, mobility, and firepower; and the logistical operations of sea-based forces.

This chapter is divided into five sections. The first four sections address significant programs integral to the Command, Ground Combat, Aviation Combat, and Combat Service Support Elements of MAGTFs. The final section addresses general MAGTF support programs. Program acquisition estimates are current as of the printing date of ***Concepts and Programs***, and may not reflect the final quantities procured during FY 2004-2005.

NOTE ON ACQUISITION TERMS

The descriptive summaries of the programs addressed throughout this chapter frequently refer to Department of Defense acquisition phases, decision milestones or categories. These are as follows:

CONCEPT REFINEMENT AND TECHNOLOGY DEVELOPMENT (MILESTONE A)

This is the pre-systems acquisition phase during which initial concepts are refined and technical risk is reduced. Two major efforts that may be undertaken in this phase are Concept Refinement or Technology Development. Concept Refinement typically consists of short-term concept studies that refine and evaluate alternative solutions to the initial concept and provide a basis for assessing the relative merits of these alternatives. Technology Development is an iterative discovery and development process designed to assess the viability of technologies while simultaneously refining user requirements.

Under the legacy acquisition model (dated 1996), these efforts were described as ***Milestone 0*** (entry into Concept Exploration) and ***Milestone I*** (entry into Program Definition and Risk Reduction).

SYSTEM DEVELOPMENT AND DEMONSTRATION (MILESTONE B)

This is the phase in which a system is developed. Work in this phase includes reduction of integration and manufacturing risk; ensuring operational supportability; human systems engineering; design for "producibility;" and demonstration of system integration, interoperability, and utility.

Under the legacy acquisition model, this Milestone was described as ***Milestone II***. Post-Milestone II activities, however, also included manufacturing development and operational testing, efforts now performed after Milestone C.

PRODUCTION AND DEPLOYMENT (MILESTONE C)

This is the phase in which the operational capability that satisfies mission needs is ensured through operational test and evaluation. This evaluation determines a system's effectiveness, suitability, and survivability. The designated Milestone Decision Authority may decide to commit to production at Milestone C, either through low-rate initial production for major defense acquisition programs, or full production or procurement for other systems.

The legacy acquisition model describes most of these efforts as post-***Milestone III*** activities. Milestone III was described as Production, Fielding, Deployment and Operational Support.

ACQUISITION CATEGORIES ("ACAT")

The Department of Defense categorizes acquisition programs into several categories, generally based on their cost — measured in FY 2000 constant dollars — or testing requirements. This categorization

is then used to identify oversight and approval requirements. A description of the most commonly discussed levels follows.

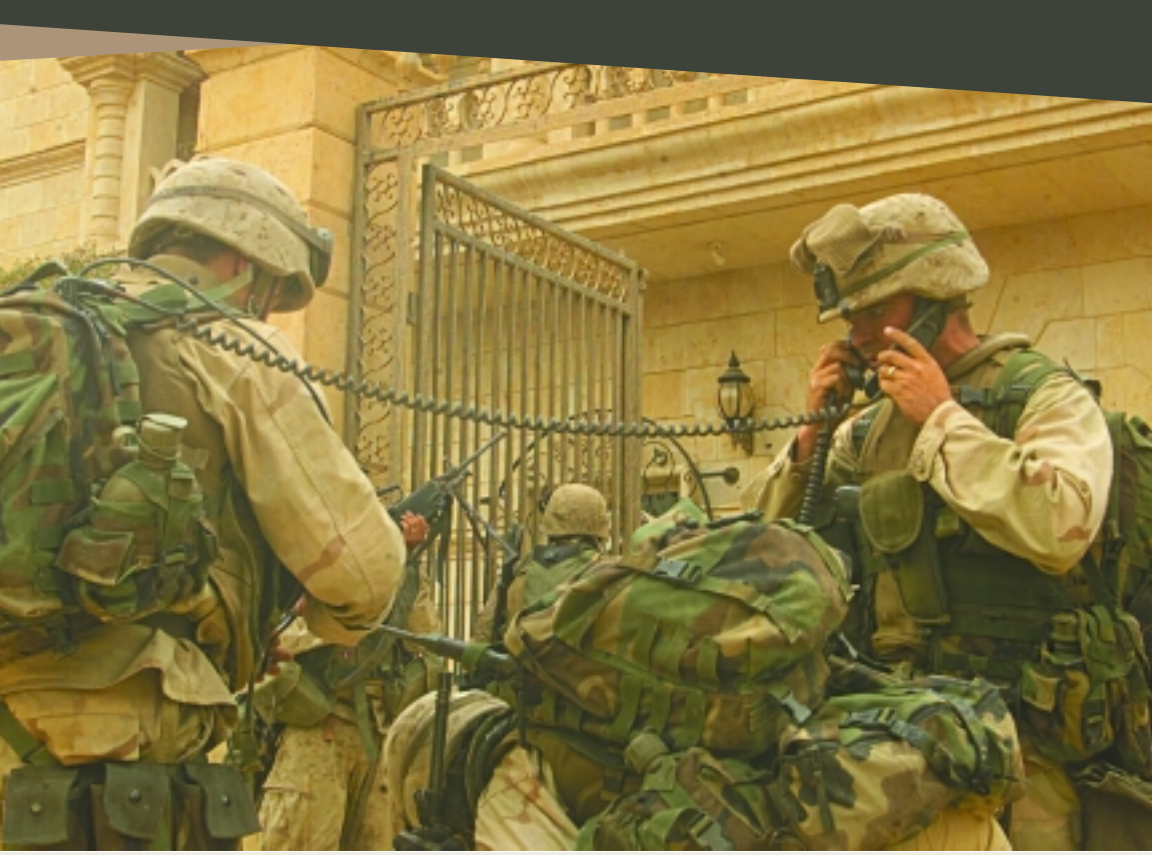
ACAT I. These are the largest acquisition programs, and are also known as Major Defense Acquisition Programs (MDAP). To achieve this level of designation, a program must exceed $365 million in Research and Development funding or exceed $2.190 billion in Procurement funding. The Marine Corps currently leads two ACAT I programs — the Advanced Amphibious Assault Vehicle Program (which will produce the Expeditionary Fighting Vehicle) and the V-22 Osprey Program — and participates in numerous joint ACAT I programs, to include Global Broadcast Service and the Joint Tactical Radio System. ACAT I programs have two subcategories: ACAT IC and ACAT ID.

ACAT IA. These are the largest automated information system (AIS) acquisition programs. There are several cost thresholds for this level, which include AIS programs with: single year funding, in all appropriations, in excess of $32 million; total program cost in excess of $126 million; or total life-cycle costs in excess of $378 million. ACAT IA programs have two sub-categories: ACAT IAM and ACAT IAC.

ACAT II. These programs do not meet the threshold for ACAT I but have Research and Development funding in excess of $140 million or Procurement funding in excess of $660 million. They are also known as Major Systems. The Marine Corps currently funds three ACAT II programs — such as the Medium Tactical Vehicle Replacement and the Common Aviation Command and Control System 2 — leads one joint ACAT II program (Lightweight 155mm Howitzer) and participates in two other joint ACAT II programs.

ACAT III. Programs that do not meet the cost threshold for ACAT I or II and involve combat capability are designated ACAT III or IV programs. Within the Marine Corps, the designation generally depends on the level of program management and oversight assigned by Commander, Marine Corps Systems Command. The Marine Corps currently manages over twenty ACAT III programs, leads approximately a dozen joint ACAT III programs and participates in another twenty-seven joint ACAT III programs. This level includes less-than-major AIS programs.

ACAT IV. ACAT programs not otherwise designated ACAT I, IA, II, or III are designated ACAT IV. ACAT IV programs have two sub-categories: ACAT IV(T) programs, which require Operational Test and Evaluation; and ACAT IV(M) programs, which do not. The Marine Corps currently manages nearly ninety such programs, and leads or participates in over twenty joint ACAT IV programs.



PART 1

COMMAND ELEMENT PROGRAMS

The Command Element (CE) of each MAGTF is task-organized to provide command, control, communications, computers, and intelligence — and interoperability with other joint forces and systems — to facilitate the effective planning and execution of Marine Corps power projection operations. MAGTF C4I provides commanders with a common tactical picture and the means to deal with the increasingly complex modern battlefield. It allows Marine Corps units to send, receive, process, filter, store, and display key data needed for tactical decision-making.

This section provides basic descriptions of Marine Corps C4I programs/systems under development or scheduled for procurement or fielding during FY 2004-2005.

GLOBAL BROADCAST SERVICE

DESCRIPTION

The GBS system is a smart-push/user-pull satellite communication system that provides near-worldwide, high-data rate, one-way dissemination of large information products. Examples of these products include classified and unclassified imagery and video; theater message traffic, joint and service-unique news, weather and morale, welfare, and recreation programming to deployed or garrison forces via small user platforms. GBS will be accessible from 65 degrees north latitude to 65 degrees south latitude.

OPERATIONAL IMPACT

GBS will augment other communications systems and provide a continuous, high-speed, one-way information flow to deployed, mobile, or garrison forces. GBS will support routine operations, training and military exercises, special activities, crisis, situational awareness, weapons targeting, reconnaissance, and the transition to and conduct of opposed operations short of nuclear war. The system will consistently provide the warfighter with information that allows him to take action inside the decision cycle time of his adversaries.

PROGRAM STATUS

The GBS is a joint program and currently in a pre-Milestone C status. The Marine Corps currently possesses 11 low-rate, initial production GBS receive suites provided by the joint program office. All three MEFs have at least one GBS receive suite and are using them to support exercises and operations within their respective areas of operation. These receive suites are also being used for test and evaluation purposes to assist in defining manpower, training, and concept of operations issues.

The program is currently conducting a technology refresh to upgrade the receive suites with an Internet protocol (IP)-based, commercial-off-the-shelf architecture. This new architecture will provide users with a smaller, lighter, more agile system. The first developmental/operational test on the IP-based system occurred in December 2003, and a follow-up test is scheduled for March 2004. Upon successful testing, the Marine Corps will proceed with its own low-rate initial production procurement decision for eight terminals. A joint Milestone C decision is scheduled for FY 2006 based on subsequent testing. The approved acquisition objective for GBS is 81.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	40	39

DEVELOPER/MANUFACTURER

Raytheon, Reston, VA

GLOBAL COMMAND AND CONTROL SYSTEMS-I3 INITIATIVES

DESCRIPTION

The Global Command and Control Systems-I3 (GCCS-I3) Initiative is a joint program in which the Marine Corps participates. The program enhances operational commanders' intelligence-situation awareness and track management. It uses a standard set of integrated tools and services to maximize commonality and interoperability across the tactical, theater, and national communities. The GCCS-I3 operates in joint and service-specific battlespace, and is interoperable, transportable and compliant with the Common Operating Environment (COE).

OPERATIONAL IMPACT

The GCCS-I3 is the core software for the Intelligence Analysis System Family of Systems, which is the senior system in the System-of-Systems concept. The GCCS-I3 Initiative works to ensure that the GCCS-I3 software is interoperable with the Marine Corps communication and data transmission systems. Several Marine Corps Intelligence Systems utilize GCCS-I3 as their core software and/or individual segments as major components of their software baseline, including:

>> Technical Control and Analysis Center (TCAC)
>> Topographic Production Capability (TPC)
>> Tactical Exploitation Group (TEG)
>> Counter Intelligence/Human Intelligence (HUMINT) Equipment Program (CIHEP)
>> Tactical Combat Operations (TCO)
>> Tactical Remote Sensor System (TRSS)
>> Joint Surveillance Target Attack Radar System (JSTARS)
>> Coastal Battlefield Reconnaissance and Analysis (COBRA)
>> Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES)
>> Advanced Field Artillery Tactical Data System (AFATDS)

PROGRAM STATUS

The GCCS-I3 Initiative has several long- and short-term goals to enhance the interoperability and procurement decisions for Marine Corps intelligence systems. In the long-term, this program seeks to achieve an integrated, fully interoperable Marine Corps Intelligence System-of-Systems. During the near-term, the program seeks to establish a process and a corresponding set of procedures designed to allow the Marine Corps to make informed procurement decisions in its efforts toward achieving the long term goal. The GCCS-I3 effort has four mission areas: Administration and Infrastructure Support, Program Manager-Level Configuration Management (CM) Processes and Functions, Science and Technology Engineering Support (S&TES), and Integration Support Team (IST).

PROCUREMENT PROFILE

This program receives funding through Research & Development and Operations & Maintenance funding.

DEVELOPER/MANUFACTURER

The Joint GCCS-I3 Program Office defines and validates various operational requirements of the GCCS-I3.

INTELLIGENCE BROADCAST RECEIVERS

DESCRIPTION

The basic Joint Tactical Terminal (JTT) and the Embedded National Tactical Receiver (ENTR), are part of the Intelligence Broadcast Receiver (IBR) family that receive, decrypt, and process near real-time intelligence information simultaneously from the Intelligence Broadcast Service (IBS) Simplex (Legacy-TDDS), IBS Interactive (Legacy-TIBS), IBS Line of Sight (Legacy-TRIXS) and Tactical Data Information Exchange Service B (TADIXS B) systems.

OPERATIONAL IMPACT

The JTT capability is directly tied to the Congressionally-mandated IBS initiative that will combine the current four legacy intelligence broadcasts into a single broadcast. The IBR family of receivers is the sole source that will provide interface to the new IBS broadcast information. When IBS is implemented, legacy terminal systems will not be able to receive IBS data. Access to intelligence information will not be possible without the JTT and ENTR and other IBR solutions.

PROGRAM STATUS

The initial requirement for JTT's was fulfilled with the procured 13 JTTs in FY 1998 and an additional 12 JTTs during FY 2002. Our follow-on requirement for 183 ENTRs will be fulfilled during the FY 2004-2007. Developmental testing for ENTR is tentatively scheduled for the first quarter of FY 2004.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:		
ENTR	25	66

DEVELOPER/MANUFACTURER

JTT: Raytheon C3S Radios/Terminals, St Petersburg, FL
ENTR: L3 Communications, Conic Division

JOINT ENHANCED CORE COMMUNICATION SYSTEM (FIRST IN COMMAND AND CONTROL SYSTEM PROGRAM)

DESCRIPTION

The Joint Enhanced Core Communication System (JECCS) provides telecommunication services, local area network, and network management services to MAGTF units. The system provides messaging services, INMARSAT satellite, GBS, and UHF-TACSAT capabilities. JECCS is designed to interface with current and planned satellite communications that extend its connectivity and services beyond the horizon.

OPERATIONAL IMPACT

Current MAGTF communications, at this level, are achieved using the Joint Task Force Enabler suite of equipment. The JECCS will replace this suite with a fully integrated, sustainable voice and data communications package. By integrating all required initial C4I connectivity equipment onto a single HMMWV, JECCS will decrease field setup time while increasing MAGTF communications capability, flexibility, and mobility.

PROGRAM STATUS

The JECCS program has completed the engineering development model (EDM) phase. Based upon the feedback from operational forces, the Independent Assessment Report concluded the JECCS has the potential to meet First-In MEU/MEB C2 enabler communication requirements. The program office has completed a source selection process and awarded a contract to Darlington, Incorporated to procure three systems. Initial operational capability will be achieved during the second quarter of FY 2004. Full operational capability is scheduled for the second quarter of FY 2007.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	2	3

DEVELOPER/MANUFACTURER

Prime Contractor:
Darlington, Incorporated, Wando, SC

JOINT INTEROPERABILITY OF TACTICAL COMMAND AND CONTROL SYSTEMS (JINTACCS)

DESCRIPTION

The JINTACCS program is a Joint Chiefs of Staff-mandated research, development, test, and evaluation program to ensure interoperability among the tactical command-and-control systems used in joint and combined military operations. Overall responsibility for these functions resides with the Defense Information Services Agency, and with the individual services responsible for managing their own program.

OPERATIONAL IMPACT

The JINTACCS program supports the development and testing of joint and combined message standards, including US Message Text Format, Tactical Digital Information Links A/B/C/J, Interim Joint Tactical Information Distribution System Message Specification, Army Tactical Data Link (ATDL-1), and Variable Message Format.

