

GROUND COMBAT ELEMENT (GCE)



CAMPAIGN PLAN 2004

GROUND COMBAT ELEMENT (GCE) CAMPAIGN PLAN 2004

This pamphlet is a guide to all GCE Marines. The GCE Campaign Plan is an important factor in realizing future capability enhancements, as broadly defined by *Marine Corps Strategy 21*, and a step further in the refinement of *Expeditionary Maneuver Warfare*. This Campaign Plan reinforces the basic tenet that the GCE shall continue to operate within one of the great military innovations of the 20th Century: The MAGTF. In the pages that follow, this central precept is evident as the concept and reality behind MAGTF advocacy are described and how advocacy works to facilitate acquisition and innovation; to identify the right gear, and to develop the tactics, techniques, and procedures (TTP) to maximize future effectiveness.

CMC Guidance. In his initial guidance, General Michael W. Hagee, 33d Commandant, directed that the Corps main effort continue to be the warfighting excellence of the individual Marine and our combined arms MAGTF. Accomplishing the Marine Corps' primary institutional mission - agile readiness for operations across the spectrum of conflict - requires that we provide our operating forces the resources they require to train, maintain equipment, deploy, and if necessary, fight.

The attack on September 11, 2001 has hastened DOD's desire for military transformation. The Marine Corps is engaged in the Global War on Terrorism while continuing to maintain its capability across the spectrum of conflict. Within the environment for change the Marines' MAGTF concept remains solid. Operation Enduring Freedom, and Operation Iraqi Freedom proved the Marine Corps' expeditionary combined arms capability is without match and typifies the synergy of concept for network centric warfare. The Marine Corps has the reputation of being the world's premier fighting force by maintaining the capability to conduct distributed network operations in a joint operating environment.

The vision for the GCE is to enhance our joint capabilities that range from high intensity conflicts to humanitarian operations; utilizing the synergy of joint capabilities that facilitate accomplishing Marine Corps' missions. The future, uncertain and potentially dangerous, presents many challenges for the GCE. We will emphasize programs that increase our ability to gain tactical information; increase operational and tactical mobility, increase lethality and improve survivability in any operational environment.

Advocacy. The Commandant has directed that each MAGTF element have an Advocate at Headquarters, Marine Corps (HQMC) to represent their interests in venues outside the operating forces. The Deputy Commandant Plans, Policies, and Operations (DC, PP&O) is designated as the GCE Advocate and whose task is to strive to achieve "increased communication and representation of operating force requirements and interest."

Every member of our Corps must remain focused on our main effort, the warfighting excellence of the individual Marine and our Combined Arms Marine Air Ground Task Forces, in order to ensure that we "will be found equal to every emergency."
Commandant's Guidance



The MAGTF provides the joint force commander with a versatile expeditionary force, possessing strategic agility and operational reach. Each MAGTF is trained, equipped, and ready to respond to a broad range of crisis and conflict situations. This campaign plan focuses on the GCE's contribution to the greater whole -- the MAGTF to which it is assigned. Accordingly, this plan provides the "how" as applied to the GCE in attaining the Corps' vision for the following:

- Making the U.S. Marines who comprise America's premier expeditionary "Total Force in Readiness."
- Optimizing the Corps' operating forces, support and sustainment base, and unique capabilities to respond to the complex spectrum of crises and conflicts we anticipate in the future.
- Capitalizing on innovation, experimentation, and technology to prepare Marine Forces for success in the 21st century.

POM development is the essential bridge between concepts and warfighting – it translates fiscal resources into operational capabilities and readiness.

Advocacy Responsibilities and Organization. In reaffirming the primacy of the operating forces, the Commandant established a Board for each respective MAGTF element.

