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Director

Armed Forces Communications and
Electronics Association



AFCEA

Information Technology Day

Marine Corps Systems Command

MAGTF COMMAND, CONTROL, AND COMMUNICATIONS

MC3

18 April 2012



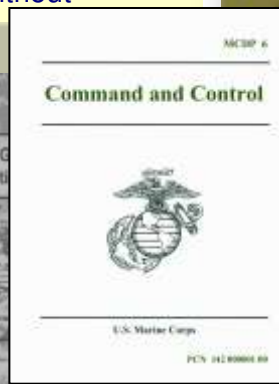
The Marine Corps is America's **Expeditionary Force in Readiness** — a **balanced air-ground-logistics team**. We are forward-deployed and forward-engaged: shaping, training, deterring, and responding to all manner of crises and contingencies. We create options and decision space for our Nation's leaders. Alert and ready, we respond to today's crisis, with today's force ... TODAY. **Responsive and scalable**, we team with other services, allies and interagency partners. We enable and participate in **joint and combined operations** of any magnitude. A **middleweight force**, we are light enough to get there quickly, but heavy enough to carry the day upon arrival, and capable of operating independent of local infrastructure. We **operate throughout the spectrum of threats** — **irregular, hybrid, conventional** — or the **shady areas where they overlap**. Marines are ready to respond whenever the Nation calls ... wherever the President may direct.

--Gen James F. Amos, 35th CMC, Commandants Planning Guidance

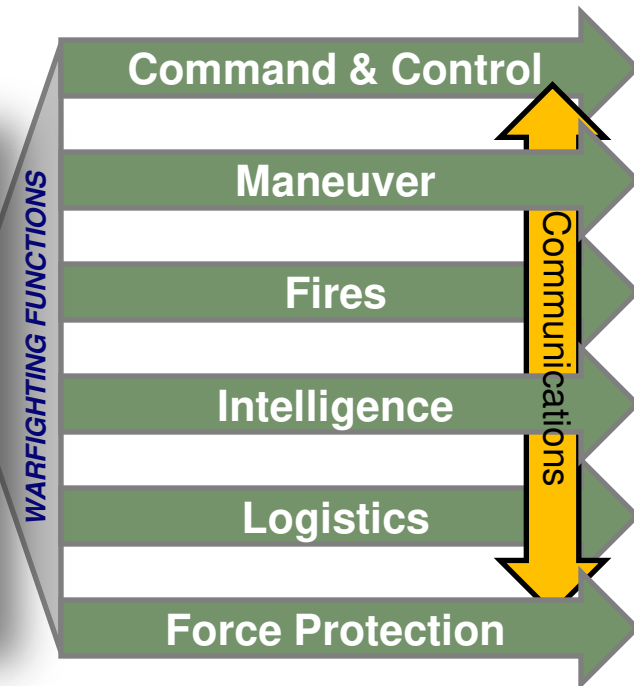
"No single activity in war is more important than command and control."

"Command and control by itself will not drive home a single attack against an enemy force. It will not destroy a single enemy target. It will not effect a single emergency resupply. Yet none of these essential war fighting activities, or any others, would be possible without effective command and control.

Without command and control, campaigns, battles, and organized engagements are impossible, military units degenerate into mobs, and the subordination of military force to policy is replaced by random violence. In short, command and control is essential to all military operations and activities."



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EQUIPPING THE WARFIGHTER TO WIN



35TH COMMANDANT OF THE MARINE CORPS
COMMANDANT'S PLANNING GUIDANCE

2010



FY 2012 MAGTF C2 ROADMAP



Planning and executing in response to Priorities of the 35th CMC

- We will continue to provide the best trained and equipped Marine units to Afghanistan. This will not change. This remains our top priority!
- We will rebalance our Corps, posture it for the future and aggressively experiment with and implement new capabilities and organizations.
- We will better educate and train our Marines to succeed in distributed operations and increasingly complex environments.
- We will keep faith with our Marines, our Sailors and our families.