PROGRAM STATUS

This is an ongoing program to increase joint and coalition interoperability.

PROCUREMENT PROFILE

Funding during FY 2004-2005 will support Marine Corps participation in various joint interoperability efforts.

DEVELOPER/MANUFACTURER

Various

JOINT NETWORK MANAGEMENT SYSTEM

DESCRIPTION

The Joint Network Management System (JNMS) is a mandated communications planning and network management tool for combatant commanders, joint task force commanders, and joint task force service components. It is used for high-level communications planning (war planning); detailed planning and engineering; network management, monitoring, control and reconfiguration; spectrum planning; and the management and security of systems and networks supporting joint operations. JNMS includes the Marine Corps System Planning Engineering and Evaluation Device (SPEED). JNMS is a joint Acquisition Category III program, with the Army's Program Executive Officer, Command, Control, Communications, Tactical (PEO C3T) having Milestone Decision Authority.

OPERATIONAL IMPACT

Personnel manning the Systems Control (SYSCON) department within each command component will operate the JNMS. Without JNMS, the Marine Corps will not have the mandated communications tool to plan, manage, and collaborate with the joint community during joint task force operations and exercises.

PROGRAM STATUS

The initial operational test and evaluation and Milestone C decisions are scheduled for the second quarter of FY 2004. Marine Corps units supporting the US Central Command are scheduled to receive the first fielded JNMS in the first quarter of FY 2005.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	11	9

DEVELOPER/MANUFACTURER

CECOM, San Diego, CA
Science Applications International Corp. (SAIC), San Diego, CA

TACTICAL EXPLOITATION GROUP

DESCRIPTION

The TEG is the only tactical imagery exploitation system in the Marine Corps. Modular and scalable, the TEG employs a tiered approach. It consists of two echelon-tailored configurations – the TEG-Main (TEG-M) and, the TEG-Remote Workstation (TEG-RWS). The TEG-M receives, exploits, and disseminates national, theater, and tactical imagery. The TEG disseminates exploitation reports and secondary imagery products to the Marine Expeditionary Force commander and subordinate commanders for tactical operations, strike planning, precision targeting, detection and location of targets of opportunity, and battle damage assessment for restrike planning and intelligence assessment. The TEG employs commercial off-the-shelf, government off-the-shelf, and non-developmental item computer hardware and software to enable rapid upgrades and maintain commonality and interoperability with other Marine Corps and joint intelligence and imagery systems. The TEG-RWS is both the exploitation workstation (EWS) in the TEG-M configuration, and can act as a stand-alone imagery EWS suitable for independent operations.

OPERATIONAL IMPACT

The TEG-M provides the capability to receive, process, store, exploit, and disseminate electro-optical (EO) and infrared imagery (IR) from the F/A-18D (RC) Advanced Tactical Airborne Reconnaissance System (ATARS) and synthetic aperture radar (SAR) imagery from the F/A-18D (RC) radar. The TEG-M can also receive EO, IR and SAR imagery from theater resources such as the U-2 Advanced Synthetic Aperture Radar System-2 (ASARS-2) and the Global Hawk unmanned aerial vehicle. The TEG-M can also receive, store, exploit, and disseminate imagery from theater and national input segments. Upgrades will enable the processing of imagery from unmanned aerial vehicles and Super High Accuracy/Resolution Processing Radar (SHARP), as well as other sensor systems.

PROGRAM STATUS

Two of three TEG-M systems have been delivered. The third TEG will be delivered in the third quarter of FY 2004. The Marine Corps Systems Command is implementing a pre-planned product improvement effort for TEG. These improvements, which began in FY 2002, are grouped as incremental upgrades and will occur on alternate years. Incremental Upgrade 2 development was implemented in FY 2003.

PROCUREMENT PROFILE:

During FY 2004-2005, the Marine Corps will complete the fielding of TEG and fund product improvements.

DEVELOPER/MANUFACTURER

Prime Hardware Integrator: Space and Naval Warfare Systems Center, Charleston, SC
Software Integrator: Northrop Grumman, Linthicum, MD
Common Data Link: L3 Communications, Salt Lake City, UT
IPL: BAE Systems, Rancho Bernardo, CA
Communications Support Processor: General Dynamic, Thousand Oaks, CA

JOINT TACTICAL RADIO SYSTEM

DESCRIPTION

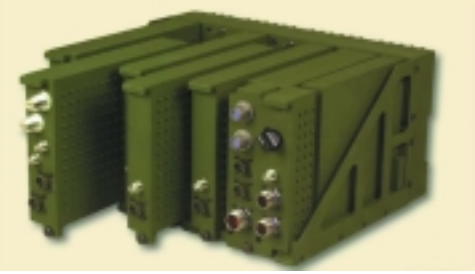
The Joint Tactical Radio System (JTRS) is a family of joint, multi-channel, multi-mode, reprogrammable radio systems. JTRS provides high-capacity, line-of-sight and beyond- line-of-sight plain and secure voice, data, and video while operating in frequency bands from 2 MHz to 2 GHz. The system ensures network connectivity across the radio-frequency spectrum and supports tactical digital information exchanges. JTRS includes the Wideband Networking Waveform (WNW) that supports communication requirements not achievable with today's systems. Ground versions of JTRS will include vehicle, man-portable, and hand-held radios.

OPERATIONAL IMPACT

Current radio systems provide insufficient data throughput to support exchange of command-and-control and fire-support data. JTRS will provide a wideband networking waveform to support the communication requirements of the warfighter not achievable today. In addition, JTRS multi-band, multi-mode radios will allow for more flexible employment of forces and exchange of information.

PROGRAM STATUS

JTRS Cluster 1 (ground vehicular radios) and Joint Waveform (Wf) entered the System Development and Demonstration (SDD) phase (Milestone B) after a June 2002 approval by the Undersecretary of Defense for Acquisition, Technology, and Logistics. Cluster 1 approval included the award of the SDD contract and low-rate initial production options for up to 10,641 radios. The Joint Wf Development Program approval included permission for the award of development contracts for waveforms and cryptographic algorithms.



PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	10	15
	(Early development models)	

DEVELOPER/MANUFACTURER

Cluster 1 (Ground Vehicular/RW)
Prime: Boeing, Anaheim, CA
Major Subcontractors:
- System Engineering: TRW, Seattle, WA
- Hardware: Rockwell Collins, Cedar Rapids, IA
- Hardware: BAE, Wayne, NJ
- Hardware: Harris, Rochester, NY

MARINE AIR-GROUND TASK FORCE SECONDARY IMAGERY DISSEMINATION SYSTEM

DESCRIPTION

Marine Air-Ground Task Force SIDS (MSIDS) consists of three suites of outstation equipment and one set of base station equipment. The outstation includes a basic still-photo digital camera with waterproof case, an advanced still-photo digital camera, a night vision intensifier tube, a rugged handheld computer with data controller hardware/ software, and a set of fixed and telephoto lenses. The base station consists of a rugged laptop computer and a printer. The equipment that comprises MSIDS is made up entirely of commercial-off-the-shelf equipment.

OPERATIONAL IMPACT

MSIDS provides the only self-contained, hand-held, ground imagery capability for MAGTF reconnaissance units. This imagery is essential for mission planning and intelligence. Other MAGTF near-real-time imaging systems, such as unmanned aerial vehicles and F/A-18 ATARS, only provide overhead imagery and cannot capture the detail and ground perspectives available with MSIDS. In asymmetric threat environments where targets of interest are often small, highly mobile units such as terrorists or guerilla units, it is imperative that the MAGTF be able to identify individuals and structures from the ground level. The required detail is neither available from overhead sources, nor available in the initial fielded version of MSIDS. Technology insertions via a block refresh plan will enable reconnaissance Marines equipped with the system to receive needed technological upgrades in a more timely fashion.

PROGRAM STATUS

In FY 2004, the Marine Corps will refresh the entire MSIDS imagery capability and update operating software. In FY 2005 we will refresh all computers and update operating software. These efforts are essential to the MSIDS life-cycle support strategy.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:		
Advanced digital cameras	219	
Night-vision devices (current)	73	
Basic digital cameras	73	
Outstation computers		231
Base station computers		77

DEVELOPER/MANUFACTURER

System Integrator: Northrop Grumman Information Technologies (NGIT), Stafford, VA
Integrity Data Inc (IDC), Colorado Springs, CO

TACTICAL DATA NETWORK

DESCRIPTION

The Tactical Data Network (TDN) augments the existing MAGTF communications infrastructure by forming the communications backbone for MAGTF tactical data systems and Defense Message System. The TDN system consists of a network of gateways and servers interconnected with one another and their subscribers via a combination of common-user, long-haul transmission systems, along with local area networks and switched telephone systems.

OPERATIONAL IMPACT

TDN provides its subscribers with basic data transfer and switching services; access to strategic, supporting establishment, joint, and other-service component tactical data networks; network management capabilities; and value-added services such as message handling, directory services, file sharing, and terminal emulation support. It will provide Internet Protocol connectivity for tactical data systems and the Defense Message System. Without TDN, units will only be able to establish *ad hoc*, non-standard local area networks. They will be forced to connect into the communications infrastructure by any means available, making it difficult for them to support technically and logistically.

PROGRAM STATUS

The Marine Corps has fielded 31 TDN gateway and 447 TDN Data Distribution Systems (DDS). An additional 30 TDN DDS are planned for use at the Marine Corps Communications and Electronics School. Block I TDN is in the production phase, having achieved initial operational capability in May 2002. A Block II modification and upgrade of the TDN Data Distribution System that provides backup and redundancy is scheduled for fielding in the second quarter of FY 2004. A TDN Block III modification/upgrade, Information Assurance (IA) integration, and secure wireless LAN is planned for Program Objective Memorandum period 2006.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	20	43

DEVELOPER/MANUFACTURER

General Dynamics Communication Systems, Taunton, MA

UNIT OPERATIONS CENTER

DESCRIPTION

The Unit Operations Center (UOC) consists of two elements - the Command Operations Center (COC) and the Command Center (CC). The COC provides a centralized facility that hosts command-and-control equipment and spaces for all elements of a MAGTF command element. The COC provides tent, power, cabling,

local area network, and processing systems. The COC will host mission application software. Designed to enable the interaction and flow of information between staff members, the COC is scalable to support command echelons at battalion and above.

OPERATIONAL IMPACT

Currently, the Marine Corps operates varied command and control equipment suites. The UOC program standardizes these suites and improves system shelter and transportability, digital capabilities, power generation and integration, thereby improving MAGTF command and control.

PROGRAM STATUS

The UOC Program is currently in the Production and Deployment phase of Milestone C, with a low-rate initial production decision of 15 systems. The UOC acquisition strategy focuses on the procurement of the funded COC portion of the program, and will follow an evolutionary spiral development approach. In order of priority, COCs will be fielded to the Ground Combat Element, the Command Element, the Combat Service Support Element, and the applicable portions of the Air Combat Element.

Pilot-production and low-rate initial production systems are being used for limited field-user evaluations until March 2004. An initial operational test and evaluation will occur from April to July 2004. The Marine Corps plans a fielding decision, a full-rate production decision, and an initial operational capability declaration for August 2004.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	14	20

DEVELOPER/MANUFACTURER

Developer: General Dynamics, Decision Systems, Scottsdale, AZ
Manufacturer: General Dynamics, Decision Systems, Scottsdale, AZ

TECHNICAL FIRE DIRECTION SYSTEM

DESCRIPTION

The Lightweight Technical Fire Direction System (LWTFDS) provides the artillery firing battery with the capability to automate technical fire direction while in a degraded or moving status, providing a second check required for safe and accurate fires. Additionally, it increases the responsiveness for special missions, such as "hip shoots" and artillery raids. The LWTFDS automates survey and meteorological functions performed by the artillery community. It utilizes the NATO Artillery Ballistic Kernel (NABK) to compute the technical firing solution for the battery.

OPERATIONAL IMPACT

The LWTFDS is the material replacement for the Back-up Computer System (BUCS) originally fielded in the early 1980s.

Falling under the cognizance of the Advanced Field Artillery Tactical Data System (AFATDS), the LWTFDS gives the battery the ability to compute data when the AFATDS is not operational. This occurs during movements, raids, and periods of degraded operation. The LWTFDS will also replace the Back-up Computer System Replacement (BUCS-R), which was an interim device for survey functionality fielded in the late 1990s until the LWTFDS became available.

PROGRAM STATUS

As part of the AFATDS program, LWTFDS does not have an individual acquisition category or milestone. The LWTFDS will be fielded to all artillery batteries, battalion survey sections, and the Marine Corps artillery training detachment at Fort Sill, Oklahoma starting in FY 2005. Initial versions will provide basic functionality. Follow-on software versions will incorporate interoperability with AFATDS, entry devices, and a Gun Display Unit.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	117	93

DEVELOPER/MANUFACTURER

LWTFDS software developer: Raytheon Systems Company, Fort Wayne, IN
LWTFDS hardware developer: obtained from US Government General Services Administration

COASTAL BATTLEFIELD RECONNAISSANCE AND ANALYSIS

DESCRIPTION

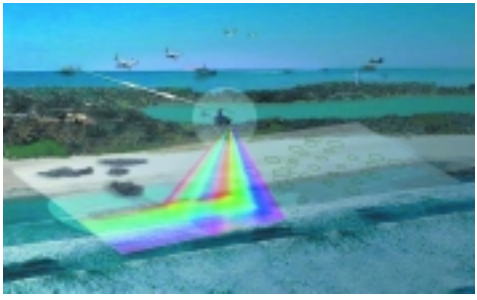
Coastal Battlefield Reconnaissance and Analysis (COBRA) will allow naval expeditionary forces to conduct airborne, standoff reconnaissance and automatic detection of minefields in the surf zone and inland. COBRA will consist of three primary components — the COBRA Airborne Payload, the COBRA Processing Station, and the Tactical Control Software (TCS). The COBRA Airborne Payload will consist of a multi-spectral sensor system that will be placed on an unmanned aerial vehicle to conduct reconnaissance, detect minefields, obstacles, and camouflaged defenses. The Tactical Control Software that is loaded onto the UAV Ground Control Station will control the COBRA Airborne Payload. Analysis of the imagery collected by the COBRA Airborne Payload will be conducted at the COBRA Processing Station. The COBRA Processing Station includes a Tactical Exploitation Group Remote Work Station (TEG RWS) with enhanced algorithm processing.

OPERATIONAL IMPACT

There is no alternative program capable of providing this capability. The Marine Corps may not be able to successfully conduct Ship-to-Objective Maneuver in the face of a mine threat without personnel and equipment casualties. The concept of Operational Maneuver From the Sea allows our forces to circumvent mined areas if they can be rapidly and remotely detected. Without a minefield detection and coastal reconnaissance capability, this cannot occur.

PROGRAM STATUS

In accordance with an Acquisition Decision Memorandum signed 5 May 2003, an existing contract with Northrop Grumman was modified for the development, integration, and test of the Technology Development System, called Spiral IA. With the successful demonstration of the Spiral IA prototype, the Technology Demonstration Stage will be completed. Milestone B is planned for the third quarter of FY 2004.



PROCUREMENT PROFILE

Procurement is planned to begin during FY 2006

DEVELOPER/MANUFACTURER

Northrop Grumman Integrated Systems, Melbourne, FL

PART 2

GROUND COMBAT ELEMENT PROGRAMS

The mission of the Ground Combat Element (GCE) is to locate, close with, and destroy the enemy by fire and maneuver or repel the enemy's assault by fire and close combat. Task-organized GCEs draw upon the resources and units of one or more divisions, including division headquarters, infantry and artillery regiments, and separate battalions. GCE resources are integrated with those of the full MAGTF, so that the full range of combined-arms operations may be employed against the enemy. The GCE gives the MAGTF commander a decisive means of conducting maneuver, applying firepower, and providing force protection.