Ground Board. The Ground Board, sponsored and chaired by the DC, PP&O as the GCE Advocate, provides a venue to harness the collective input of the GCE, develop consensus, and leverage unity of effort to define GCE requirements, all focused on enhancing warfighting capabilities. The Ground Board is comprised of the four Division Commanders and DC, PP&O. Other General Officers, Senior Executive Service members, and Headquarters, Agency, and/or Department of the Navy (DoN) representatives attend Ground Board meetings as appropriate. The Ground Board will meet as often as required but normally twice per year. The Ground Board responsibilities include; reviewing emerging GCE issues that warrant CMC attention, prioritizing GCE interests in the Planning, Programming, Budgeting and Execution (PPBE) process, and engaging in other HQMC or DoN processes. A framework of organizations and processes support the Ground Board by performing the preponderance of issue identification and development.

GCE Conferences. Hosted by rotating Division Commanders, these quad-division conferences build consensus on major issues meriting emphasis in the PPBE process or Expeditionary Force Development System (EFDS). These meetings can also decide to advance issues to the Ground Board or other senior venues such as (Program Review

Group (PRG), Marine Requirements Oversight Council (MROC), etc. GCE Conferences are attended by the Division Commanders, Assistant Division Commanders, and selected members of their staffs, advocate representatives, and other Marine Corps process representatives, as appropriate. GCE Conferences are conducted, normally, semi-annually. Conference output is forwarded to the CMC via the advocate and simultaneously to the respective MEF and/or MARFOR Commanders for information and comment.

Operational Advisory Groups (OAGs). Chartered by the four Division Commanders and/or the Ground Board, OAGs provide a forum for the functional specialists in the operating forces to interface with Headquarters and Supporting Establishment personnel, requirements officers, program managers, trainers, the laboratories, etc. OAGs serve as the vehicle for identifying and recommending prioritization of issues and solutions that directly impact the operational capabilities, standardization, training, readiness, structure, manning, and safety of their respective elements of the GCE. The Ground Board has chartered the following OAGs: Infantry, Artillery, Tank, Assault Amphibian, Light Armored Reconnaissance, Reconnaissance, Combat Engineer, and Command and Control.

Other Input Mechanisms. Universal Needs Statements (UNS), Marine Corps Lessons Learned (MCLLS), community conferences, force structure change requests, etc., are other ongoing input methods. To the extent feasible, inputs with resource implications (e.g., UNS, force structure change requests, etc.) will be coordinated among the four Division Commanders primarily through their respective Chiefs of Staff prior to their formal submission to the advocate.

The Advocate's Role and Responsibilities. In order to foster advocacy and ensure the GCE's requirements and interests are well represented in planning, programming, and budgeting activities, DC, PP&O will:

- Assist the GCE to identify capabilities, deficiencies, and issues, and ensure those issues are advanced through various processes within the EFDS and DoN.
- Provide liaison between the GCE and the various process owners within the EFDS, as well as those external to the

Marine Corps, to ensure that GCE interests are properly addressed.

- Serve as the single point of contact and provide oversight of GCE issues for the Marine Corps leadership.
- Ensure that all GCE-related UNS have been approved by the division commanders prior to their entry into the EFDS.
- Coordinate matters of mutual interest with the other MAGTF element advocates.

Warfighting Functions. The Marine Corps warfighting functions encompass all military activities in the battlespace -- integration achieves unity of effort and focus. Gaining and maintaining superiority in these functional areas and their successful integration and synchronization are essential to the GCE's success on both the current and future battlefield. In order to address the capabilities required by the GCE to accomplish its missions as part of the MAGTF, those capabilities will be listed by warfighting function.

Maneuver. Maneuver, the movement of forces for the purpose of gaining an advantage over the enemy is a dynamic element of combat. Maneuver provides a means of concentrating forces for decisive action or placing forces at a position of leverage from which the enemy has no choice but to accede to our desire or be destroyed. The GCE must be capable of flexible and agile maneuver at both the tactical and operational levels. In conjunction with the MAGTF Commander, the GCE must be capable of planning for, protecting, sustaining, and influencing the execution of maneuver throughout the operational battlespace. In so doing, the GCE provides the MAGTF Commander the ability to extend his operational reach throughout the battlespace.