Planning and executing in response to Vision & Strategy 2025

- Develop necessary capability and capacity to effectively operate in the information environment.
- MAGTF CE's optimized for amphibious and contingency operations; properly equipped with modern and secure C2, intelligence, communications, and networking systems.
- Integrate C2 and ISR capabilities down to the squad level.
- ACE: secure, network-enabled, and digitally interoperable to ensure it is responsive, persistent, lethal, and adaptive.

Efforts and support of the Marine Operating Concepts 2010's direction for the MAGTF & CE

- Command will continue to decentralize—and the MAGTF commander and his staff need to be networked into the major subordinate elements (MSE) to command and facilitate coordination and information flow. Improved communications, over-the-horizon, on-the-move, will aid in facilitating information flow.

MAGTF C3 Core Ideas

- Commander/Leader centric
- Network enabled
- Information Assurance
- Collaborative, shared situational understanding
- Performed by all echelons
- Can be performed anywhere in the battlespace

Characteristics of MAGTF C3 Systems

- Common: Command echelons use the same equipment. Unique MAGTF sensors and intelligence feeds enter via a standard gateway.
- Modular: C2 and communications system are designed to enable component utilization that logically supports a variety of configurations for various C2 echelons across the MAGTF.
- Scalable: Software and hardware components are added and subtracted to facilitate C2 functions for all MAGTF operations centers.
- Interoperable: C2 and communications system must possess the interoperability necessary to ensure success in joint and multinational operations as well as interactions with other government agencies (OGAs) and nongovernmental organization (NGOs).
- Agile: To support expeditionary forces and operational concepts, the communications system must be agile. The key dimensions of C2 and communications system agility are: Responsiveness, Flexibility, Innovation, Adaptation, Reliability, Security, Survivability.
- Trusted: C2 and communications system users must have confidence in the capabilities of the network and the validity of the information made available by the network.
- Shared: Sharing allows for the mutual use of the information services or capabilities between entities of the operational environment. This ability may cross functional or organizational boundaries.

MCSC adjusting and executing in response to USD(AT&L) Mandate for Better Buying Power

- Target Affordability and Control Cost Growth.
- Incentivize Productivity and Innovation in Industry.
- Promote Real Competition.
- Improve Tradecraft in Services Acquisition.
- Reduce Non-Productive Processes and Bureaucracy.
- **Do more without more.**

Staying on target with ASN RDA Priorities

- Getting the requirements right
- Making every dollar count
- Performing to Plan
- Minding the health of the industrial base
- Strengthening the acquisition workforce

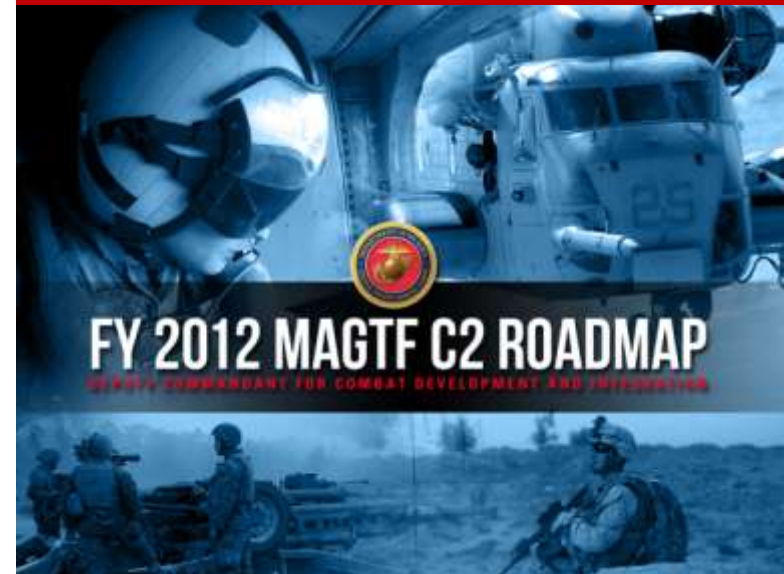


“Predominant in all command and control development are the essential human factors in war characterized by friction, uncertainty and complexity.”