The following programs will provide the GCE the ability — through enhancements in mobility, survivability, and accuracy of fires — to meet the requirements of Expeditionary Maneuver Warfare.

M249 SQUAD AUTOMATIC WEAPON

DESCRIPTION

The M249 Squad Automatic Weapon (SAW) program seeks to replace the current inventory of SAWs with new, upgraded SAWs. The SAW was fielded in 1985 and replaced the M16A1 rifle as the automatic rifle in the Marine fire team and rifle squad. It remains a critical source of firepower for Marine Corps units executing ground combat missions.

OPERATIONAL IMPACT

Acquisition of the SAW, a true lightweight machinegun, significantly increased the firepower of the basic Marine Corps ground combat unit, the four-Marine fire team. The service lives of the currently fielded SAWs have been exceeded. If this inventory is not replaced, tangible combat power of Marine ground units will degrade, which will directly affect Marine Corps fighting abilities and operational readiness. Modifications to the original design incorporate years of field experience, ensuring that this acquisition adds technological advances in addition to reliability improvements for Marines executing ground combat missions.

PROGRAM STATUS

The Marine Corps is working with the US Army within an existing SAW procurement contract.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	2181	447

DEVELOPER/MANUFACTURER

FN Manufacturing, Inc., Columbia, SC

MODULAR WEAPON SYSTEM

DESCRIPTION

The Modular Weapon System (MWS) consists of an M16A4 rifle, which in turn is a modified M16A2 service rifle. An M1913 Rail Adapter System (RAS) replaces the upper hand guards of the M16A2 and incorporates a removable rear-carrying handle. The rail adapter system and modified hand guards allow for the mounting of various accessories such as a modified M203 launching system, high intensity flashlights, and IR laser target designators as well as optics.

The MWS will also modify the M4 carbine, which will be selectively fielded to Marines requiring shorter carbine versions of the MWS.

OPERATIONAL IMPACT

Use of the MWS will result in a significant improvement in the ability to mount various accessories and will improve the accuracy, target detection, day and night engagement capabilities, and the maintability of the M16 family of rifles.

PROGRAM STATUS

Fielding of the MWS began in FY 2003 and continues through FY 2007, for a total of 65,463 weapons.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	15,600	11,000

DEVELOPER/MANUFACTURER

Colt Manufacturing Company, Inc., Hartford, CT
Fabrique National Military Industries, Columbia, SC

NON-LETHAL WEAPONS

DESCRIPTION

The Marine Corps is currently fielding Non-Lethal Capability Sets (NLCS) that consist of a variety of force protection equipment designed to protect Marines and incapacitate personnel and material by means meant to reduce collateral or permanent damage, such as face shields, handcuffs, pepper spray and road spikes. Larger systems that can employ nonlethal means, such as the Tactical Unmanned Ground Vehicle (TUGV; see p. 171), an anti-traction material sprayer named the Mobility Denial System, and a nonlethal grenade named Clear-A-Space, are also under development.

OPERATIONAL IMPACT

The Non-Lethal Weapons program provides Marines with training and equipment to operate in situations where lethal force is not an option. The NLCS items provide Marine units with a tactical advantage by increasing force protection and force application options, improving stand off separation and impairing an adversary's mobility.

PROGRAM STATUS

As noted, the Marine Corps has fielded NLCSs, and continues to procure more as operational requirements and resources dictate. These sets require periodic replenishment and pre-planned improvements. Of the larger nonlethal systems, the TUGV is in the pre-Milestone A phase, the Mobility Denial System is in the pre-Milestone C phase, and Clear-A-Space is pre-Milestone B.

PROCUREMENT PROFILE

Funding for this program continues to upgrade, replenish and field nonlethal capabilities to deploying units during FY 2004-2005.

DEVELOPER/MANUFACTURER

NLCS integrator: Aardvark Tactical, Azusa, CA

SAFETY BOATS

DESCRIPTION

This program will provide a watercraft from which personnel can monitor small craft training. The craft will possess integrated communication and navigational systems to provide its crew the necessary situational awareness to respond to and aid disabled craft and injured personnel. The craft provides easy access from the water to its deck by combat-laden casualties. It also has sufficient deck space for the treatment of casualties during transport, or for the surge transport of passengers in the event a raid craft becomes disabled. Its 30+-knot speed also permits the rapid evacuation of casualties that have sustained life-threatening injuries.

OPERATIONAL IMPACT

Reconnaissance units and infantry boat companies are required to focus on training of an amphibious nature. A safety boat and crew must be present when these units are conducting various combinations of small boat training, surface swims, and combatant diving, to properly supervise the safety of this training or to expeditiously medevac an injured Marine or diver to a medical facility. Historically, when the craft used for the safety boat mission have not been large or fast enough, units often purchased non-standard boats to meet their requirements. The Raid/Open Water Safety Boat will provide every reconnaissance unit with a uniform safety boat.

PROGRAM STATUS

The Marine Corps purchased three concept evaluation boats in FY 2002. Procurement funding for the crafts has been deferred to FY 2006. Initial operational capability is planned for FY 2006, with full operational capability a year later.

PROCUREMENT PROFILE

Procurement is expected to begin during FY 2006.

DEVELOPER/MANUFACTURER

TBD

THERMAL WEAPONS SIGHT

DESCRIPTION

The Thermal Weapon Sight (TWS) is a lightweight, low-power, high-performance forward looking infrared device that will augment existing crew-served night vision sights. TWS does not rely on visible light for operation, and is virtually unaffected by weather and obscurants (both natural and man-made). The TWS operates by discerning the temperature variation between targets and their background. It is completely passive and, although designed for target detection and engagement with Marine Corps crew-served weapons, can be used for all-weather surveillance.

OPERATIONAL IMPACT

The 24-hour capability of the Thermal Weapon Sight significantly enhances the Marine Corps day and night fighting capability through improved target detection and engagement. The system can "see" through obscurants (such as sand, dust, or fog) that impair sighting systems operating in the visible and near visible spectrum. The TWS has the ability to acquire targets under most atmospheric conditions at ranges, which are comparable to the maximum effective ranges of the weapon system with which it is employed.

PROGRAM STATUS

The US Army — the lead service for the TWS program — and the Marine Corps successfully completed separate operational test and evaluations in 2000 and 2001, which led to a procurement decision in July 2001. The Marine Corps will exercise an option on the Omnibus contract and procure 3542 Medium (MTWS) and 1793 Heavy (HTWS) Thermal Weapon Sights. As of 17 September 2003, 797 MTWSs have been fielded early to meet urgent Fleet Marine Force requirements.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	1,031	741

DEVELOPER/MANUFACTURER

Raytheon Systems Company, Dallas, TX

EXPEDITIONARY FIGHTING VEHICLE (ADVANCED AMPHIBIOUS ASSAULT VEHICLE PROGRAM)

DESCRIPTION

The Expeditionary Fighting Vehicle (EFV) – formerly called the Advanced Amphibious Assault Vehicle (AAAV) – will be the primary means of tactical mobility for the Marine rifle squad during the conduct of amphibious operations and sustained ground combat operations ashore. The EFV is a self-deploying, high-water-speed, armored amphibious vehicle capable of transporting Marines from ships located beyond the horizon to inland objectives. The EFV will have the speed and maneuvering capabilities to operate with main battle tanks on land. In addition, the vehicle can use bodies of water such as oceans, lakes, and rivers as avenues of approach and maneuver. The EFV is an armored, fully tracked infantry combat vehicle that will be operated and maintained by a crew of three Marines, and have a troop capacity of 17 Marines with their individual combat equipment. The EFV replaces the Assault Amphibious Vehicle (AAV7A1) that was fielded in 1972 and will be over 30 years old when the EFV is fielded.

OPERATIONAL IMPACT

The EFV will provide the Marine Corps with increased operational tempo, survivability and lethality throughout the battle area and across the spectrum of operations. The EFV enables the Navy and Marine Corps team to project power from the sea base in a manner that will exploit intervening sea and land terrain, achieve surprise, avoid enemy strengths and generate never-before-realized operational tempo across war-fighting functions.

PROGRAM STATUS

The EFV program is in the Systems Development and Demonstration (SDD) Phase of the acquisition process. During this phase — which runs from 2001 through 2008 — the program will complete the design of the second generation SDD prototypes, validate manufacturing and production processes, fabricate and test the SDD prototype vehicles, fabricate the live-fire test vehicle and finalize and implement the life cycle management concept. The low-rate initial production decision (Milestone C) is scheduled for September 2005. The program intends to produce 1,013 EFVs, with initial operational capability scheduled for 2008 and full operational capability scheduled for 2018.

The first-generation EFV prototypes completed land and firepower early operational assessments in FY 2002 and are continuing developmental testing. An operational assessment of the command and control suite was also completed in FY 2002. Nine second-generation EFV prototypes (eight EFV(P) (personnel variant) and one EFV(C) (command and control variant)) are in various stages of the build and testing process.

PROCUREMENT PROFILE

Low-rate Initial Production is scheduled to begin during FY 2006.

DEVELOPER/MANUFACTURER

General Dynamics Amphibious Systems, Woodbridge, VA

MAGTF EXPEDITIONARY FAMILY OF FIGHTING VEHICLES

DESCRIPTION

The MAGTF Expeditionary Family of Fighting Vehicles (MEFFV) is an acquisition initiative that will replace the capabilities provided by the Marine Corps' current family of Light Armor Vehicles (LAVs) and the M1A1 main battle tanks

in the 2015-2020 timeframe. MEFFV will potentially consist of other combat, combat support, and combat service support variants. It is a cooperative effort, occurring in close coordination with the Army's development of the Future Combat System (FCS).

OPERATIONAL IMPACT

The primary goals for developing MEFFV are to facilitate three Expeditionary Maneuver Warfare capability enhancements for MAGTFs in the next decade, including:

>> Increasing the operational reach of MAGTFs through design principles focused on operational mobility

>> Increasing the tactical flexibility of MAGTFs by using a modular approach to mission, support, and sustainment/maintenance packages

>> Increasing the MAGTFs' ability to support and sustain the GCE through lower vehicular weights, high component commonality, and high fuel efficiency

Vehicle design and configuration will be specifically driven to be compatible with sea-basing principles. The MEFFV will also be compatible with joint and multi-national command-and-control architectures.

PROGRAM STATUS

The MAGTF Expeditionary Family of Fighting Vehicles is currently engaged in pre-Phase A (pre-Milestone A) activities. The program is currently responding to guidance from the Joint Requirements Oversight Council and the Defense Acquisition Board to develop a Joint Program Plan with the Army's Future Combat System Program Office.

PROCUREMENT PROFILE

Near term funding supports Concept Refinement activities for this vehicle family. Estimated time for initial procurement is FY 2015-2018. Estimates for vehicle quantities are between 800 and 1600 platforms.

DEVELOPER/MANUFACTURER

TBD

M1A1 FIREPOWER ENHANCEMENT

DESCRIPTION

The Firepower Enhancement Program (FEP) system is a suite of upgrades for the Marine Corps' M1A1 main battle tank. It will include, at a minimum, a second-generation thermal sight and a far-target location (FTL) capability. The second-generation thermal sight consists of infrared optics, an infrared focal plane array, associated analog and digital electronics, display, brackets, and cables. The FTL system consists of a North Finding Module (NFM), bracket, cables, and inputs from the existing laser rangefinder and Precision Lightweight Global Positioning System Receiver (PLGR). The FTL system will provide the tank crew with accurate target location (<50 meter CEP out to 8000 meters) within two seconds after lasing the target. The FTL solution is determined by utilizing the inputs of the laser rangefinder, PLGR, and NFM.

OPERATIONAL IMPACT

As part of a MAGTF, the M1A1 provides maneuver and armor-protected firepower to the ground combat element. As the mobility and survivability of threat systems improve, the M1A1 must increase the speed and accuracy with which they acquire and engage targets. The M1A1 FEP system will provide thermal imaging and FTL capability that will overmatch threat sensor performance, thereby improving the ability of USMC tank crews to engage and defeat an enemy at extended ranges. The M1A1 FEP system will provide for increased target detection, recognition, identification, and FTL capabilities during day and night operations, through smoke, fog, or other battlefield obscurants.

PROGRAM STATUS

The Commanding General, Marine Corps Systems Command, approved the program for entry into phase 2, the Final Integration and Proveout Phase, in April 2002. The two competing contractors provided the government a satisfactory joint proposal, and in June 2003 change-work orders to both contracts established Raytheon as the prime FEP contractor. Raytheon will develop the engineering development models for evaluation.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	5	148

DEVELOPER/MANUFACTURER

TBD

AAV RAM/RS PROGRAM

DESCRIPTION

The Assault Amphibious Vehicle Reliability, Availability, Maintain-ability/ Rebuild to Standard (AAV RAM/RS) acquisition program improves the Marine Corps' ability to logistically support the AAV family of vehicles. The program replaces the AAV's suspension system with one derived from the US Army's Bradley Fighting Vehicle. A 525-horsepower Cummins V903 engine, also derived from the Bradley, replaces the current 400-horsepower engine. The HS-400 transmission is rebuilt with modifications, including a new torque converter, to change it to the HS-525 configuration. The remainder of the vehicle is rebuilt to original specifications.

OPERATIONAL IMPACT

The AAV RAM/RS improves the reliability and supportability of the AAV family of vehicles while also improving MAGTF mobility and survivability. This will ensure the viability of the vehicle until the full fielding of the Expeditionary Fighting Vehicle in FY 2018.

PROGRAM STATUS

RAM/RS production started in FY 1999 and program completion is projected for FY 2007. A total of 1,007 vehicles will be rebuilt (896 P-variants, 64 C-variants & 47 R-variants).

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	132	60

DEVELOPER/MANUFACTURER

Hull Modification : United Defense, L. P. (Marine Corps Systems Division), Albany, GA

Engines: Cummins Inc., Columbus, IN

Vehicle disassembly, component rebuild, vehicle assembly: Marine Corps Logistics Base, Albany, GA

AAV FAMILY OF VEHICLES - MOD KIT LINE

DESCRIPTION

The Assault Amphibious Vehicle (AAV) Modification Kit Program provides life-cycle support to ensure cost-effective combat readiness for the AAV family of vehicles. This is accomplished through continuous review of subsystems to reduce total ownership costs and improve fleet readiness. The Modification Kit Line primarily supports engineering change proposal work and the development and fielding of the Enhanced Applique Armor Kit (EAAK).

OPERATIONAL IMPACT

The AAV Modification Kit Program for the AAV family of vehicles (both RAM/RS and non-RAM/RS) allows these vehicles to continue to take part in MAGTF operations. Changes include safety upgrades, the replacement of obsolete or no longer available subsystems or components, reliability/maintainability upgrades that reduce total ownership cost, and interoperability improvements.

PROGRAM STATUS

The Mod Kit Line will provide EAAK to all fielded AAVs with full operational capability scheduled for FY 2007. Procurement and fielding of the Advanced Communications (ACVC) Helmet and the Tactical Navigation System (TACNAV) will be completed in FY 2004.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:		
EAAK	70	25
ACVC helmet	1,950	0
TACNAV kit	273	0

DEVELOPER/MANUFACTURER

EAAK Kits: Rafael, Ltd., Haifa, Israel
Engineering Support: United Defense, L.P., Triangle, VA
ACVC Helmet: Sonetronics, Inc., West Belmar, NJ
TACNAV Kit: KVH Industries, Inc., Middleton, RI

LIGHT ARMORED VEHICLE EXPEDITIONARY FIRE SUPPORT SYSTEM (LAV-EFSS)

DESCRIPTION

The Marine Corps is pursuing the Light Armored Vehicle Expeditionary Fire Support System (LAV-EFSS) as a replacement for the current M252 81mm mortar-equipped LAV-M weapon. The program will replace the M252 system with a weapon and fire control system that will allow the Light Armored Reconnaissance battalions to engage and suppress lightly armored vehicles and dismounted infantry at ranges that will allow the battlefield commander to more effectively shape the battlefield. Solutions under consideration include an internally stowed 81mm extended-range mortar, a 120mm smoothbore mortar, and a 120mm rifled mortar. An automated and integrated fire control system will speed emplacement at, and displacement from, firing positions, resulting in increased survivability.