Objectives:

- Ensure sufficient mobility and counter-mobility capabilities exist to support maneuver.
 - Be trained to conduct ship-to-objective maneuver (i.e., MV-22, Expeditionary Fighting Vehicle, and LCAC SLEP) at a time and place of our choosing (i.e., project power ashore).
 - Provide armor protected mobility from the sea-base through sustained operations ashore.
 - Improve ground mobility and maneuverability of reconnaissance units (Internally Transportable Vehicle).
 - Enhance the direct fire capabilities of GCE armor/mech formations.
 - Exploit terrain through improvements in C4 ISR and synchronize maneuver in both time and space to gain advantage over the enemy.
 - Ensure the GCE remains strategically agile and able to support the commander's plan for employment (i.e. strategic airlift, sealift, amphibious shipping, or MPF).
 - Enhance night fighting capability through the use of advanced technology equipment and enhanced training.

Fires. Fires delay, disrupt, degrade, or destroy enemy capabilities or facilities, as well as affect the enemy's will to fight. The artful employment of firepower against the enemy's air, ground, and sea targets, when used in concert with maneuver, helps shape the battlespace and set conditions for decisive action. The GCE must have the capability to employ sufficient all weather, day/night, direct and indirect fire delivery systems to achieve this end.

Objectives:

- Support littoral maneuver with credible, capable naval surface fires.
- Weight the main effort, support maneuver, and provide shaping and counter battery fires with organic rocket artillery.
- Acquire a ground weapon locating radar with sufficient capability to maximize counter battery capability of organic rocket artillery.
- Provide a credible, lightweight fire support capability to the vertical assault force.
- Provide mechanized and light armored reconnaissance forces sufficient organic indirect fire capability to support deep rapid decisive maneuver.
- Develop non-lethal tactics, techniques, procedures, and technology.
- Enhance command and control capability.
- Provide enhanced Rifle Combat Optics.
- Exploit new technologies that improve fire support coordination and joint interoperability.



Command and Control. The GCE commander must be able to exercise his authority and direction over assigned or attached forces through C2 systems that facilitate an environment of decentralized decisionmaking and enhanced situational awareness. The commander's ability to extend his influence over his forces when planning and conducting military operations is critical to mission accomplishment.

Objectives:

- Ensure command and control systems are interoperable with other MAGTF, naval, joint, and, when necessary, allied systems.
- Require all GCE units to be fully trained in the Marine Corps Planning Process (MCP) and the Rapid Response Planning Process (R2P2) to ensure commonality of planning and clarity in execution.

- Maintain commitment to digital C2 systems such as C2PC software, EPLRS and Blue Force Tracker to exploit current digital technology that speeds decision-making and improves command and control and through a common operational picture.
- Procure a standard command and control structure that is consistent throughout all MAGTF organizations to eliminate expensive, unsupported, piece-meal, jury-rigged command posts to enhance interoperability and compatibility between using units.
- Enhance EFV and LAV mobile C2 capabilities to facilitate digital communication with current and future C2 architectures.



Intelligence. Understanding the enemy, his doctrine, the battlespace, enemy centers of gravity, and critical vulnerabilities are keys to success on the battlefield. Intelligence assists the commander in understanding the situation, alerts him to opportunities, and helps him assess the effects of his actions upon the enemy. This key warfighting function must continue to be

integrated with the overall operational effort and always be focused on the enemy.

Objectives:

- Provide accurate, timely, and relevant knowledge about the enemy (or potential enemy) and the surrounding environment.
- Assist in protecting friendly forces through security, surveillance, and counter-reconnaissance.
- Ensure surveillance, reconnaissance, and target acquisition capabilities are adequate to support operations and leverage service, joint, and combined ISR capabilities.
- Ensure the GCE portion of target acquisition architecture is integrated across the MAGTF and the joint force.
- Provide the GCE a reconnaissance capability that supports operational requirements.

Logistics. Logistics functions encompass those activities required to move and sustain military forces. Logistics will also continue to establish limits on what is operationally possible. As GCE capabilities expand, so too will requirements increase on the supporting combat service support establishment. Recognizing the significant role logistics plays in any military action, GCE commanders must incorporate logistics capabilities and limitations when planning to use these limited resources.