*Richard P. Mills
Lieutenant General, USMC*

- Pursue development of solutions that are not system-centric, but that **enhance leader-centric, network enabled operations today and in the future.**
- Make decisions regarding capability, density or a combination of the two so that the solutions provided to our operating forces are the **best that available resources can buy.**
- Reduce the structure and emphasize the Marine Corps as a middleweight force in an environment of **fiscal constraint.**
- Reduce our systems inventory and our sustainment and training costs by balancing desired capability with **economic reality.**
- Sustain and educate our force to better prepare for future conflict in increasingly dynamic, hostile and widely dispersed conditions with **innovative approaches.**

Leverage technology to enable decentralized command, rapid feedback, and independent decision-making at all levels.



Command and control is the glue that connects the MAGTF.



EQUIPPING THE WARFIGHTER TO WIN

Command Element

Ground Combat Element

Aviation Combat Element

Logistics Combat Element

AN/TRC-170

EPLRS

SCI-COMMS

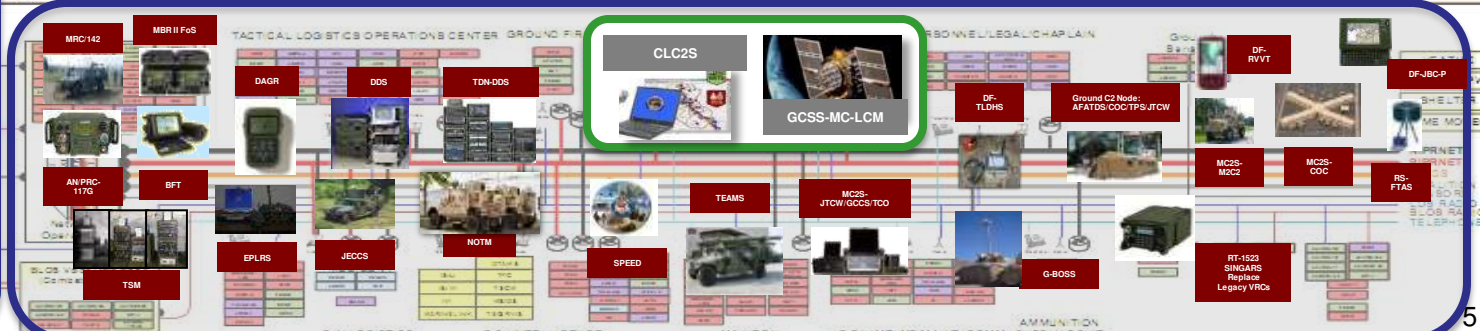
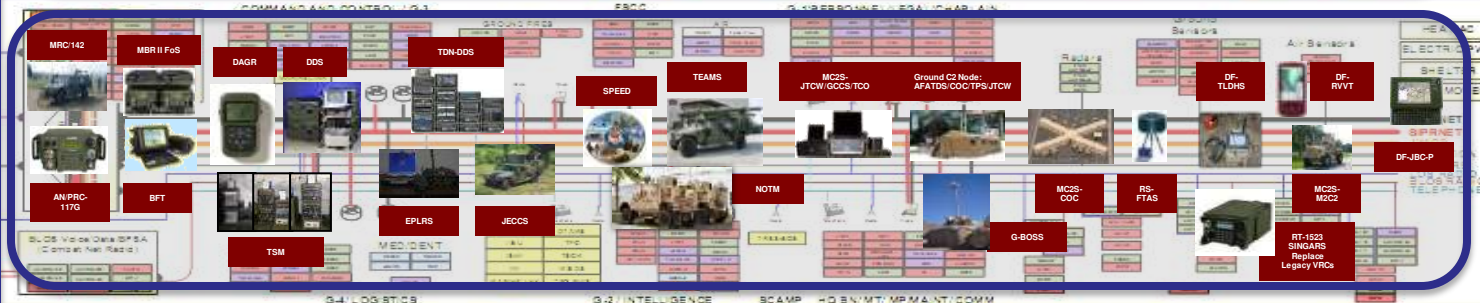
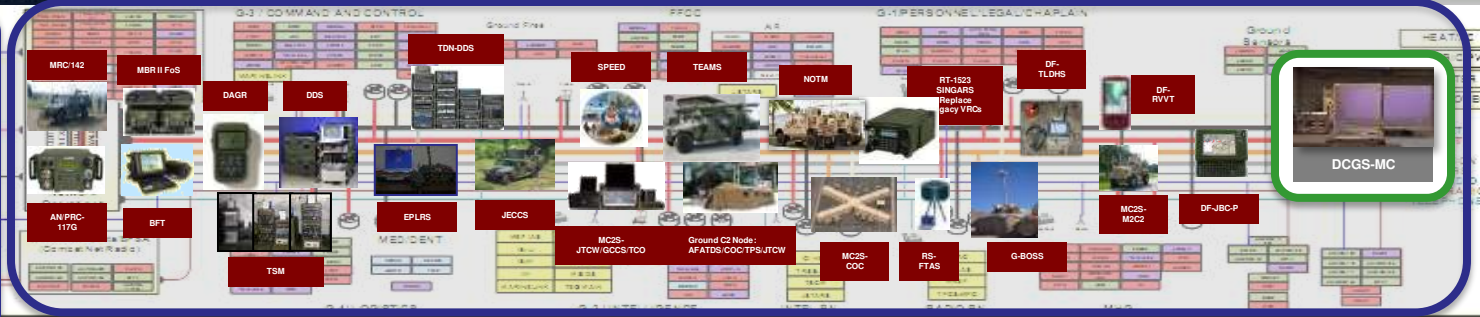
LMST