OPERATIONAL IMPACT

LAR units require an organic indirect fire capability to support operations across their wide frontages far separated from supporting GCE assets. While the LAV-M (with an integrated M252 81mm mortar) was designed to fill this role, its range and the lethality of its rounds are insufficient in meeting the current requirements. While operating at very high speeds and separated at times from main body forces, the current LAV-M and division artillery assets cannot provide adequate ground based indirect fire support coverage. Correction of this deficiency is essential to the successful employment of the Light Armored Reconnaissance battalion in future conflicts.

PROGRAM STATUS

Milestone A was achieved in August 2003. The program is currently awaiting research, development, testing, and evaluation funding to commence in FY 2005. Milestone B approval is scheduled for the third quarter of FY 2005, and source selection for the fourth quarter.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	0

DEVELOPER/MANUFACTURER

TBD

LIGHT ARMORED VEHICLE SERVICE LIFE EXTENSION PROGRAM (LAV SLEP)

DESCRIPTION

The Light Armored Vehicle Service Life Extension Program (LAV SLEP) will extend LAV service life through 2015; improve the readiness, survivability, and sustainability of these vehicles; and reduce the LAV fleet's operations and support costs.

There are two parts to the SLEP program. The "Basic SLEP" consists of a package of upgrades intended to improve system survivability and sustainability and reduce operating and support costs. The second part centers on the Improved Thermal Sight System (ITSS), which replaces the current LAV-25 thermal sight system with a second-generation thermal sight, an integrated laser range finder, weapons fire control, and a far target location capability.

OPERATIONAL IMPACT

Currently, threat weaponry has evolved past the capabilities possessed by the LAV. The SLEP will improve the survivability of the LAV on the modern battlefield of 2015, enabling the Light Armored Reconnaissance battalion to better perform offensive and defensive missions or other operations that the supported commander may direct.

PROGAM STATUS

The Basic SLEP portion passed Milestone III in April 2002. Initial Basic SLEP production kits were delivered starting in March 2003 and will continue delivery through March 2004. The Marine Corps has also exercised options for FY 2003 kits and initial installation. These kits will be installed at Marine Corps depots on LAVs undergoing IROAN (Inspect & Repair Only as Necessary) review and at fleet locations by contractor teams. ITSS prototypes are undergoing operational evaluation.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:		
ITSS	23	132

DEVELOPER/MANUFACTURER

Basic SLEP: DRS, Ft. Walton Beach, FL
Improved Thermal Sight System: Raytheon, McKinney, TX

LIGHT ARMORED VEHICLE-COMMAND AND CONTROL UPGRADE

DESCRIPTION

Built on the basic LAV eight-wheeled chassis, the LAV-C2 is a mobile command station that provides the communication resources needed to command and control Light Armored Reconnaissance (LAR) units in all their assigned roles. This upgrade will address certain deficiencies, while providing an upgraded communications suite that will integrate the newer Joint Tactical Radio System and legacy radio systems into one self-contained communications suite. It also will physically reconfigure the LAV-C2 to accommodate the new open architecture under development by Marine Corps Systems Command and the Marine Corps C4I community.

OPERATIONAL IMPACT

The LAV-C2 requires an adaptable communications suite with the capability of communicating with higher headquarters at ranges of 300 to 400 miles and directing long-range precision strikes. The current system on board the LAV-C2 cannot meet these requirements. In addition to addressing this communication shortfall, the LAV-C2 upgrade program will maintain the performance requirements of the Light Armored Vehicle family.

PROGRAM STATUS

Milestone A was achieved in February 2000.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	0

DEVELOPER/MANUFACTURER

Original vehicle manufacturer: General Dynamics Land Systems, Ontario, Canada
LAV-C2: TBD

LIGHT ARMORED VEHICLE ADVANCED ANTI-ARMOR SYSTEM

DESCRIPTION

The Light Armored Vehicle Advanced Anti-armor System (LAV-AAS) will be replacement for the current M901A1 Anti-tank turret currently in service on some Light Armored Vehicles. The AAS will provide a second-generation thermal sight and an advanced fire-control system capable of firing the current family of TOW missiles and the next generation of heavy anti-armor missiles. The LAV-AAS will also correct current reliability, availability, maintainability and obsolescence issues associated with the M901A1 turret.

OPERATIONAL IMPACT

The LAV-AAS is a replacement turret for the current LAV-AT M901A1 turret and related integration systems, which suffer from numerous deficiencies. The LAV-AT has not been deployed within the Marine Expeditionary Unit since 2000 due to the system's poor readiness, susceptibility to corrosion, and operational ineffectiveness. The Marine Corps is now the sole user of the turret, which complicates the supportability of the system. M901A1 support costs are also increasing.

PROGRAM STATUS

Milestone A was achieved in August 2003.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	0

DEVELOPER/MANUFACTURER

TBD

ASSAULT BREACHER VEHICLE (ABV)

DESCRIPTION

The Assault Breacher Vehicle (ABV) is a tracked, armored engineer vehicle specifically designed for conducting in-stride breaching of minefields and complex obstacles. The ABV will provide crew protection and vehicle survivability while having the speed and mobility to keep pace with the maneuver force.
Major components of this system include a Full-Width Mine Plow (FWMP), two linear demolition charges (LDC), a lane-marking system, a remote control system, and weapon station integration on a modified M1A1 tank chassis. ABV will fill the requirement to clear a lane of sufficient width and depth for the assault forces and will be operated by a two-man crew with an option for remote control.

OPERATIONAL IMPACT

The ABV will improve the mobility and survivability of MAGTFs. The ABV will provide a deliberate assault breaching capability through minefields and complex obstacles. It will allow assault units to move rapidly through obstacles before threat forces have the full opportunity to mass fires or establish defenses.

PROGRAM STATUS

Marine Corps Systems Command granted Milestone B in July 2003, as well as authorization to build three Production Representative Prototypes in order to conduct additional developmental tests and Initial Operational Testing and Evaluation. Milestone C is planned for the fourth quarter of FY 2004. Initial operational capability is scheduled during FY 2006 and full operational capability is scheduled for FY 2007.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	3 (prototype)	2 (LRIP Variants)

DEVELOPER/MANUFACTURER

ABV concept demonstrator: Anniston Army Depot, Anniston, AL

INTERNALLY TRANSPORTABLE VEHICLE

DESCRIPTION

The Internally Transportable Vehicle (ITV) will be a highly mobile weapons platform that can support a variety of operations, especially light-strike raids. It will provide MAGTF ground combat units with a vehicle that is internally transportable in CH-53 and MV-22 aircraft. It also will provide reconnaissance units equal or greater mobility than the MAGTF maneuver elements they support, thereby enhancing their mission performance and survivability. This is a joint program with U. S. Special Operations Command; the Marine Corps is the lead service.

OPERATIONAL IMPACT

ITV will be an enabler of Expeditionary Maneuver Warfare, allowing MAGTF commanders to take maximum advantage of the speed and range offered by the MV-22 and CH-53 by deploying ground units equipped with light-strike vehicles armed with heavy or medium machine guns. The Interim Fast Attack Vehicle is currently fielded and is deployable inside the CH-53 aircraft, but the GCE currently has no ground mobility platform that can deploy inside the MV-22.

PROGRAM STATUS

The ITV Program is currently in the Concept and Technology Development Phase. Previous ITV efforts yielded two candidate vehicles that were not operationally suitable due to aircraft loading constraints. The Program Office has been working with industry to balance the requirements for V-22 internal transport against the ITV's ground mobility requirements, and a draft Request For Proposals was published in December 2003. A final Request For Proposals is planned for publication in February 2004, with contract award for System Development and Demonstration planned for May 2004. SD&D contracts will be awarded to a maximum of two vendors for 3 prototypes each in FY04 and 2 each in FY05. Initial operational capability is scheduled for December 2006, when one infantry battalion receives eight ITVs.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity (prototypes):	6	4

DEVELOPER/MANUFACTURER

TBD

LIGHTWEIGHT 155MM HOWITZER

DESCRIPTION

The Lightweight 155mm Howitzer (LW155), or M777, is the world's first 155mm towed howitzer with a flyweight

of less than 9,800 pounds (with digital fire control). It offers greater ground mobility and improved reaction times compared to the M198 howitzer it is designed to replace.

OPERATIONAL IMPACT

The LW155 towed howitzer system — defined as the howitzer, its prime mover, and associated equipment — will meet the increased operational demands in the areas of lethality, survivability, mobility, deployability, and sustainability required to support maneuver warfare. The system's operational tempo will increase over that of previous systems, ensuring that greater firepower is available while vulnerability is reduced.

PROGRAM STATUS

The Assistant Secretary of the Navy for Research, Development and Acquisition approved the program for low-rate initial production in November 2002. The program will now produce a total of 94 systems over the next two years with initial deliveries supporting continued operational testing. Completion of these tests will enable a full-rate production decision by December 2004. In parallel, the detailed design of the Army funded digital fire control system (DFCS) has been successfully completed and is currently under test. The DFCS will be retrofitted to all Marine Corps howitzers initially fielded with glass and iron sights, and will support joint procurement of an M777A1 with the Army for the balance of production in FY 2005-2007.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	60	97

DEVELOPER/MANUFACTURER

Prime Contractor: BAE Systems, Barrow in Furness, UK
Sub-Contractors:
General Dynamics, ATP, Burlington, VT
Wegmann, USA, Lynchburg, VA
Hydro-Mill, Chatsworth, CA

HIGH MOBILITY ARTILLERY ROCKET SYSTEM

DESCRIPTION

The High Mobility Artillery Rocket System (HIMARS) is a C-130-transportable, wheeled, indirect-fire, rocket/missile system capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System Family of Munitions (MFOM).

The HIMARS (launcher) consists of a Fire Control System, a carrier (automotive platform), and a launcher-loader module that will perform all operations necessary to complete a fire mission. The system is defined as one launcher, two resupply vehicles, two trailers and a basic load of 9 pods (six rockets per pod) of MFOM rockets

OPERATIONAL IMPACT

HIMARS addresses an identified, critical warfighting deficiency in Marine Corps fire support. The system will provide responsive, all-weather, 24-hour general support/general support reinforcing/reinforcing indirect fires, and will extend the range of artillery support provided to Marines in combat from 30 to 60 kilometers.

PROGRAM STATUS

HIMARS entered post-Milestone C in November 2003. Marine Corps Systems Command anticipates providing a battery-sized interim capability in FY 2005. Full rate production begins in FY 2006, with initial operational capability achieved in FY 2007 and full operational capability achieved in FY 2008.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	1	1

DEVELOPER/MANUFACTURER

Launcher and MFOM: Lockheed Martin Corp., Missiles & Fire Control Div., Dallas, TX

Re-Supply System: Oshkosh Truck Corporation, Oshkosh, WI

EXPEDITIONARY FIRE SUPPORT SYSTEM

DESCRIPTION

The Expeditionary Fire Support System (EFSS) will be the third and final system of a land-based fire support triad that includes the LW155 and HIMARS. Accompanying MAGTFs in all types of expeditionary operations, EFSS will be the primary indirect fire support system for the vertical assault element of the ship-to-objective maneuver force. As such, EFSS will be transportable by helicopter and tilt-rotor aircraft, and will possess the greatest possible range and flexibility of employment for OMFTS.

OPERATIONAL IMPACT

EFSS will expand the maneuver commander's spectrum of fire support options and be capable of successfully engaging a range of potential point and area targets, including motorized, light-armored, and dismounted personnel targets; command-and-control systems; and indirect fire systems. EFSS will afford the MAGTF commander increased flexibility in tailoring his fire-support systems to support the scheme of maneuver. EFSS-equipped units will be especially well suited for missions requiring speed, tactical agility, and vertical transportability.

PROGRAM STATUS

EFSS is currently in the Concept and Technology Development Phase, having achieved a Milestone A decision in June 2003. Initial operational capability is scheduled for FY 2006.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	0

DEVELOPER/MANUFACTURER

TBD

ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEM

DESCRIPTION

The Advanced Field Artillery Tactical Data System (AFATDS) is a fire support command-and-control system that automates the fire planning, tactical fire direction, and fire support coordination required to support maneuver from the sea and subsequent operations ashore.

OPERATIONAL IMPACT

AFATDS is the primary fire support coordination system employed from MEF down to battery-level operations. The system provides commanders with the ability to rapidly employ all fire support assets at their disposal, allowing them the flexibility to determine what weapon systems to employ in specific situations. AFATDS greatly enhances the interchange of tactical data between all MAGTF tactical command-and-control systems through the use of graphics, common operating applications and communications.

PROGRAM STATUS

AFATDS has been fielded across the Marine Corps, and we are currently engaged in a major hardware refresh effort. Follow-on software development will continue throughout the system's life cycle to meet emerging requirements for increased capability and interoperability. AFATDS will be the Marine Corps' sole fire support coordination system until at least 2015.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	318	301

DEVELOPER/MANUFACTURER

AFATDS software developer: Raytheon Systems Company, Fort Wayne, IN
AFATDS hardware integrator: General Dynamics, Taunton, MA

IMPROVED POSITION AND AZIMUTH DETERMINING SYSTEM

DESCRIPTION

The Improved Position and Azimuth Determining System (IPADS) will be a HMMWV-mounted, inertial navigation surveying system. IPADS will provide location coordinates and altitude in meters and direction in mils, and will be capable of rapid and accurate self-alignment by gyrocompass techniques. The major components of the IPADS include a Position Navigation Unit, a Control and Display Unit, Battery Charger Unit, and Porro Prism Assembly. Using slightly modified commercial-off-the-shelf items, the IPADS will replace the currently fielded AN/USQ-70 in all Marine Corps and Army units.

OPERATIONAL IMPACT

IPADS supports modernization of field artillery survey capabilities by replacing the obsolescent Position and Azimuth Determining System (PADS) that was fielded in the 1980s. The availability of PADS hardware and components is becoming increasingly problematic and will likely be unavailable as early as the FY 2005-2006 timeframe.

PROGRAM STATUS

IPADS is an Army led, joint-interest program. IPADS is in the post-Milestone B phase, with a planned Milestone C initial program review scheduled for the third quarter of FY 2004. An Army contract was awarded to L3 Communications Corp in July 2003. The Army IPADS schedule requires the completion of testing and evaluation, a full-rate production decision, and the equipping of the first units within one year from contract award. Operational testing is currently scheduled for first quarter of FY 2004.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	27

DEVELOPER/MANUFACTURER

TBD

GROUND WEAPONS LOCATING RADAR

DESCRIPTION

The Ground Weapons Locating Radar (GWLR) will provide the Marine Corps with an increase in its ability to locate enemy firing (mortar, artillery, rocket) positions, equating to increased numbers of destroyed enemy assets and personnel. GWLR possess a significant increase in detection range, accuracy, weapon- type classification and deployability over currently fielded counter-battery radar systems. The GWLR will interface to the AFATDS within the Fire Direction Center. An interim capability will be fielded in the form of an up-grade to the current system, the AN/TPQ-46A. The end-state capability will come from a variant of the Multi-Role Radar System (MRRS).

OPERATIONAL IMPACT

GWLR will provide critical target acquisition capabilities to the MAGTF commander. GWLR is a quantum improvement over currently-fielded counter-battery radar systems, and will provide the MAGTF commander with an all-weather, 24-hour target acquisition system capable of detecting mortars, artillery and rockets at ranges of 0.5 to greater than 70 kilometers.

PROGRAM STATUS

The Marine Corps is currently upgrading 22 Marine Corps AN/TPQ-46A systems to provide an interim GWLR capability. Concurrently, concepts we being refined for an end-state GWLR that will leverage the Multi-Role Radar System.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity: (Upgrade Kits)	0	22

DEVELOPER/MANUFACTURER

Interim GWLR: Raytheon Corp., El Segundo, CA
End-state GWLR: TBD

SMALL UNIT REMOTE SENSING SYSTEM

DESCRIPTION

The Small Unit Remote Sensing System (SURSS) is a small, unmanned air vehicle that will be employed at the battalion level and below in order to provide "over-the-hill" day and night reconnaissance. These UAVs operate autonomously after launch and gather and transmit video imagery of the tactical situation, in near-real time, at a range of up to ten kilometers.