Objectives:

- Ensure that the limits imposed by logistics/sustainment do not inhibit effective operations.
- Ensure the fielding plans for new systems develop alternative ordnance variants that are smaller and lighter, but retain equivalent lethality.
- Encourage Combat Service Support (CSS) training as an integrated part of GCE maneuver training.
- Ensure the capability to operate independently (implies sustainability).
- Test and evaluate the Integrated Logistics Concept in conjunction with the CSS Element and its advocate.



Force Protection. Force protection safeguards friendly centers of gravity and identifies, protects, conceals, reduces, or eliminates friendly critical vulnerabilities. It includes those measures the force takes to remain viable by protecting itself from the effects of enemy activities and natural occurrences, so that its fighting potential can be applied at the appropriate time and place.

Objectives:

- Acquire enhanced individual, collective protection, early warning, detection and monitoring against chemical, biological and Improvised Explosive Device threats.
- Acquire better armor protection for vehicles.
- Improve situational awareness and target intelligence through evolving combat identification capabilities.
- Incorporate operational risk management in the planning and execution of all missions, exercises, and daily evolutions, both on and off duty.
- Ensure maximum survivability of Marines on the modern battlefield through development of equipment and tactics that better protect the force without sacrificing speed and agility.

Manpower. The GCE derives its strength from the individual Marine's training, fitness, discipline, sense of courage, service and commitment. While mission accomplishment is our first priority, it is dependent on taking care of our Marines. Mission First, Marines Always. That said, we must have sufficient "boots in formation" to achieve all that is being asked. Further, we must safeguard and nurture those precious few who have taken up the challenge to be Marines and retain the best of them.

Objectives:

- Staff ALL GCE units at or above 90% of T/O.
- Review and revise T/Os to ensure units are comprised of the right number of personnel of the right ranked MOS to contribute to the units wartime mission.
- Synchronize the assignment of Marines to units with the deployment schedule.
- Eliminate chronic shortages in MOS 02, 08, 06, and 35.
- Achieve 100% of FTAP/STAP mission.
- Ensure total force integration across the spectrum of GCE units and Reserves.
- Reduce non-EAS attrition particularly through injury reduction, treatment and rehabilitation.

Training/Education. Training is a process to master fundamental skills and knowledge and their subsequent application in an environment that replicates the fog and friction of combat. We must train the way we fight! Accordingly, the practical application phase of training must be as realistic and challenging as possible. Further, we must train to an established standard and provide meaningful feedback aimed at improving individual and unit performance. Training and Readiness (T&R) manuals (completed by Training & Education Command) provide the basis for attaining GCE standards. Training must provide a true learning environment in which Marines strive for excellence and are permitted to learn from their mistakes.

Objectives:

- Train to standards (i.e. T&R Manual, ITS, MPS, and METL/JMETL).
- Conduct combined arms training at every opportunity.

- Train at night.
- Augment training through the use of simulation when possible.
- Focus training on tactics, techniques, and procedures (TTP) emphasizing the small unit allowing for sufficient repetition and innovation of leaders.
- Focus staff training on increasing speed and accuracy and to enhance teamwork and proficiency in their respective functional areas.
- Minimize the impact of encroachment on ranges and training areas.
- Prepare Marines for the physical and mental nature of combat.

Readiness. Expeditionary readiness, the key to build our core competencies, defines an institutional mindset that makes Marines ready to respond rapidly to worldwide crises. Expeditionary readiness is defined by our manning level, the maintenance of our equipment, and the quality of our training.

Objectives:

- Maintain expeditionary readiness at or above the C2 readiness metric.
- Report readiness IAW T&R Manuals.
- Establish a rate of peacetime deployment tempo that is manageable and sustainable.
- Sufficiently fund the GCE.
- Include bases/stations capabilities in deployment readiness equation.
- Improve the mobilization readiness of the Reserve Division.
- Emphasize and support family readiness programs.



"Two of the most important aspects of this [campaign] plan are the synchronized employment of forces and the concept for their sustainment"
The Joint Doctrine Encyclopedia

This campaign plan will be reviewed annually and updated as necessary to assist the Ground Board and Division Commanders in ensuring the appropriate application of limited resources to meet the GCE's training, readiness, and modernization requirements.