WPPL

SWAN

Phoenix

SMART-T





Providing MAGTF-Wide Integration

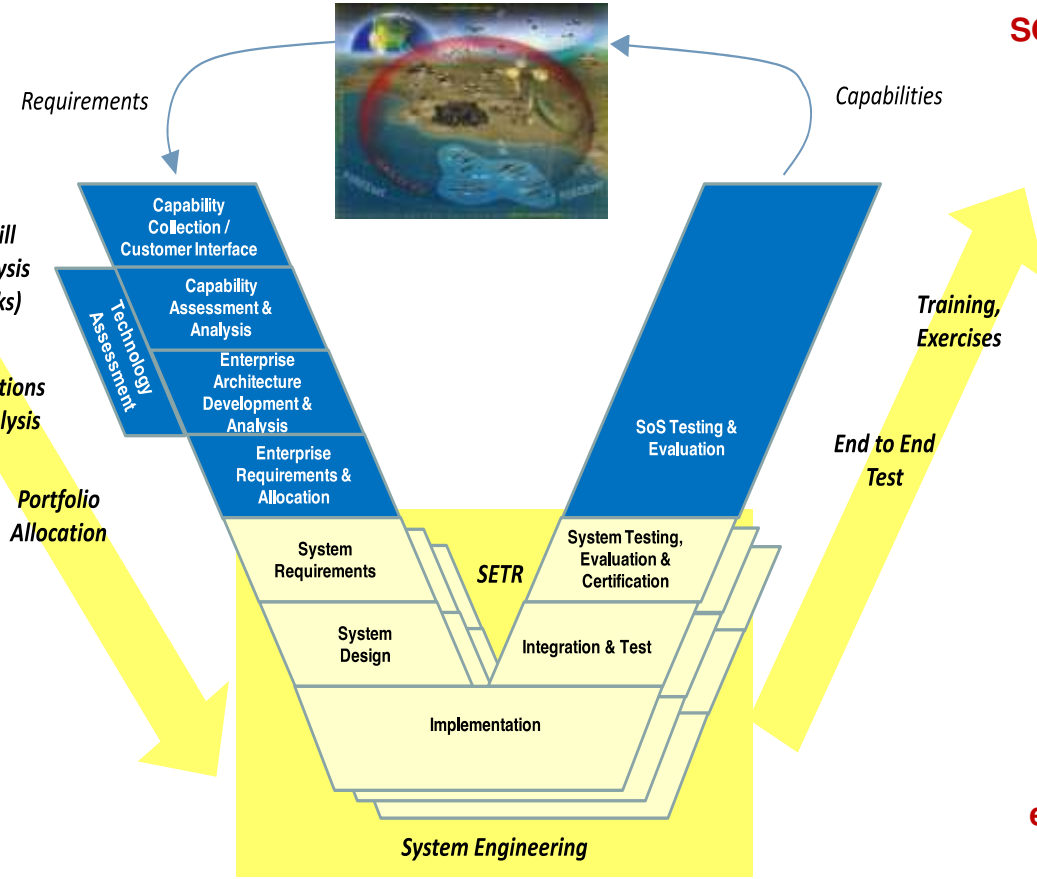
Demonstrate Joint C3 capabilities and interoperability