The Dragon Eye air vehicle is the key component of SURSS. Dragon Eye is a five-pound UAV that flies at 35 knots at altitudes of 300-500 feet above the ground. The vehicle, which is hand-launched by two Marines, flies a preprogrammed route using Global Positioning Satellite waypoints to navigate. Once in the area of interest it uses on-board sensors to gather and transmit imagery back to the ground control station. The system is man-portable, and can be recovered and reused.

OPERATIONAL IMPACT

The mission of the SURSS vehicle — Dragon Eye — is to provide day/night reconnaissance/surveillance of a target or small area and relay this information in near-real time back to a company-level or smaller unit. Dragon Eye can also be used in the urban environment to provide additional security to a patrol in their area of coverage and during convoy operations to provide route reconnaissance. This system will provide information that a battalion could previously gather only by patrolling or outpost activities, thus saving Marine lives and resources.

PROGRAM STATUS

The program is in the System Design and Development phase. A final operational assessment took place in spring 2003, and source selection is currently underway for production contract award in the first quarter of FY 2004. Initial operational capability is planned for the second quarter of FY 2004. The procurement target is for 324 systems – 1,026 air vehicles, including spares.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	19	50

DEVELOPER/MANUFACTURER

Competitive systems engineering contractors:
- AeroVironment, Inc., Monrovia, CA
- BAI Aerosystems, Inc., Easton, MD

Production contractor: TBD pending production contract award

MORTAR BALLISTIC COMPUTER

DESCRIPTION

The Mortar Ballistic Computer (MBC) will automate technical mortar fire direction and replace the M16 and M19 plotting boards as the primary means of computing 60mm and 81mm mortar firing data. The end-state MBC system will consist of a ruggedized, handheld device utilizing the latest Windows-based operating system to host the Mortar Ballistic Kernel software. This stand-alone system will be fielded to 60mm mortar sections at the infantry company level, and 81mm mortars at the infantry battalion level and an interoperable system will be fielded to 120mm mortar sections.

OPERATIONAL IMPACT

The MBC will provide faster, safer, more accurate computation of firing data under all combat and training conditions. The MBC will replace the M16 and M19 plotting boards as the primary means used by mortar fire direction center (FDC) personnel to compute ballistic firing data for Marine Corps mortar systems. The MBC will provide the primary means by which FDC personnel convert requests for fire to appropriate firing data and fire commands by automating the computation and display of accurate firing solutions.

The MBC will provide the capability of an automated firing solution that accounts for non-standard conditions. Without this capability mortars must fire time-consuming registration missions that needlessly expend ammunition against inactive targets, while divulging their own location.

PROGRAM STATUS

MBC is an Acquisition Category III, Army-led, joint-interest program. The MBC project office is coordinating with Program Manager of the Mortars Fire Control System Light project office to leverage their Pocket Mortar Ballistic (PMBC) software effort. A Research, development, test, and evaluation effort began in the first quarter of FY 2003 to develop the MBC with Army program manager software on non-developmental hardware.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	0

DEVELOPER/MANUFACTURER

Software and Integration: Program Manager, Mortars Fire Control System Light, Picatinny Arsenal, Ft. Monmouth, NJ

Hardware: Obtained from US Government General Services Administration

AN/GVS-5 COMMON LASER RANGE FINDER

DESCRIPTION

The Common Laser Range Finder (CLRF), formerly called the Laser Infrared Observation Set Replacement, is a set of small, lightweight, and eye-safe laser range finders and azimuth and inclination sensors that export targeting data to the Precision Lightweight GPS System (PLGR) and Target Hand-Off System (THS). The program will address capability shortfalls and emerging technologies through modifications and technology insertions.

OPERATIONAL IMPACT

The CLRF will facilitate first-round accuracy during fire-for-effect missions, which in turn will increase firing platform lethality and reduce ammunition expenditures. The system provides target location against tank-sized targets at ranges of up to 12 kilometers. The program will provide a common laser range finder solution to fulfill multiple requirements, which will allow these new capabilities to be fielded faster and reduce acquisition and sustainment costs.

PROGRAM STATUS

A base contract for CLRF awarded in July 2003 includes the procurement of 50 systems and production options on up to 3,000 additional systems through FY 2008. A joint Milestone B and C decision is anticipated during the 2d quarter of FY04.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	120

DEVELOPER/MANUFACTURER

Prime contractor: Ashbury International Group, Sterling, VA
Major subcontractor: Vectronix, Switzerland

TACTICAL HAND-HELD RADIO

DESCRIPTION

The Tactical Hand-Held Radio (THHR, also designated as the AN/PRC-148(V)(C)) is a secure, hand-held unit that provides Marine Corps units with a standardized and maintainable radio to support the communications requirements of small units (platoon, squad, and team). The THHR operates in the AM and FM bands, contains embedded communications security, and is interoperable with other radio systems such as SINCGARS and HAVE-QUICK II in the single-channel mode and in the frequency-hopping mode.

OPERATIONAL IMPACT

The THHR is an interim system. Legacy tactical hand-held equipment within the Marine Corps has exceeded its expected life span and is rarely used. As a result, the current hand-held units primarily consist of locally purchased, commercially available radios that are not interoperable with Marine Corps combat net radios. The THHR has consolidated and exceeded legacy capabilities, reduced the combat load of individual Marines and small units, and reduced Marine Corps tactical hand-held radio operating costs.

PROGRAM STATUS

THHR is in the Production and Deployment Phase (Milestone C). The Marine Corps is developing the THHR radio with the US Special Operations Command (USSOCOM). USSOCOM currently has a production contract in place that facilitates joint acquisition with the Marine Corps, whose fielding commenced in 2001. The Marine Corps' acquisition objective is 2,069 radios.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	various	various

DEVELOPER/MANUFACTURER

Thales Communications, Inc., Clarksburg, MD

TACTICAL REMOTE SENSOR SYSTEMS

DESCRIPTION

Tactical Remote Sensor Systems (TRSS) provide all-weather remote monitoring of activity within and near a given objective area. TRSS is capable of detecting human activity and the presence and movement of vehicles, providing real-time, near-real time, or non-real time monitoring of sensors ashore and over the horizon. Monitoring equipment is lightweight and mobile to support fast-moving amphibious and expeditionary operations. Individual sensors can be emplaced by air or ground forces. The sensors and relays have sufficient power sources to operate continuously for 30 days. TRSS is employed by the Marine Corps Ground Sensor Platoon (GSP)

OPERATIONAL IMPACT

Initiated in 1991, TRSS replaced the Vietnam-era REMBASS system with upgraded electronics, sensors and relays, reduced weight and size, and monitoring devices that give the Sensor Control and Management Platoon (SCAMP) — now the Ground Sensor Platoon (GSP) — extra capabilities without changing its operational profile.

PROGRAM STATUS

TRSS achieved initial operational capability in 1992 and was currently 85% fielded and fully operational in FY 2003.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:		
Remove Intelligence Communications Controller (RICC)	300	60
Thermal Imagers	350	155
Electro-optical Imagers	300	60
Encoder Transmitter Unit II	256	
Laptops	73	
Advanced Air-Delivered Sensors (IADS) II	76	30
Hand-held Programmer Monitors	100	
SATCOM Modules		100
Advanced Air Delivered Sensor		30

DEVELOPER/MANUFACTURER

Raytheon Technical Services Corporation, Indianapolis, IN
NOVA Engineering, Inc., Cincinnati, OH
Northrop Grumman Corporation, Rolling Meadows, IL
L-3 Communications, Camden, NJ
Ocean Systems Engineering Corporation (OSEC), Carlsbad, CA
Textron, Wilmington, MA

TARGET LOCATION, DESIGNATION AND HAND-OFF SYSTEM

DESCRIPTION

The Target Location, Designation and Hand-Off System (TLDHS) is a man-portable, automated equipment suite that provides Fire Support Observer/Controllers with the ability to accurately locate targets, designate them with a laser, and then digitally transmit (hand-off) target data to fire support platforms and agencies.

OPERATIONAL IMPACT

TLDHS is the first system to digitally enable close air support missions, increasing the accuracy and timeliness of fire support and improving the effects of fires for surface and air-delivered munitions. By providing more accurate observer and target location data, TLDHS also reduces the risk of fratricide. Its modular system design and reduction in equipment size and weight compared to existing systems increases operator mobility. Finally, TLDHS reduces Marine fire support logistics requirements, because batteries will need less ammunition to obtain the required effects on targets.

PROGRAM STATUS

The TLDHS program will be fielded using a block approach. Block I provides a target location and digital hand-off capability with MAGTF close air support. Block II will provide laser designation capability and digital hand-off capability for artillery missions. Block III will provide interoperability with naval fire-control systems and digital hand-off with US Navy and US Air Force tactical aircraft.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity (Block I Systems):	130	0

DEVELOPER/MANUFACTURER

Laser target designator: Northrop Grumman, Apopka, FL
THS software: Vectronics
Ruggedized hand-held computer: General Dynamics

TOPOGRAPHIC PRODUCTION CAPABILITY

DESCRIPTION

The Topographic Production Capability (TPC) is a three-tiered, advanced geospatial information system, employing commercial computer hardware and software to provide the framework for the MAGTF commander's common operational picture (COP). The TPC generates digital products for electronic dissemination through the C4I infrastructure, and also provides a low volume replication capability for traditional hard copy map products. The TPC program also includes the high-order survey equipment for the Marine Topographic Platoons.

OPERATIONAL IMPACT

The upgraded TPC provides the Marine Corps with advanced processing platforms and software in scalable and deployable configurations designed to support MAGTFs in today's asymmetric warfare environment. It replaces outdated equipment in three Topographic Platoons that could no longer provide the processing power required of modern survey, cartography, mapping, and imaging software packages.

PROGRAM STATUS

The TPC is a Marine Corps abbreviated acquisition program. TPC achieved initial operational capability in September of 2002. Additional units were delivered in October 2002 and July 2003. Additional TPC equipment will be provided to the Marine Corps Intelligence Activity to support Fleet activities, and the Marine Corps training establishment will receive TPC-like equipment to support the Topographic School.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	2

DEVELOPER/MANUFACTURER

Commercial hardware and software:
Northrop Grumman Information Technology-TASC, Chantilly,VA
Subcontractors:
Software training: InfoTech Enterprises, Inc., Tucson, AZ
Program support: Northrop Grumman IT, Stafford, VA
Titan Systems Corporation, Stafford, VA
I2P2 support: General Dynamics, Dumfries, VA

TRANSITION SWITCH MODULES

DESCRIPTION

The Transition Switch Module (TSM) will provide a flexible, unit-level switch capability that bridges legacy switches with current commercial technology. This will provide Marine maneuver elements with robust voice/data switching, data transport, and bandwidth management capabilities. The TSM consists of two functional suites of equipment mounted in transit cases — for switching, Deployable End Office Suite (DEOS) and for transmission, Deployable Integrated Transport Suite (DITS).

OPERATIONAL IMPACT

This program will maintain Marine Corps joint interoperability as the other services transition to commercial-off-the-shelf switching technologies. It also allows for a reduction in less effective legacy equipment and more flexible modernization options.

PROGRAM STATUS

The Marine Corps received proposals from prospective bidders in November 2003. The acquisition objective is for 476 TSM units.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	55	16

DEVELOPER/MANUFACTURER

Manufacturer will be selected during FY04.

COMBINED ARMS COMMAND AND CONTROL UPGRADE SYSTEM

DESCRIPTION

The Combined Arms Command and Control Trainer Upgrade System (CACCTUS) will upgrade the existing five (5) Combined Arms Staff Trainers (CAST) facilities and provide a more realistic training opportunity for MAGTF staff elements in the areas of fire support employment, coordination, and integration. CACCTUS will provide interoperability between all CAST sites, Marine Corps Ground training systems and support joint training exercises. In addition, the upgrade will allow the development of mission plans, rehearsal of developed plans, tools to support after action reporting and debriefing and be interoperable with operational C4I tactical data systems. All CACCTUS components will be integrated through a common network architecture and provide the ability to accomplish distributed and integrated team training. When CACCTUS reaches FOC in FY 2009 it will provide the exercising forces with the following training capabilities: (1) Using C4I operation equipment, develop mission plans and execute tactics; (2) display of target engagement battle space geometry in relation to friendly forces and opposing forces using 2D and 3D visualization of the operational area; (3) the ability to realistically perform command and control voice/data tactical tactics; (4) pre-brief and after action review; (5) mission rehearsal; (6) deployable training and (7) interoperability between all CAST sites; other Marine Corps training systems and joint training systems.

OPERATIONAL IMPACT

This capability will enhance MAGTF unit readiness by enabling staff to "train the way they fight" and by providing tools that enable team leaders to assess their unit's strengths and weaknesses. The system will provide an opportunity to perform joint training in accordance with the DoD Training Transformation Initiative.

PROGRAM STATUS

The Marine Corps initially awarded a contract for this upgrade in September 2001 for the investigation of training technologies that have potential for transition into the CACCTUS project. In August 2002, a competitive contract was awarded for the integration and demonstration of the selected technologies. Prototype development and proof of concept demonstrations will occur throughout FY 2004 and FY 2005 to validate the system being developed to meet the identified training capabilities.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	2 prototypes	2 prototypes

DEVELOPER/MANUFACTURER

SAIC and MTS Technology, Orlando, FL

INDOOR SIMULATED MARKSMANSHIP TRAINER - ENHANCED

DESCRIPTION

The Indoor Simulated Marksmanship Trainer - Enhanced (ISMT-E) is an interactive audio-video weapons simulator that enhances marksmanship training and weapon employment training. The system consists of infantry weapons fitted with lasers and computer-generated imagery displaying variety of scenarios.

OPERATIONAL IMPACT

Complete fielding of the ISMT-E will allow all active and reserve units to train their Marines on a variety of weapons to Individual Training Standards in a simulated environment. Funding cuts in live fire ammunition, range reductions, environmental hazards, and safety concerns limit live fire training. However, Marines can continue to train in a simulated environment using the ISMT.

PROGRAM STATUS

FY 2002 ISMT-E funds went towards executing Option Year 2, which purchased 155 system upgrades and provided initial operator training. Option Year 2 systems are currently being fielded and upgraded.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity: (System upgrades)	TBD	TBD

DEVELOPER/MANUFACTURER

Firearms Training Systems (FATS), Atlanta, GA

GLADIATOR TACTICAL UNMANNED GROUND VEHICLE

DESCRIPTION

The Gladiator Tactical Unmanned Ground Vehicle (TUGV) will provide Marine Corps forces with an unmanned, tele-operated, semi-autonomous ground vehicle that is able to perform remote combat tasks and neutralize threats in a way that reduces the risk to Marine lives. The Gladiator is designed principally to support dismounted infantry during the performance of their mission, across the spectrum of conflict and range of military operations. The primary function of the Gladiator will be to provide the Ground Combat Element with unmanned scouting and reconnaissance, surveillance, and target acquisition.

The Gladiator system will utilize a modular configuration and will be capable of employing the Anti-Personnel/Obstacle Breaching System (APOBS), Light Vehicle Obscurant Smoke System (LVOSS), Joint Chemical Agent Detection (JCAD), and direct fire weapons.

OPERATIONAL IMPACT

Operating forward of GCE units, the Gladiator will perform scouting and reconnaissance tasks while permitting the operator to remain covered and concealed some distance away (one to four kilometers), thereby reducing the exposure of individual Marines to enemy action.

PROGRAM STATUS

Milestone B projected in May 2004.

PROCUREMENT PROFILE

The system is programmed for production beginning in FY 2006.