JAN HULY

Lieutenant General, U. S. Marine Corps
Deputy Commandant for Plans,
Policies, and Operations
Chairman, Marine Corps Ground Board

ANNEXES:

- A GCE Programs and Initiatives
- B GCE Capability Requirements for POM-04
- C Long-term GCE Capability Requirements
- D GCE Advocacy Timeline

DISTRIBUTION: Special

ANNEX A – GCE PROGRAMS AND STRUCTURE INITIATIVES

The following programs, intended to enhance the warfighting capabilities of the GCE, are funded within POM-06 (FY-06 thru FY-11):

MANEUVER

- **Expeditionary Fighting Vehicle (EFV):** EFV will be one of the principal enablers of the Expeditionary Maneuver Warfare (EMW) concept. The EFV will systematically integrate the GCE into emerging MAGTF C2 architecture designed to network information, communications and intelligence operating systems. This coupled with the operational and tactical flexibility achieved by high-speed (OTH) land and water maneuver, a highly effective day / night fighting ability, and advanced armor and NBC protection provides the MAGTF with a never before realized multi-dimensional combined arms capability and dramatically increased operational tempo.

High Mobility Multipurpose Wheeled Vehicle (HMMWV) A2: Replaces the aging HMMWV fleet with improvements in load capacity and dependability.

Light Armored Vehicle (LAV) SLEP: Will provide a much-needed overhaul to the current LAV series of vehicles.

Assault Breacher Vehicle (ABV): Provides the assault elements of the GCE with the capability to conduct an in stride breach of a complex obstacle.

M1A1 Firepower Enhancement: Increases the effective range to the M1A1 thermal optical system. Enables the tank crew to acquire and identify targets at significantly greater ranges under all battlefield and weather conditions. Further, it provides the crews with an extremely accurate far target location capability.

Tactical Unmanned Ground Vehicle (TUG-V): TUV-Medium (TUV-M) will provide an unmanned ground platform for remote combat to reduce risk and neutralize threat. The basic missions of scout/surveillance and engineer reconnaissance may be expanded with mission modules for RSTA (reconnaissance, surveillance, and target acquisition), Chemical Biological Radiological detection, obstacle breaching, and direct fire

MAGTF Expeditionary Family of Fighting Vehicles (MEFFV): The MAGTF Expeditionary Family of Fighting Vehicles (MEFFV) is the proposed solution to replace the USMC's family of Light Armored Vehicles (LAV) and the M1A1 Common Main Battle Tank (MBT) in the 2018-2022 timeframe.

MEFFV potentially will consist of other combat, combat support, & combat service support variants which will capitalize on commonality of hulls and/or parts in order to minimize operations and maintenance costs.

Follow on to SMAW: will be a short range, fire-and-forget assault weapon designed to defeat a variety of targets on the battlefield. It will consist of a firing device, sighting system and a family of munitions. FOTS will replace the SMAW without loss to present capabilities and with the following enhanced capabilities: 1) Ability to fire from enclosures, 2) Lighter weight, 3) Increased reliability, 4) Reduced launch signature, 5) Increased lethality, and 6) Greater breaching effects.

Modular Weapon System (MWS): A follow on and extension of the current M16 program. The MWS provides for improvements in weight reductions, size constraints and optics packages that will attach to the weapon via a common rail system.

Rifle Combat Optics (RCO). The Rifle Combat Optic (RCO) is a fixed magnification optical aiming sight designed for use with the M16A4 and M4 service rifles. The RCO provides the user a targeting tool to engage distant daylight and near low-lit targets with increased identification certainty.

Infantry Load Bearing Equipment (ILBE). The ILBE is an integrated load bearing system that is light, durable, and that can easily be configured for the mission at hand and to maximize the mobility, survivability, and lethality of the Marine Infantry man in combat. Major proposed improvements include durability, comfort of wear, reduced system complexity, reduced system weight and sustainability, and greater integration with the Outer Tactical Vest (OTV).