Individual systems specific engineering nested within SOS engineering approach.

Group and align integrated capabilities and capability sets to meet component strategic objectives

Focus on long-term planning for integrated capabilities rather than on "programs"

Enable enterprise agility through continuous review, reprioritization, and rebalancing of capabilities to meet changes in component strategic objectives



Identify and improve synergies and efficiencies and reduce redundancies

The portfolio integrated capability framework enables evaluation of an integrated portfolio of MAGTF C3 capabilities

Identify strategic technology vectors

Consolidate end-to-end MAGTF C3 capabilities to effectively coordinate with MAGTF C3 enablers

Working in concert with the Technical Authority (SIAT) to engineer MAGTF C3

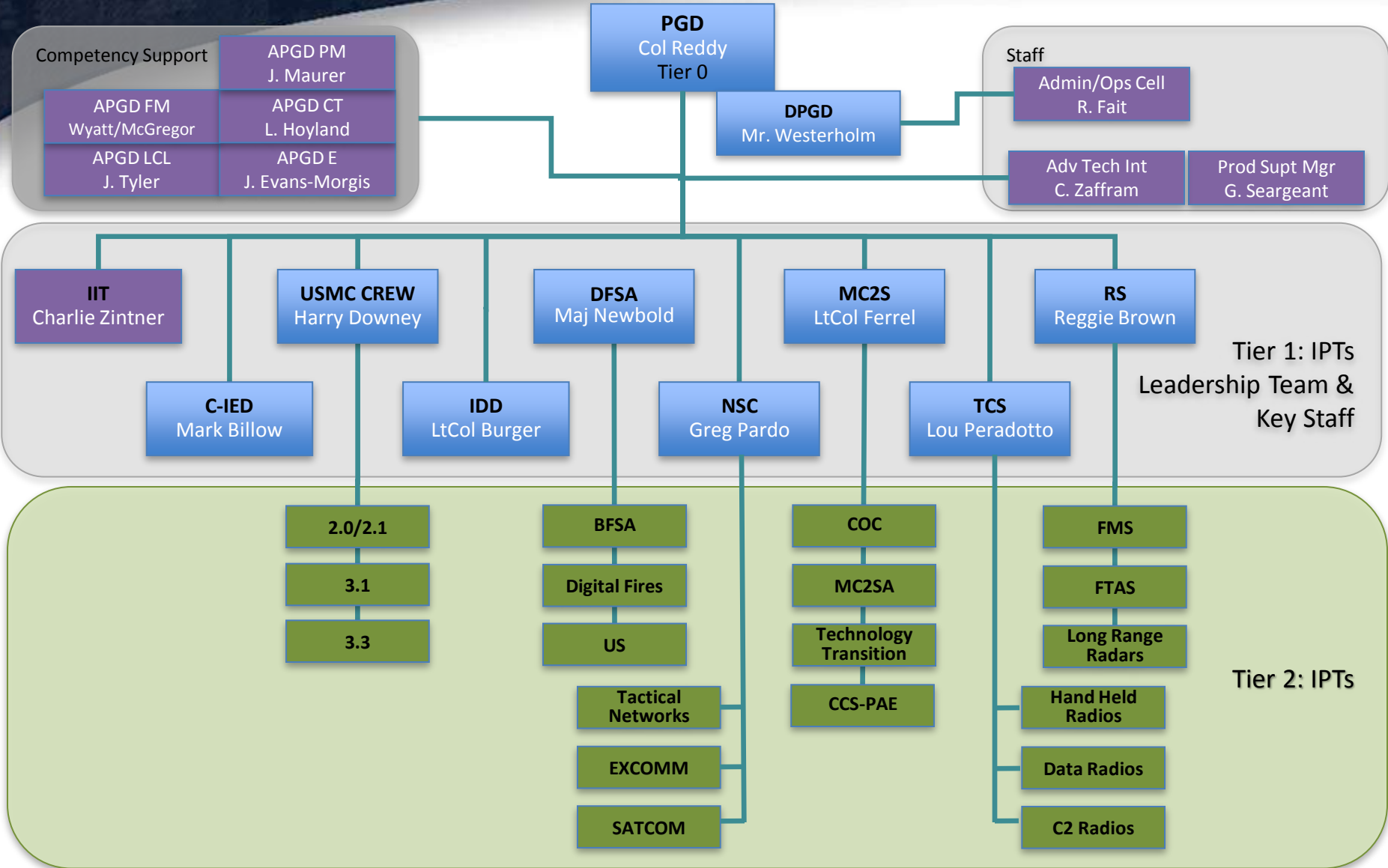
Product Group Mission & Director Priorities