DEVELOPER/MANUFACTURER

Current FNC prime contractors:
Lockheed-Martin, Dallas, TX
SAIC, Denver, CO
General Dynamics Robotic Systems, Westminster, MD
Carnegie-Mellon University, Pittsburgh, PA

PART 3

AVIATION COMBAT ELEMENT PROGRAMS

The Aviation Combat Element (ACE) is task-organized to conduct air operations, project combat power, and contribute to battlespace dominance in support of the MAGTF mission. It accomplishes this by performing the six functions of Marine aviation: anti-air warfare, assault support, electronic warfare, offensive air support, air reconnaissance, and control of aircraft and missiles. The ACE is formed around an aviation headquarters with air control agencies, aircraft squadrons or groups, and combat service support units and can vary in size and composition from an aviation detachment of specific aircraft to one or more Marine aircraft wings. The ACE may be employed from ships in the sea base, right-sized expeditionary airfields, or optimized austere sites. The following programs will enhance ACE effectiveness in the current and future combat environment.

MV-22 OSPREY

DESCRIPTION

The MV-22 Osprey tiltrotor is a revolutionary, advanced-technology vertical/short takeoff and landing, multi-purpose tactical aircraft that will replace the current fleet of Vietnam-war era CH-46E and CH-53D aircraft. The MV-22 is vital to the execution of EMW. Specific missions include expeditionary assault, raid operations, medium cargo lift, tactical recovery of aircraft and personnel, fleet logistic support, and special warfare. Procurement of the MV-22 remains the Corps' number one aviation acquisition priority.

The MV-22 incorporates composite materials, fly-by-wire flight controls, digital cockpits, airfoil design, and manufacturing. It is capable of carrying 24 combat-equipped Marines or a 10,000-lb. external load, and has a strategic self-deployment capability by virtue of its 2,100-nautical mile range with a single aerial refueling. The MV-22's 38-foot prop-rotor system and engine/transmission nacelle mounted on each wing tip allow it to operate as a helicopter for takeoff and landing. Once airborne, the nacelles rotate forward 90 degrees, converting the MV-22 into a high-speed, high-altitude, fuel-efficient turboprop aircraft.

OPERATIONAL IMPACT

The MV-22 will be the cornerstone of Marine Corps' assault support possessing the speed, endurance, and survivability needed to fight and win on tomorrow's battlefield. This combat multiplier represents a quantum improvement in strategic mobility and tactical flexibility for expeditionary and prepositioned maritime forces.

PROGRAM STATUS

Flight-testing resumed in May 2002 to address the aeromechanical issues raised in the aftermath of the two V-22 mishaps in 2000. This will include the most extensive testing of helicopter flight phenomena ever undertaken and amass an additional 1,800 flight-test hours. Included in the testing process is a rigorous, strictly regimented inspection process to verify and validate all of the modifications and clearances. MV-22 aircraft will be produced in three blocks:

Block A series aircraft include a software enhancement and nacelle reconfiguration plus additional reliability and maintainability (R&M) improvements.

Block B series aircraft provide further improvements in effectiveness and suitability for operators and maintainers to include improved access to the nacelle for inspection purposes and substantial R&M improvements.

Block C configuration incorporates mission enhancements

CUREMENT PROFILE:	FY04	FY05
Quantity:	9	8

DEVELOPER/MANUFACTURER:

Bell Helicopter Textron, Fort Worth, TX
The Boeing Company, Philadelphia, PA

H-1 UPGRADE PROGRAM

DESCRIPTION

The H-1 Upgrade (UH-1Y/AH-1Z) program replaces the current two-bladed rotor system on the UH-1N and AH-1W aircraft with a new, four-bladed, all-composite rotor system coupled with a sophisticated fully integrated, state-of-the-art cockpit. In addition to the new rotor system and cockpit, the UH-1Y and AH-1Z will incorporate a new performance-matched transmission, a four-bladed tail rotor and drive system, and upgraded landing gear for both aircraft. Additionally, structural modifications to the AH-1Z will support the increase to six weapons stations.

The advanced cockpit, common to both aircraft, reduces operator workload, improves situational awareness, and provides growth potential for future weapons and joint interoperability. The cockpit integrates on-board planning, communications, digital fire control, self-contained navigation, night targeting, and weapons systems in mirror-imaged crew stations. The UH-1Y and AH-1Z are approximately 84% common throughout the aircraft, which significantly benefits MAGTFs in supporting the two aircraft. Ongoing developmental testing of the UH-1Y and AH-1Z has demonstrated a marked increase in aircraft agility, maximum continuous speed, and payload.

OPERATIONAL IMPACT

The H-1 Upgrade is designed to resolve existing safety deficiencies, significantly improve operational capabilities, and reduce life-cycle costs. Commonality between aircraft will greatly enhance the maintainability and deployability of the systems with the capability to support and operate both aircraft within the same squadron structure.

PROGRAM STATUS

The H-1 Program continues in the Engineering and Manufacturing development (EMD) phase. The H-1 Upgrades entered the first phase of operational testing during FY 2003.

To date, the five EMD (3 AH-1Z's and 2 UH-1Y's) aircraft have amassed over 1500 flight hours since first flight. On 22 October 2003, the Under Secretary of Defense for Acquisition Technology and Logistics approved the program to proceed with low rate initial production for Lot 1 aircraft. The total program buy for the Marine Corps is 100 UH-1Ys and 180 AH-1Zs.

PROCUREMENT PROFILE:	FY04	FY05
Quantity:	9	9

DEVELOPER/MANUFACTURER:

Bell Helicopter Textron Inc., Fort Worth, TX
Integrated Cockpit: Northrop Grumman, Woodland Hills, CA
AH-1Z Target Sight System: Lockheed Martin, Orlando, FL

CH-53X PROGRAM

DESCRIPTION

The CH-53X is three-engine, long-range, heavy-lift helicopter that supports the assault support function of Marine Aviation. The CH-53X is included in the Marine Corps Aviation Imple-mentation Plan that describes an aviation "neck-down" strategy through the year 2025, but it will require a comprehensive upgrade to meet the Marine Corps' heavy-lift and MAGTF warfighting requirements until then. Areas of focus for this upgrade include: upgraded engines, improved main rotor blades, improved cargo hook system, elastomeric rotor head system, common cockpit, service life extension, and combat survivability.

OPERATIONAL IMPACT

CH-53 will continue to provide the assault support function in support of Expeditionary Maneuver Warfare. The CH-53X program will improve the aircraft's operational capabilities and reduce its life-cycle costs. The CH-53X's commonality with other Marine Corps aircraft in terms of engines and avionics will greatly enhance the maintainability and deployability of the aircraft within the ACE.

PROGRAM STATUS

An Operational Requirements Document (ORD) has been submitted to the Joint Staff for department-wide staffing. The Marine Corps completed the required Analysis of Alternatives (AoA) in September 2003, which determined that a new build airframe was the most cost-effective course of action.

PROCUREMENT PROFILE:	FY04	FY05
Quantity:	0	0

DEVELOPER/MANUFACTURER

TBD

KC-130J

DESCRIPTION

The KC-130 is a versatile, four-engine, tactical aerial refueler/transport that supports all six functions of Marine Aviation. It is the only long-range, fixed wing assault support capability organic to the Marine Corps. The KC-130J, with its increased speed (+20 percent) and range (+35 percent) over legacy aircraft, features an improved air-to-air refueling system and state-of- the-art flight station. The flight station includes two Head Up Displays (HUDs), night vision lighting, an augmented crew station, and fully integrated digital avionics architecture. An Allison AE 2100D3 propulsion system with full-authority digital electronic controls (FADEC), Dowty R391 advanced technology six-bladed propeller system, and a 250-knot cargo ramp and door, complete the package. The Marine Corps intends to replace its aging active fleet of KC-130Fs, KC-130Rs, with the new KC-130J.

OPERATIONAL IMPACT

The KC-130 provides both fixed-wing and helicopter tactical in-flight refueling, and rapid ground refueling of aircraft or tactical vehicles. The aircraft also provides assault air transport of air-landed or air-delivered personnel, supplies, and equipment. Other missions include command-and-control augmentation, pathfinder, battlefield illumination, tactical aero-medical evacuation, and tactical recovery of aircraft and personnel support. This aircraft is a force-multiplier that is well suited to the mission needs of the forward deployed MAGTF. The KC-130J will provide increased capability and mission flexibility with its satellite communications system, survivability enhancements, night systems, enhanced rapid ground refueling, and improved aircraft systems.

PROGRAM STATUS

The KC-130J is procured as a commercial-off-the-shelf aircraft currently in production. In FY 2003, the Marine Corps entered a multi-year procurement program with the US Air Force to bring the total number of KC-130J aircraft under contract to 33. The Marine Corps program of record for the KC-130J is 51 aircraft. Developmental and operational testing and an operational evaluation are scheduled for FY 2004, along with continued delivery to the fleet and an initial operational capability by September 2004.

PROCUREMENT PROFILE:	FY04	FY05
Quantity:	0	4

DEVELOPER/MANUFACTURER:

Lockheed Martin Aeronautics Company

F-35 SHORT TAKE-OFF VERTICAL LANDING JOINT STRIKE FIGHTER

DESCRIPTION

The Short Take off and Vertical Landing Joint Strike Fighter (STOVL JSF) is a single-engine, stealthy, supersonic, strike-fighter aircraft capable of short take-offs and vertical landings. JSF will combine the basing flexibility of the AV-8 with the multi-role capabilities, speed, and maneuverability of the F/A-18 to fulfill both the air-to-ground and air-to-air

requirements of the Marine Corps. The aircraft will have very low radar cross-section and provide superior capabilities over legacy aircraft in the areas of survivability, lethality, and supportability. The F-35 will replace the Marine Corps' AV-8B and F/A-18A/C/D fleets.

OPERATIONAL IMPACT

The STOVL JSF provides a multi-mission offensive air support and an offensive/defensive anti-air capability. The STOVL JSF also provides MAGTFs with a platform capable of tactical air control and tactical reconnaissance, and the destruction of enemy air defenses.

PROGRAM STATUS

The JSF is a joint program with the Air Force, Navy, Marine Corps, and the United Kingdom as level I partners. Participating as level II partners are Italy and the Netherlands, while level III partners include Canada, Denmark, Norway, Turkey, and Australia. Currently, the program is in the systems development and demonstration (SDD) phase scheduled to last until 2012. The program is scheduled to conduct the Critical Design Review (CDR) in 2004. Additionally, General Electric is developing an alternate propulsion program known as the F136 engine, which conducted a successful CDR June 2003.

PROCUREMENT PROFILE:	FY05	FY06
Quantity:	0	0

DEVELOPER/MANUFACTURER:

Air Vehicle: Lockheed Martin/Northrop Grumman/British Aerospace Engineering
Propulsion: Pratt & Whitney and General Electric

COMMON AVIATION COMMAND AND CONTROL SYSTEM

DESCRIPTION

The CAC2S is a coordinated modernization effort to replace the existing command-and-control (C2) equipment of the Marine Air Command and Control System (MACCS) and to provide the ACE with the necessary hardware, software, equipment, and facilities to effectively command, control, and coordinate air operations. The CAC2S system will accomplish the MACCS missions with a suite of operationally scalable modules capable of supporting any operational contingency. The CAC2S integrates the functions of aviation C2 into an interoperable naval system that will support the core competencies of all Marine Corps warfighting concepts.

OPERATIONAL IMPACT

The CAC2S, in conjunction with MACCS organic sensors and weapons systems, supports the tenets of Expeditionary Maneuver Warfare and fosters joint interoperability with the C2 systems. CAC2S will replace legacy C2 systems in the following Marine aviation C2 elements: Tactical Air Command Center (TACC), Tactical Air Operations Center (TAOC), Direct Air Support Center (DASC), Marine Air Traffic Control Detachment (MATCD), and Low Altitude Air Defense Battalion (LAAD BN)

PROGRAM STATUS

CAC2S is being developed in three increments as part of an evolutionary acquisition strategy. Increment I will replace the functionality of the TAOC and will baseline the core information fusion and management function common to all increments, and eventually all MAGTF Operation Centers. Increment II will replace the TACC and DASC nodes. Increment III will achieve integration between CAC2S and the Air Surveillance and Precision Approach Radar Control System (ASPARCS) for Air Traffic Control functionality. CAC2S is an Acquisition Category II program in the system development and demonstration phase. Initial operational capability for Increment I and Increment II is planned concurrently for FY 2007.

PROCUREMENT PROFILE:	FY04	FY05
Quantity:	0	0

DEVELOPER/MANUFACTURER

Raytheon Integrated Defense Systems, San Diego, CA

AN/TPS-59 RADAR SYSTEM

DESCRIPTION

The AN/TPS-59(V)3 radar system is a transportable, long-range, solid-state, 3-D, L-band radar. It is the MAGTF's principal air surveillance radar and is integrated into the AN/TYQ-23(V)4 Tactical Air Operations Module (TAOM). It may also be configured for operation with the Air Defense Communications Platform to provide Theater Ballistic Missile track data to the Joint Tactical Information Distribution System.

OPERATIONAL IMPACT

The AN/TPS-59(V)3 is optimized to detect and track theater ballistic missile (TBM) and conventional air-breathing targets, either of which can be a serious threat to MAGTF operations. The AN/TPS-59(V)3 will primarily be used to support MAGTF aviation during sustained operations ashore as part of a joint theater air and missile defense architecture.

PROGRAM STATUS

Research and development efforts have produced engineering change proposals to replace obsolete hardware and ensure that the AN/TPS-59(V)3 remains a viable sensor throughout its planned service life. Implementation of these changes began in FY 2003. Additionally, the Marine Corps is pursuing a 3-D, long-range sensor replacement capability for the AN/TPS-59(V)3 that is still capable of engaging air-breathing and TBM targets but which possesses a vastly reduced footprint and improved mobility. Initial operational capability of the upgraded radar is scheduled for FY 2008.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	various	various

DEVELOPER/MANUFACTURER

Lockheed Martin Corporation, Syracuse, NY

MULTI-ROLE RADAR SYSTEM

DESCRIPTION

The Multi-Role Radar System (MRRS) is a mobile radar system that will be employed by MAGTFs in all phases of Marine Corps operations. The MRRS is a medium-range surveillance radar used to detect and track aircraft, cruise missiles, and unmanned aerial vehicles. The system will serve as a gap-filler radar by providing three-dimensional coverage of those areas out of view of the AN/TPS-59(V)3 due to terrain masking or other line-of-sight limitations. Additionally, the radar will be capable of providing radar cueing data to all short-range air defense units supporting the MAGTF. The radar is intended to replace and perform all the missions currently associated with the AN/TPS-63 radar, AN/TPS-79 ATC ASPARC radar, and the AN/MPQ-62 surveillance radar. The radar also will have connectivity with the Composite Tracking Network. MRRS will be deployed early during naval expeditionary operations to augment sea-based air defense sensors and command-and-control capabilities.

OPERATIONAL IMPACT

MRRS will have the responsiveness needed to detect, identify, and track enhanced, low-level air-breathing targets during the execution of all Expeditionary Maneuver Warfare operations. In addition, the radar will be capable of cueing and reporting on targets detected within its coverage limits to designated air command-and-control agencies. The reduced logistical footprint of the radar will enhance the capabilities of MACCS in support of all phases of MAGTF operations. The reduced logistical footprint of the radar will enhance the capabilities of MACCS elements in support of all phases of MAGTF operations. Once ashore, the radar will possess the mobility required to keep pace with supported maneuver elements and will complement the Marine Corps' long-range radar, the AN/TPS- 59 (V)3, by providing accurate low-level tracks.