FIRES

Expeditionary Fire Support System (EFSS): EFSS will be capable of successfully engaging a spectrum 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. The EFSS design and configuration will ensure that its tactical mobility, both in the air and on the ground, is equal to the supported force.

Improved Position and Azimuth Determining System (IPADS): IPADS provides greater accuracy and reliability than the currently fielded inertial navigation systems through the use of ring laser gyro technology. IPADS will

replace PADS on a one-for-one basis. Required capabilities include: accuracy and speed and mobility equal to or greater than PADS; capability to transmit digital survey data to AFATDS; more efficient cabling system; and improved control and display unit.

Ground Weapons Locating Radar (GWLR): will provide the Marine Corps with a quantum leap in its ability to locate enemy firing (mortar, artillery, rocket) positions, equating to an exponential increase in the number 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

M777 Lightweight 155mm Howitzer with TAD: Replaces M198 howitzer. A 40% reduction in weight allows for greater mobility while maintaining or improving range, weapon stability, accuracy, and durability. Significant improvements in battlefield mobility and emplacement/displacement times create a weapon that is more survivable and lethal.

Towed Artillery Digitization (TAD): Through the use of a computer and a GPS system, guns can be emplaced individually or in pairs. GPS technology will prevent the need for surveyed positions; resulting in increased accuracy.

Advanced Field Artillery Tactical Data System (AFATDS): AFATDS is a multi-service integrated battlefield management and decision support system that satisfies the fire support command and control requirements of the Army and the Marine Corps. It will be located at all echelons from MEF to battery level and will provide a MAGTF commander with the capability to rapidly integrate ground, air, and naval surface fire support assets into the scheme of maneuver.

Back-Up Computer System (BUCS): The BUCS will be fielded to each artillery battery FDC concurrent with the fielding of AFATDS. The BUCS will provide automated technical fire direction redundancy in the Marine Corps artillery battery. The primary mission of the BUCS is to ensure continuity of battery FDC operations in the event that the primary computer, AFATDS, becomes inoperable.

High Mobility Artillery Rocket System (HIMARS): HIMARS fulfills the requirement for organic, all-weather, all-terrain, general support fires for the MAGTF. The system will deliver munitions effective against point and area targets with a high degree of precision and accuracy over large portions of battlespace without requiring firing units to displace. The Marine Corps will procure the GPS/INS Guided Multiple Launch Rocket System (MLRS) Munitions capable of ranges in excess of 60 km.

M795 155mm Ammunition: Enhances the GCE fires capability with an increase in range and lethality of the individual round.

Portable Inductive Artillery Fuze Setter (PIAFS): PIAFS is a battery powered electronic fuze setter that is designed to increase efficiency of service and decrease crew error. It provides the USMC with an inductive fuze setting capability that is interoperable with TAD, MOFA, M762/M767, XM982, and inductive fuzes.

Multi-Option Fuze for Artillery (MOFA): MOFA combines Point-Detonating, Delay, Proximity, & Electronic Time functions in one fuze for bursting-type projectiles. The MOFA replaces the M732, M732A2, M557, M582, and the M567. The MOFA Fuze is set with the Portable Inductive Artillery Fuse Setter (PIAFS).

AN/GVS-5 Laser Infrared Observation Set Replacement: A small, lightweight/highly mobile, night observation capable, binocular system containing an integral, eye-safe laser rangefinder with azimuth and inclination capability. It will interface with a Precision Lightweight Global Positioning Receiver (PLGR) in order to provide highly accurate target location.

Target Location Designation and Handoff System (TLDHS): A target location, designation, and digital communications system, composed of an eye-safe laser rangefinder, compass and vertical angle sensor, GPS receiver, day optics, thermal optics, laser designator, rugged hand-held computer, tripod, and ancillary equipment. TLDHS will provide Forward Observers, Forward Air Controllers, Naval Gunfire Spot Teams, and Reconnaissance Marines with the ability to precisely target the enemy and rapidly direct fire support assets.