- **Product Group Mission**
Acquire and Sustain Command, Control, Communications, and Counter Improvised Explosive Device Systems to enable the Marine Corps Air-Ground Task Force to Accomplish the Mission.

- **Product Group Priorities**
 - Support to Operating Forces (deployed (OEF, MEU), preparing to deploy, other Operating Forces).
 - Develop & sustain world-class, high performance C3, CIED, and CREW systems capable of operating in integrated MAGTF, Joint, and coalition environments, & *do so affordably and efficiently*.
 - Develop Product Group work force (military and civilian) through appropriate acquisition and professional training, education, certification and leadership development; enhance project planning processes; support workforce with adequate space and computer resources.
 - Ensure effective integration and support of all PG-23 programs into overarching portfolio; consolidate PG-23 into a high performing team of teams providing essential capability to the warfighter.

- **ENDURING PRIORITIES:**
 - ACCOMPLISH THE MISSION.
 - TAKE CARE OF EACH OTHER.
 - REPRESENT OUR COMMAND, CORPS, AND COUNTRY HONORABLY.





Marine Air Ground Task Force (MAGTF) Command, Control and Communications Directorate

C-IED MISSION

To develop, procure, integrate, field and provide life cycle management of **Improvised Explosive Device (IED) Detection Systems** for the warfighter in a timely and cost effective manner while maintaining the highest standards of professional integrity.

RMNIIS

Rugged Mobile Non-Intrusive Inspection System (RMNIIS). The RMNIIS provides the Warfighter the ability to scan vehicles and cargo at entry control points for organic and inorganic threat material.



PRDSS

Portable Rapid Deployment Surveillance System (PRDSS). Team PRDSS is committed to support of ground based 360 degree camera systems. PRDSS provides the warfighter the capability to conduct persistent surveillance and increases their resources for IED detection.



Counter Suicide Bomber

Counter Suicide Bomber System (CSBS). The Counter Bomber provides the capability to screen personnel at a stand-off distance of up to 100 meters and provide threat assessments of each subject in real time, providing the warfighter with a "First Look" option.



VOSS

Vehicle Optical Sensor System (VOSS). The VOSS Enables Route Clearance & EOD Teams vehicle crews to quickly locate and identify IED hazards with a 360 degree "eyes on" camera which utilizes high quality color daylight, night vision, and thermal imagery mounted on CAT I Cougars, LAV and M-ATV.



SECURE 1000

The Secure 1000 (S-1000) is a non-intrusive personnel scanning system which detects metallic and non-metallic objects concealed under clothing. The SECURE 1000 provides detection capabilities for personnel borne IEDs and the timely and professional acquisition and support of SECURE 1000 equipment.





Marine Air Ground Task Force (MAGTF) Command, Control and Communications Directorate

PM CREW MISSION

To develop, procure, and provide life cycle management of logistically supportable, fully integrated, USMC CREW, G-BOSS, and Biometrics systems in a timely and cost effective manner. PM USMC CREW will participate and coordinate programmatic efforts with other U.S. Military Services to leverage systems development, interoperability, supportability and cost effectiveness.