PROGRAM STATUS

An MRRS concept demonstrator is being developed in conjunction with the Office of Naval Research (ONR) as a science and technology effort under the auspices of the Missile Defense Future Naval Capability set. This ONR effort will develop the concept demonstrator for initial testing in FY 2004 and full integration testing in FY2005. Initial operational capability is planned for FY 2007 and full operational capability in FY 2011.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	0

DEVELOPER/MANUFACTURER

TBD

AIR SURVEILLANCE AND PRECISION APPROACH AND RADAR CONTROL SYSTEM

DESCRIPTION

The Air Surveillance and Precision Approach and Radar Control System (ASPARCS) is the next-generation expeditionary Air Traffic Control (ATC) equipment that will replace legacy expeditionary equipment with HMMWV-mounted radars (TPS-79 Surveillance Radar and TPN-32 Precision Approach Radar) and a CAC2S-based communications and control suite (TSQ-230). It will provide an all-weather ATC capability for an expeditionary airfield or forward operating base. The AN/TSQ-216 Remote Landing Site Tower (RLST) — which provides the Marine Corps with a fully expeditionary HMMWV- mounted air traffic control tower — has recently completed fielding to operating force units and NATTC in Pensacola, FL.

OPERATIONAL IMPACT

The ASPARCS will provide a HMMWV-mounted, state-of-the-art ATC surveillance and precision approach radar system that significantly reduces tactical and strategic lift requirements. Having its own inherent mobility, ASPARCS will not have to rely on material-handling equipment. The system will be fully interoperable with other CAC2S applications, use common hardware and software, and be capable of functioning as an ACE C2 node. The AN/TSQ-216 RLST provides a fully functional two-position air traffic control tower complemented by a robust communications capability. These two programs provide a dynamic expeditionary ATC capability that can be deployed in a package of three C-130 equivalents.

PROGRAM STATUS

The ASPARCS program began developmental testing in FY 2003. Initial Operational Capability is planned for FY 2006 and full operational capability for FY 2010. The RLST completed fielding of 12 systems in FY 2002, some directly into the Operation Enduring Freedom theater of operations.

PROCUREMENT PROFILE:	FY04	FY05
Quantity:	0	0

DEVELOPER/MANUFACTURER

ASPARCS: Lockheed Martin
RLST: Sierra Nevada Corporation

COMPLEMENTARY LOW ALTITUDE WEAPON SYSTEM

DESCRIPTION

The Complementary Low Altitude Weapon System (CLAWS) is a rapidly deployable, mobile, high-firepower, all-weather, standoff air defense system. CLAWS is designed to defend Marine Expeditionary Forces and naval forces from attack by cruise missiles, fixed-wing and rotary-wing aircraft, and UAVs. The system consists of a launcher integrated

with the Advanced Medium Range Air-to-Air Missile (AMRAAM) on a HMMWV platform, missile interface equipment, remote terminal units, a three-axis geographic position system, a GPS receiver, SINCGARS radios, and a reloading device.

OPERATIONAL IMPACT

Highly mobile and extremely lethal, CLAWS extends the MAGTF commander's three-dimensional defenses. Currently, Stinger/Avenger systems provide effective close-in low altitude air defense for the commander against threat aircraft and UAVs. CLAWS provides anti-cruise Missile Capabilities and possesses the mobility and lethality needed to support MAGTF operations fill gaps in naval air defense coverage during extended littoral operations.

PROGRAM STATUS

CLAWS is an Acquisition Category III program. In 2003, CLAWS entered into a joint acquisition strategy with the US Army's Surface-Launched AMRAAM (SLAMRAAM) program. CLAWS will provide a Block I four-launcher initial operational capability in the first quarter of FY 2006. CLAWS/ SLAMRAAM will provide a Block II joint launcher initial operational capability in the fourth quarter of FY 2008.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	2

DEVELOPER/MANUFACTURER

Raytheon Integrated Defense Systems, Bedford, MA

DIRECT AIR SUPPORT CENTRAL AIRBORNE SYSTEM

DESCRIPTION

The Direct Air Support Central Airborne System (DASCAS) functions as the principle agency for the coordination and control of offensive air support operations. The DASCAS can operate in either an autonomous mode or in conjunction with other control elements of the Marine Air Command and Control System. The system consists of one shelter that can be mounted in specially modified KC-130F/R/T aircraft or the bed of an M923/925 or MTVR truck. Seven operators within the DASCAS can select from seven radios (3 ultra-high frequency, 2 high frequency, 1 very high frequency, and 1 satellite communications) inside the shelter.

OPERATIONAL IMPACT

The DASC is responsible for the direction of air operations in direct support of the ground forces. It functions in a decentralized mode of operations, but is directly supervised by the Marine Tactical Air Command Center. The DASC processes immediate air support requests, coordinates aircraft employment with other supporting arms, manages terminal control assets that support ground combat and combat service support forces, and controls assigned aircraft transiting its area of responsibility. The Direct Air Support Central Airborne System is a replacement for the AN/UYQ-3A.

PROGRAM STATUS

DASCAS production began in FY 2003, and the system is expected to achieve its initial operational capability in the first quarter of FY 2004. Full operational capability will be achieved by the fourth quarter of FY 2005 with 10 systems.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	2	5

DEVELOPER/MANUFACTURER

Naval Surface Warfare Center Division, Crane, IN

THEATER BATTLE MANAGEMENT CORE SYSTEM

DESCRIPTION

Theater Battle Management Core System (TBMCS) is an air war planning tool for the generation, dissemination, and execution of the Air Tasking Order (ATO)/Airspace Control Order (ACO) mandated by the Chairman, Joint Chiefs of Staff. The host system resides with the Air Combat Element Commander in the Tactical Air Command Center, with remotes located throughout the MAGTF to support dynamic mission updates. It is the principal aviation command-and-control system with joint oversight.

OPERATIONAL IMPACT

TBMCS is the principal aviation command-and-control system within the Tactical Air Command Center. It is a key resource for generating, disseminating, and executing the ATO during joint or coalition operations and contingencies.

PROGRAM STATUS

TBMCS versions 1.1 and 1.1.1 are currently fielded within the joint services (v1.1 with the Marine Corps and Navy). Research and development efforts are ongoing to upgrade TBMCS from a SUN UNIX environment to a Windows 2000/web-based environment with TBMCS v1.1.3. Government testing of V1.1.3 is scheduled for the second through fourth quarters of FY 2004, with the release of v1.1.3 anticipated late in the fourth quarter of FY 2004. Fielding of v1.1.3 within the Marine Corps will refresh the hardware and infrastructure technology of current equipment. Additional versions of TBMCS are scheduled yearly.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	8	8

DEVELOPER/MANUFACTURER

USAF integration contractor: Lockheed Martin Mission Systems, Colorado Springs, CO

COMPOSITE TRACKING NETWORK

DESCRIPTION

The Composite Tracking Network (CTN) is an adaptation of the US Navy's Cooperative Engagement Transmission Processing Set (CTEPS), modified to meet Marine Corps requirements. CTN will provide a sensor netting capability that will allow the Marine Corps to participate in a cooperative engagement environment. CTN will be able to receive, generate, and distribute composite sensor data to C2 and weapons platforms. Consisting of durable, scaleable, and modular component, the CTN system will be employed by the MACCS and provide information to the network. This information will be derived from its organic sensors and those of other forces, improving real-time situational awareness. Specific Marine Air Control Group (MACG) units that will operate and maintain the system include, but are not limited to, the Marine Air Control Squadron (MACS) and the Low Altitude Air Defense Battalion (LAAD Bn).

OPERATIONAL IMPACT

CTN facilitates broader air coverage of the battle force against all airborne threats. It enables land-based systems to expand their common air situational picture. CTN facilitates a broad-based, wide-area land and air defensive posture in support of joint tactical commanders and Expeditionary Maneuver Warfare.

PROGRAM STATUS

CTN's initial operational capability is planned for FY 2007.

PROCUREMENT PROFILE:	FY04	FY05
Quantity:	0	0

DEVELOPER/MANUFACTURER

Hardware: Raytheon E-Systems, St. Petersburg, FL
Software: John Hopkins University Applied Physics Laboratory, Laurel, MD
CEC Systems Integration Hardware: NSWC, Crane, IN

SINGLE INTEGRATED AIR PICTURE

DESCRIPTION

The Single Integrated Air Picture (SIAP) is the air component of the Common Tactical Picture that is generated and distributed by the various sensors and command-and-control systems that make up the Joint Data Network (JDN). For the Marine Corps, the current SIAP sensors are the AN/TPS-59, AN/TPS-63, and the AN/TPS-73 radars. Current command-and-control systems are the AN/TYQ-23 Tactical Air Operations Module, the Multi-Source Correlation System, the AN/TSQ-131 Command and Control Sub-System, and the Air Defense Control Platform. Future systems include the Common Aviation Command and Control System, the Complementary Low Altitude Weapons System, and the Multi-role Radar System. The primary means of sharing the SIAP is through the components of the Joint Tactical Information Data System, also known as TADIL J, which feeds the JDN.

OPERATIONAL IMPACT

The anticipated improvements produced by SIAP will enhance the capabilities of our current and future command-and-control systems and aviation platforms. A common tactical picture that is reliable and accurate will provide a significant improvement in our ability to employ our aviation assets and increase our combat effectiveness while preserving our warfighting assets.

PROGRAM STATUS

Fixes to the SIAP are being approached using a spiral development system supported by a series of block improvements developed by the SIAP Systems Engineering Task Force. Block 0 fixes are currently funded for implementation in Marine Corps systems that require them. Block 1 engineering tasks have been defined and the Marine Corps has included $54 million to support Block 1 engineering and implementation. In 2003, the SIAP Systems Engineering Task Force, renamed the Joint SIAP System Engineering Office (JSSEO), initiated a program of integrated architecture behavior model (IABM) development. The IABM will unambiguously define the function and behavior of the systems that contribute to or utilize the SIAP, or both.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	0

DEVELOPER/MANUFACTURER

Multiple

PART 4

COMBAT SERVICE SUPPORT ELEMENT PROGRAMS

Operating from Navy ships or expeditionary bases ashore, the Combat Service Support Element (CSSE) provides many support functions to the MAGTF. The CSSE can sustain forces and permit maximum MAGTF flexibility in responding to crises. The following programs will enhance the CSSE's ability to support current and future operations.

FAMILY OF CONSTRUCTION EQUIPMENT

DESCRIPTION

The Marine Corps Family of Construction Equipment encompasses a wide variety of construction equipment, ranging from heavy earthmoving to small excavation vehicles. It includes the D7G bulldozer (with ripper and winch), the Scraper 621B wheeled hydraulic excavator, the small 1155 bucket loader, the 1150 angle-blade bulldozer, the road grader 130G, runway sweepers, backhoe loaders, and engineer equipment trailers and 260 CFM compressors.

OPERATIONAL IMPACT

The Family of Construction Equipment provides the MAGTF with the ability to conduct mobility, survivability, and general and civil engineering tasks in support of operating forces. Examples include building airfields, emplacing pads for vertical/short take-off and landing aircraft, clearing landing zones, creating fuel berms, and general construction.

PROGRAM STATUS

The Family of Construction Equipment program maintains the Marine Corps' construction capability. As such, various items are replaced as determined appropriate by the life cycle manager, Program Manager Engineer Systems. Specific items may be managed as acquisition or abbreviated acquisition programs. However there are several in progress at any point in time.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	Various	Various

DEVELOPER/MANUFACTURER

D7G bulldozer, motorized road grader scraper, wheeled tractor, backhoe loader:
Caterpillar Defense & Federal Products, Mossville, IL
Ultimate Building Machine: MIC Industries, Elton, PA
Welder: Power Manufacturing, Inc., Plymouth, MN
Sweeper: Elgin Sweeper Company,Elgin, IL
260 CFM compressor: Ingersoll-Rand Company, Monksville, NC
Wheeled hydraulic excavator: Badger Equipment Company, Winona, MN
Vibratory roller/compactor: Caterpillar Paving Products, Champlin, MN
Laserplane leveling system: Spectra Precision, Dayton, OH

FAMILY OF MATERIAL HANDLING EQUIPMENT

DESCRIPTION

The Marine Corps Family of Material Handling Equipment encompasses a wide variety of material-handling assets, ranging from light forklifts to heavy cranes and container handlers. Specific systems include the rough-terrain container handler; the extended boom forklift; the light capability, rough-terrain forklift; the high-speed, high-mobility crane; the light, rough-terrain crane; mobile welding equipment; and the multi-purpose, rubber-tired articulated tractor.

OPERATIONAL IMPACT

Procurement of these systems will ensure that Combat Service Support Elements have the wherewithal to support their MAGTFs scheme of maneuver and logistical requirements.

PROGRAM STATUS

The Family of Material Handling Equipment program maintains the Marine Corps' material handling and transportation support capability. As such, various items are replaced as determined appropriate by the life cycle manager, Program Manager Engineer Systems. Specific items may be managed as acquisition or abbreviated acquisition programs. However there are several in progress at any point in time.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	Various	Various

DEVELOPER/MANUFACTURER

Extended boom forklift: JLG Industries, Inc., McConnellsburg, PA
Light capability, rough-terrain forklift: Terex American Crane, Wilmington, NC
Multi-purpose, rubber-tired, articulated-steering tractor: John Deer, Davenport, IA
Terex 7.5-ton capacity, air-mobile crane: American Crane, Wilmington, NC

HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE A2 SERIES

DESCRIPTION

The High Mobility Multipurpose Wheeled Vehicle A2 Series (HMMWVA2) will replace vehicles in the existing HMMWV fleet, sustaining the capabilities of the current vehicle while improving reliability, availability, maintainability, and durability (RAM-D); safety; and corrosion prevention. Features of the HMMWVA2

include a 15-year corrosion prevention package, fully independent suspension, electronically controlled, four-speed automatic transmission, an EPA-compliant 6.5L diesel engine, improved brakes, an improved electrical system, three-point seatbelts, and increased payload capacity.

OPERATIONAL IMPACT

The Marine Corps procured approximately 17,800 HMMWV's from 1985 to 1995. The HMMWV has proven operationally successful, but without recapitalization, over 80% of the fleet would be over-age, without parts support, or suffering from severe corrosion. Without replacement or refurbishment, aging HMMWVs will require increasing resources to operate and maintain, and HMMWV readiness and associated systems (e.g., Avenger and the Tube-launched Optically-tracked Wire-guided (TOW) missile) will continue to be negatively impacted.

PROGRAM STATUS

The HMMWVA2 Program is a joint effort, with a US Army lead. Marine Corps procurement of the HMMWVA2 began in July 1998, with first deliveries occurring in December 1998. These procurement efforts were executed via a five-year, firm, fixed-price, Army production contract in effect from FY 1996 to FY 2001. Initial operational capability was achieved in December 1999. Current procurement is on a seven-year firm, fixed-price contract (one-year with six option years).

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	839	1,830

DEVELOPER/MANUFACTURER

Prime contractor: AM General Corp, South Bend, IN
Major Subcontractors:
Axles: Dana, Ft. Wayne, IN
Engine: General Engine Products, Franklin, OH
Tires: Goodyear, Gadsden, AL

LOGISTICS VEHICLE SYSTEM REPLACEMENT

DESCRIPTION

The Logistics Vehicle System Replacement (LVSR) will replace the current Marine Corps heavy, tactical wheeled vehicle, the Logistics Vehicle System (LVS). As the Marine Corps' heavy tactical distribution system, the LVSR will transport bulk liquids (fuel and water); ammunition; standardized containers; bulk, breakbulk, and palletized cargo; and bridging equipment. The vehicle will also perform heavy wrecker/recovery missions and tow engineer equipment and combat vehicles with the M870A2 semitrailer. The LVSR will be employed throughout the MAGTF in the Force Service Support Group, Marine divisions, and Marine aircraft wings.

OPERATIONAL IMPACT

To successfully accomplish its mission, MAGTFs require a heavy ground logistics distribution system that is highly mobile, efficient, extremely reliable, and flexible. This system must be capable of operating over increased distances with increased payloads to meet the demands of Expeditionary Maneuver Warfare. The LVSR will rapidly distribute all classes of supply while including a self-loading/unloading capability to reduce dependence on external materiel-handling equipment.