Mortar Ballistic Computer (MBC): The MBC is an all-weather, lightweight, handheld, state-of-the-art computer system that will generate firing data, store initialization data, propellant temperature, and conversion factors for all 60mm and 81mm mortar cartridge and fuse combinations. Additionally, the MBC will provide digital connectivity in order to be interoperable with the Marine Corps automated fire support planning and execution system. The MBC will be developed as an incremental program. Phase I of the program will provide an automated technical firing solution followed by Phase II which will incorporate a digital connectivity capability to be interoperable with the automated fire support systems currently in place. The MBC will adhere to C2 guidelines for compatibility and integration with Marine Corps hardware and software.

FORCE PROTECTION

Advanced Mine Detector: A man-portable system capable of detecting both metallic and non-metallic buried mines, regardless of fuze type.

Family of Ballistic Protection: A series of body armor improvements that greatly enhance to protection of the individual Marine. Outer Tactical Vest (OTV) replaces the Personnel Armor System, Ground Troop (PASGT) Flak Vest. Defeats fragmentation and 9mm rounds. Used with Small Arms Protective Inserts (SAPI), it provides 7.62mm and 5.56mm protection. SAPI is a 4 lb ceramic plate that fits in front and/or back of the OTV and defeats multiple hits of 7.62 (M80 Ball). The Armor Protection Enhancement System is an augmentation to the OTV that provides increased protection to the underarm, shoulder, upper arm, and the lower extremities from the waist to the knees. The Lightweight Helmet will be a direct replacement for the standard issue PASGT helmet, providing improved ballistic protection capability over the PASGT helmet and will be one-half pound lighter.

Vehicle Armor Kits: Pursuit of commercially available armor solutions to enhance the survivability of our soft-skinned vehicles and their occupants. Vehicle hardening kits will stop 7.62mm M80 ball ammunition at zero yards and provide enhanced protection against improvised explosive devices (IED) and other sources of blast and fragmentation such as rocket-propelled grenades (RPG).

Improvised Explosive Device (IED) Countermeasures: The Marine Corps has partnered with the U.S. Army in the DoD IED Task Force. The goal of the DoD IED Task Force is to identify, procure and field IED countermeasure material solutions in support of Operation IRAQI FREEDOM and Operation ENDURING FREEDOM forces. Although these systems are focused on providing coalition forces with the ability to rapidly identify, prevent, and neutralize the threat posed by IEDs.

Assault Breacher Vehicle (ABV): The Assault Breacher Vehicle (ABV) is a tracked, combat engineer vehicle designed to breach minefields and complex obstacles and provide in-stride breaching capability. It will provide crew protection and vehicle survivability while having the speed and mobility to keep pace with the maneuver force. Blade attachments include the full width mine plow, combat dozer blade, surface mine plow and rapid ordnance removal system (RORS). Once fielded, the ABV will be the Department of Defense's (DoD) only dedicated deliberate breaching vehicle.

Assault Breaching System (ABS): The Assault Breaching System (ABS) is the U.S. Navy's future Mine Warfare (MIW) system of systems. ABS will be

composed of Intelligence, Surveillance and Reconnaissance (ISR) capabilities, standoff breaching "kill" mechanisms, precision navigation and MIW C4I.

INTELLIGENCE

Coastal Battlefield Recon and Analysis (COBRA). Will detect the presence of minefields, obstacles and camouflaged defenses on or near potential beach penetration areas.

Underwater Reconnaissance Capability (URC): This program consists of five separate components, three of which--Underwater Breathing Apparatus (UBA), Oxygen Transfer Pump Systems (OTPS), and the Transportable Recompression Chamber System (TRCS)--have been fielded. The two remaining component systems are the Diver Propulsion Device (DPD) and the Tactical Hydrographic Survey Equipment (THSE), which is entering Research and Development stage in support of AAV and hydrographical reconnaissance missions.

Family of Raid/Reconnaissance Equipment (FRRE): Provides a funding line for re-procurement/replacement of Life Support Diving Equipment. Parachutes, and similar small items in the raids/reconnaissance functional area.

Dragon Eye Unmanned Air Vehicle: Provides the MEU and infantry battalion a forward day and night reconnaissance capability. Dragon Eye is a man-portable system operated by and for small units. UAV autonomously gathers and transmits imagery near real time to a range of 10 km.

Small Unit Remote Scouting System: SURSS will operate by and for the small unit, providing Reconnaissance and Surveillance information, directly and on demand to battalion and smaller size units (GCE, FSSG and ACE). SURSS will provide targeting information for the SURSS equipped unit to the range of the supported unit's ground organic weapon systems (beyond line-of-site). SURSS capability will not replace any current equipment. SURSS will be employed as needed by the unit commander as the situation dictates. It will be employed by and support all echelons of command within the tenant organization. The SURSS will be organic to each GCE infantry, reconnaissance, armor, & LAR battalion, FSSG's H&S Battalion and MWSS.

MAGTF Secondary Imagery Dissemination System/Manpackable Secondary Imagery Dissemination System: M-SIDS is a manpackable, digital imagery collection/transmission system. The system will consist of (1) COTS digital camera, one (1) night vision intensifier tube, one (1) rugged handheld computer with data controller hardware/software, and a set of fixed and telephoto lenses. This will allow the MAGTF Commander access to time sensitive reconnaissance imagery.

COMMAND AND CONTROL

Integrated Intra Squad Radio (IISR). IISR provides robust and effective short-range communication for the Infantry Squad. The IISR gives the small unit leader a dedicated system to meet the full range of front line communication requirements only previously available through hand and arm signals. The IISR is a highly integrated package minimizing interconnecting cables and providing the simplest possible user interface.

Unit Operations Center (UOC): Provides a standardized, scalable, modular operational facility that includes workstations, servers, visual displays, communications interfaces and supporting structure to facilitate unit command and control. UOC will host and interface with current and future C4ISR systems providing commanders the ability to maintain situational awareness while both stationary, and on the move via radio and satellite communications assets. UOC will provide a standardized environment in order to facilitate the development of enhanced, standardized techniques, processes and procedures essential for continued effective operations across the MAGTF.

Light Armored Vehicle C2 Upgrade: The LAV-C2 is the command and control variant of the Light Armored Vehicle family and consists of a basic LAV eight-wheeled chassis. The LAV-C2 is a mobile command station providing field commanders with the required resources to control and coordinate Light Armored Reconnaissance (LAR) units in all assigned roles. A tactical command and control vehicle that provides the necessary voice and data connectivity to intelligence, fire support and maneuver agencies in support of the Light Armored Reconnaissance (LAR) Battalion or independent company units during amphibious operations and subsequent operations ashore. The LAV-C2 seeks to meet, maintain and improve the command and control requirements of the ORD.

TRAINING, EDUCATION, AND SIMULATION

Combat Vehicle Training System (CVTS): CVTS will provide the Marine Corps the ability to train M1A1, LAV and AAV crewmembers to the approved standards for combat skills and readiness. CVTS will be a high fidelity networked training system supporting individual, collective (crew, section, and platoon), combined arms and joint training scenarios. CVTS will support gunnery proficiency, weapons platform familiarization and force-on-force training. CVTS will provide a measurable improvement in individual, crew, and unit level tactical proficiency levels for tank, light armored reconnaissance and amphibious assault battalions. The system will train target acquisition, identification, and engagement with the weapons appropriate for each platform. CVTS for AAVs is not currently funded.

Indoor Simulation Marksmanship Trainer Enhanced (ISMT-E): This initiative will provide additional ISMT capabilities that will satisfy deficiencies for the Fleet Marine Force and the Marine Corps Reserve units. The upgrade provides additional weapon simulators, software modifications, and scenarios for night, operations other than war (OOTW), urban combat and indirect fire modifications to accommodate 60mm and 81mm mortars.

CACCTUS: The Combined Arms Command and Control Tactical Upgrade System (CACCTUS) will provide a simultaneous link between live, virtual, and constructive training and will more fully integrate the MAGTF's command and control systems.

Module Amphibious Egress Trainer/ Underwater Egress Capability: This modular (can replicate various platforms, i.e. CH-46, LAV-25, MV-22, CH-53, etc.) training device is designed to train Marines to egress a ditched aircraft or vehicle while disoriented.