PROGRAM STATUS

An Operational Requirements Document for LVSR was signed 16 June 2003 and the Marine Corps issued a request for proposals the same month. Source selection began in October 2003.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	6 protoypes	0

DEVELOPER/MANUFACTURER

TBD

TACTICAL WATER PURIFICATION SYSTEM

DESCRIPTION

The Tactical Water Purification System (TWPS) is a skid-mounted, generator-powered system capable of producing potable water from any available raw water source at a rate of 1,200-1,500 gallons of water per hour in expeditionary environments. The TWPS will replace the aging 600-gallon per hour Reverse Osmosis Water Purification Units at a 1:2 ratio.

OPERATIONAL IMPACT

Water production in an expeditionary setting is particularly critical to Marine Corps operations. The TWPS will be used in the purification of salt water in over 75% of its operations. Our current fleet of ROWPUs has far exceeded their eight-year service life, are too costly to maintain, and will not meet future operational needs. This capability provides the commander with options that will not tie down forces to specific locations or force them to rely on host nation support.

PROGRAM STATUS

The current authorized acquisition objective is 243 TWPS units. The program is currently funded for procurement during the FY 2002-FY 2007. The TWPS successfully completed production qualification testing, and contract award for low-rate initial production was awarded in March 2002.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	38	26

DEVELOPER/MANUFACTURER

SFA Inc. Frederick Manufacturing Division, Frederick, MD

PART 5

OTHER SUPPORT TO THE MAGTF

The programs and systems in this section provide necessary support to MAGTFs. They do not necessarily belong to the Command, Ground Combat, Aviation Combat, or Combat Service Support Elements, but could be used with any one of them, depending on the situation. The programs and systems described in this section are concentrated in the area of nuclear, biological, and chemical (NBC) defense, equipment and uniforms, and other areas that affect the combat effectiveness, survivability, and well-being of individual Marines.

FAMILY OF FIELD MEDICAL EQUIPMENT

DESCRIPTION

The Family of Field Medical Equipment consists of blocks of medical materiel configured to provide health services support to Marines in the combat environment. There are 25 various configurations called Authorized Medical/Dental Allowance Lists (AMAL/ADAL) covering a wide spectrum of health services in support of a MAGTF. The main components of the AMAL/ADAL are laboratory, X-ray, aid station, pharmacy, operating room, forward resuscitative surgery, shock/surgical team, ward, preventive medicine, environmental supplements, field dental operatory, NBC medications, and bio-medical equipment repair. There are 2,763 of these various blocks in the Marine Corps inventory with an estimated total cost of $75 million.

OPERATIONAL IMPACT

AMALs and ADALs provide materiel for echelons I and II health service support to the MAGTF. Lack of this capability would result in unnecessary loss of life or limb for injured and sick Marines on the battlefield, and a marked degradation in combat effectiveness. AMALs and ADALs are stored at strategic locations, ready for deployment at a moments notice. They contain equipment and consumables at a level that reflects current casualty rates and requirements for 60 days in a combat environment.

PROGRAM STATUS

AMALs/ADALs are in a constant state of review and update to reflect changes in industry practices and standards of health care. The Marine Corps Systems Command also schedules entire systems reviews on a three-year cycle to discuss capabilities and concepts of employment, and translate them to materiel requirements.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	Upgrade at least 8 systems per year	

DEVELOPER/MANUFACTURER

Various manufactures, distributors, and prime vendor contractors throughout the US

THEATER MEDICAL INFORMATION PROGRAM (MARITIME)

DESCRIPTION

Theater Medical Information Program (Maritime) — TMIP-M — provides clinical data collection and data transport capability in a combat or hostile environment involving deployed forces. TMIP-M is a component of TMIP, which is a Department of Defense-directed joint program. TMIP-M, which includes both the Navy and Marine Corps, provides medical information processing capabilities to medical staffs in theater as well as medical planners and command-and-control elements at all echelons. TMIP-M provides a full suite for user-configurable support for all aspects of theater health services from patient-encounter data to medical logistics.

OPERATIONAL IMPACT

TMIP-M provides improved casualty tracking and treatment and medical supply management. While the majority of the data entry and manipulation will be done by corpsmen, all medical department personnel will interface with the system in some way.

PROGRAM STATUS

The program will be developed in three "blocks." Pending successful evaluation during FY04, the Marine Corps will field the Block I product to the health service support and medical logistics communities during FY05.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	Various	Various

DEVELOPER/MANUFACTURER

Software and all associated software life-cycle support is provided by the TMIP-J program office

FAMILY OF INCIDENCE RESPONSE

DESCRIPTION

The Family of Incidence Response Systems (FIRS) consists of equipment, systems, and services designed to provide federal, state, and local incident response forces the capabilities they need to effectively respond to a terrorist attack using chemical, biological, radiological, nuclear, and high-yield explosives. FIRS is a "roll-up" program that fields over 65 technologies to USMC Chemical Biological Incident Response Force (CBIRF) and Marine Expeditionary Units.

OPERATIONAL IMPACT

The FIRS provides primarily commercial-off-the-shelf technologies to meet the operational needs of Marine Corps responder forces. This commercial equipment is used in major cities' Hazardous Material Units in the same operational environment that the 4th Marine Expeditionary Brigade (Anti-Terrorism) and the CBIRF will operate, and employs the same equipment as the MEUs' Enhanced MEU NBC Capability Sets. Support for FIRS equipment is performed through a contractor logistics support arrangement.

PROGRAM STATUS

The FIRS program maintains an aggressive market research program to monitor commercial development. The market research program ensures that the CBIRF and the MEUs are provided leading edge technologies for operational readiness. In conjunction with the CBIRF, the FIRS program office invites vendors to display their technologies at the CBIRF on scheduled Technology Demonstration days that are focused on the operational mission of the CBIRF. The FIRS office also manages the contractor logistics support that provides critical technical and operational training to the CBIRF and the MEUs.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	Various	Various

DEVELOPER/MANUFACTURER

Contractor logistics support prime vendor: Battelle Memorial Institute, Columbus, OH and Stafford, VA

Equipment manufacturers throughout the United States

TRANSPORTATION COORDINATOR'S AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II

DESCRIPTION

Transportation Coordinator's Automated Information for Movement System II (TC-AIMS II) is a joint, Army-led, Acquisition Category I(A)M automated information system used for unit deployment planning and execution, traffic management, and movement control and coordination. TC-AIMS II supports the Department of Defense mission areas of deployment and mobility.

OPERATIONAL IMPACT

When fielded, TC-AIMS II will facilitate the deployment, sustainment, and redeployment of Marine Corps forces, as well as any joint forces assigned to a Marine Corps-led joint task force. In theater, the system facilitates reception, staging, and onward movement

PROGRAM STATUS

TC-AIMS II is currently in the engineering and manufacturing development phase. Operational testing for TC-AIMS II was held in December 2001 for all services, with the Marine Corps test occurring in Quantico, VA.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	Various	Various

DEVELOPER/MANUFACTURER

Developer/manufacture: Dyncorp, Springfield, VA

LIGHTWEIGHT HELMET

DESCRIPTION

The Lightweight Helmet (LWH) is a direct replacement for the standard issue PASGT helmet. The LWH has improved ballistic protection capability over the existing PASGT helmet and will be one-half pound lighter. The LWH also promotes greater combat effectiveness through greater comfort and improved fit. It features an improved suspension system that will reduce stress and fatigue.

OPERATIONAL IMPACT

The LWH provides protection in various operating environments from fragmentation projectiles as well as providing 9mm small arms protection. Overall fragmentation and ballistic protection will exceed that of the current PASGT Helmet.

PROGRAM STATUS

The LWH received Milestone C approval in May 2003. Initial operational capability is scheduled for the second quarter of FY 2004 and full operational capability for the first quarter of FY 2009.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	7,800	10,400

DEVELOPER/MANUFACTURER

Gentex Corporation, Carbondale, PA

ALL PURPOSE ENVIRONMENTAL CLOTHING SYSTEM

DESCRIPTION

The All Purpose Environmental Clothing System (APECS) is a product improvement to the second-generation Extreme Cold Weather Clothing System. Improvements include a 10-15% weight reduction; softer, quieter, and more water resistant material; and reduced infrared signature. The parka and trousers will provide improved protective clothing for the Marines in cold and wet and cold and dry environments. The parka has improved waterproof closures, the orientation of pockets has been modified to be more compatible with ancillary equipment, a rolled and stowed hood, and reinforced elbows. The trousers will have cargo pockets, belt and suspender loops, and knee and buttocks reinforcement patches, and incorporating improved waterproofing features, reduced weight, and reoriented pocket. APECS also will incorporate the new Marine Corps camouflage pattern.

OPERATIONAL IMPACT

APECS provides Marines with an improved outer protective layer, permitting greater ease of movement, protection, and wearer survivability.

PROGRAM STATUS

Initial operation capability is anticipated in the second quarter FY 2004. Full operational capability is anticipated by the first quarter of FY 2008.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	37,664	49,000

DEVELOPER/MANUFACTURER

Propper International, St Charles, MO

IMPROVED LOAD BEARING EQUIPMENT

DESCRIPTION

The Improved Load Bearing Equipment (ILBE) is a load-bearing system designed to provide a durable and lightweight means for the deployed Marine to transport his or her individual combat clothing and equipment. Major proposed improvements include durability, comfort of wear, reduced system complexity, reduced system weight and sustainability, and greater integration with the Outer Tactical Vest.

OPERATIONAL IMPACT

An improved load-bearing system will result in less fatigue and more combat effectiveness during the execution of assigned missions.

PROGRAM STATUS

Milestone C approval for full-rate production of the pack occurred in August 2003. Fielding of the pack is scheduled to commence in January 2004. The Marine Corps expects to make a contract award for the Assault Load Carrier (ALC) element in the second quarter of FY 2004, with production starting in the third quarter of FY 2004. (The existing Fighting Load Carrier will continue to be used until the ALC is fielded.) Initial operational capability is anticipated in the fourth quarter of FY 2004 and full operational capability in the first quarter of FY 2009.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	60,000	60,000

DEVELOPER/MANUFACTURER

Propper International, St Charles, MO
Assault load carrier: TBD

SMALL ARMS PROTECTIVE INSERT

DESCRIPTION

The Small Arms Protective Insert (SAPI) consists of interchangeable ceramic plates that are inserted into the front and back of the Outer Tactical Vest to increase a Marine's protection against small arms fire and fragmentation projectiles. SAPI is capable of defeating multiple hits from small arms fire of up to 7.62mm caliber at muzzle velocity.

OPERATIONAL IMPACT

SAPI greatly increases the survivability of Marines on the battlefield. The lives of numerous Marines and soldiers were reported saved during Operations Enduring Freedom and Iraqi Freedom as a result of using SAPI plates.

PROGRAM STATUS

Procurement to the original acquisition objective of 133,000 (2 plates per Marine in the Ground Combat Element) was completed during the fourth quarter of FY 2003. As a result of operating forces feedback from Operation Iraqi Freedom, the acquisition objective is anticipated to increase to approximately 300,000.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	60,000	30,000

DEVELOPER/MANUFACTURER

Simula Safety Systems, Phoenix, AZ

THIRD ECHELON TEST SET

DESCRIPTION

The Third Echelon Test Set (TETS) will detect and diagnose weapon system failures in line-replaceable units and circuit card assemblies for a variety of communication-electronic, electro-optic, and ground weapon systems. The electro-optic version provides the ability to test, diagnose, and align weapon systems such as forward-looking infrared sights and laser range finders. The Third Echelon Test Set provides this capability in both manual and automatic modes. Automatic mode is accomplished by using a Test Program Set. Manual mode is accomplished by using the Stand Alone Instrument Panel.

OPERATIONAL IMPACT

The MAGTF has numerous systems and equipment that contain electronic-printed circuit cards. The Third Echelon Test System provides a man-portable test capability that can be used to fault-isolate and repair LRU's down to the faulty circuit card assembly. This capability enables maintenance personnel to repair more equipment forward and send only failed items to rear areas for required repairs.

As weapon systems become more complex, the amount of MAGTF equipment containing secondary repairables with replaceable electronic components is increasing. The Marine Corps has recognized the need for and has fielded automated test equipment to support maintenance of equipment containing line-replaceable units. TETS significantly enhances intermediate maintenance support capabilities.

PROGRAM STATUS

The first two TETS production lots were completed in 2002. Testing for the electro-optic version of TETS started in December 2003 and should be completed in April 2004. Production deliveries of the TETS EO version began in June 2003 at the rate of four systems per month. TETS will begin production of an additional 95 systems in 2004. This production will continue through 2008.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	11	16

DEVELOPER/MANUFACTURER

Prime contractor: ManTech Test Systems, Chantilly, VA

ADVANCED MINE DETECTOR

DESCRIPTION

The Advanced Mine Detector (AMD) is a battery-operated, hand-held mine detection device consisting of a backpack with an integrated power supply, processor, and RF antenna, and a hand-held wand with sensor and controls. The AMD will combine metal detection, ground-penetrating radar and nuclear quadrupole resonance technologies to detect all known landmines.

OPERATIONAL IMPACT

AMD will be a replacement for the aging PSS-12 metallic mine detector. The AN/PSS-12 can only detect 65% of known landmines.

PROGRAM STATUS

AMD is currently in Concept Exploration at the Office of Naval Research. Marine Corps Systems Command has been actively involved in AMD development. The Marine Corps is currently awaiting the delivery of a prototype configured to detect TNT, RDX, and tetryl, as well as metallic landmines.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	0	12

DEVELOPER/MANUFACTURER

TBD

ALTERNATIVE/ADVANCED POWER SOURCES FOR COMMUNICATION EQUIPMENT

DESCRIPTION

Alternative/Advanced Power Sources for Communication Equipment (APSCE) encompasses a suite of devices used to provide power to operate communications equipment, computers, and other electronic peripheral equipment in place of primary batteries (disposable, one-time-use, lithium batteries) and fuel-powered generators. The purpose is to limit the use of batteries, especially hazardous material-producing ones, to those unique applications where they are the only appropriate tactical choice. APSCE is structured as an umbrella program that launches a series of small projects that are executed as abbreviated acquisition programs.

OPERATIONAL IMPACT

APSCE will improve the readiness and functionality of the MAGTF by providing greater capability to meet power sources requirements. This program exploits commercial AC/DC power converter devices, and has begun fielding three different configurations of power adaptors for the SINCGARS radio systems. Power adapters for other radio systems and battery management are in development, and sustainment efforts to bring into the Marine Corps new technology batteries, battery chargers, and battery optimizers are underway. Next-generation systems utilizing on-board vehicle power systems, fuel cells, and solar power are under evaluation.

PROGRAM STATUS

The program has passed Milestone C and is fielding systems to Marine operating forces and the Marine Force Reserves on an annual basis. New technologies are addressed as abbreviated acquisition programs for rapid fielding or are phased out as they become obsolete.

PROCUREMENT PROFILE:	FY 04	FY 05
Quantity:	various	various

DEVELOPER/MANUFACTURER

Various:
PulseTech, Southlake, TX
Iris Technology, Irvine, CA
Graywacke Engineering, Mansfield, OH

DEFENSE INTEGRATED MILITARY HUMAN RESOURCES SYSTEM

DESCRIPTION

The Defense Integrated Military Human Resources System (DIMHRS) is a DoD initiative to develop a joint pay and personnel management system. The Marine Corps is participating in this Navy-led initiative. DIMHRS will provide the Military Services and their components the capability to effectively manage their members during peacetime, war, and through mobilization and demobilization capturing accurate and timely data throughout.

OPERATIONAL IMPACT

DIMHRS should enhance Fleet operational capabilities by offering a greater ability to make personnel and pay data changes more quickly and efficiently than is currently the case with the existing Marine Corps Total Force System. It will also reduce data collection and reporting requirements and improve delivery of services times.

PROGRAM STATUS

The program expects to enter Milestone C during January 2004. The Army is scheduled to begin its implementation in FY 2005, with the Marine Corps following shortly thereafter.

PROCUREMENT PROFILE

During FY 2004-2005, the Marine Corps will be investing in service-wide DIMHRS implementation planning, infrastructure development and training for a planned transition to full operational capability during FY 2008.

DEVELOPER/MANUFACTURER

Developer and Implementer: Northrop Grumman Corporation