CVRJ (V)1 2.1



CVRJ (V)2 2.1

CVRJ

CREW Vehicle Receiver Jammer (CVRJ). Vehicle-mounted active and reactive electronic countermeasure that jams or disrupts RCIED detonation signals and provides a personnel protection envelope.

JCREW and G-BOSS

G-BOSS: Expeditionary, ground-based, self-contained, multi-spectral sensor-oriented, persistent surveillance system used to observe, collect, detect, identify, classify, track, and report on contacts, objects of interest, and assessed threats utilizing a fused video and sensor data display.
JCREW: Next Generation CREW System for Global Operations; dismantled, mounted, fixed site configurations

JCREW I1B1



Dismounted

Mounted



G-BOSS



THOR III & Biometrics

THOR III: Man-portable Counter RCIED solution for selected threats.
BAT: Provides Marines capability to identify personnel wanted by coalition forces and identifies persons of interest while conducting normal patrols.



THOR III 3.1

Biometric Automated Toolset



BAT Handheld Interagency Identity Detection Equipment (HIIDE)



Biometric Automated Toolset (BAT) Client



Biometric Automated Toolset (BAT) Server



Marine Air Ground Task Force (MAGTF) Command, Control and Communications Directorate

PM DFSA MISSION

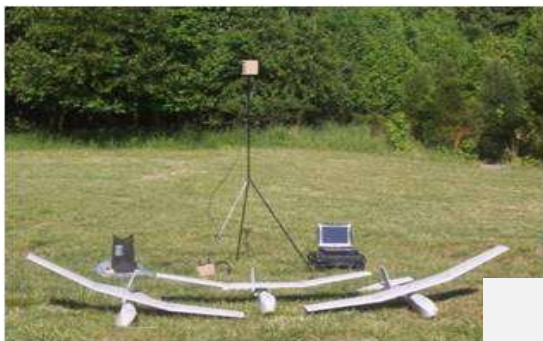
PM DFSA develops, modernizes, and sustains affordable, world class, high performance Blue Force Situational Awareness and Advance Targeting Systems capable of operating in integrated MAGTF, joint and coalition environments.



DIGITAL FIRES

Advanced Field Artillery Tactical Data System (AFATDS) Family of Systems provides the MAGTF the ability to rapidly integrate all fire support assets into maneuver plans via digital data communications links.

Target Location, Designation, and Hand-off System (TLDHS) is a modular, man-portable, equipment suite that provides the capability to quickly and accurately acquire targets in day, night, and near-all weather visibility conditions.



UNMANNED SYSTEMS

MAGTF C2 Integration of Unmanned Systems and Remote Video Terminals (RVT). The portfolio currently consists of two general capabilities: Unmanned Aircraft Systems (UAS) which is Group 1 WASP, RAVENB, PUMA and STUAS along with RVT which is VideoScout and RVVT.



SITUATIONAL AWARENESS

Joint Battle Command-Platform Family of Systems (JBC-P) Increment I, Blue Force Tracker (BFT FoS), will provide tactical input/output battlefield digitized PLI and SA to enhance friendly forces, and integrate the blue force COE into a COP. Increment II, The Joint Battle Command Platform (**JBC-P**) will consist of JBC-P software, a stand-alone dismounted computing platform (handheld or end user device), and improvements to dismountable variants in future refreshes.





Marine Air Ground Task Force (MAGTF) Command, Control and Communications Directorate

PM MC2S MISSION

PM MC2S delivers to the Marine warfighter an end-to-end, fully integrated, cross functional set of MAGTF Command & Control (C2) Capabilities across five-echelons of Combat Operations Centers through a Common MAGTF C2 Software Baseline.

Acquire Produce Transmit



PUBLIC AFFAIRS EQUIPMENT

Provides PA Marines the capability to collect, produce, transmit, and manage still, video, written, and audio communication products in order to globally engage various publics.

TECH TRANS

The transition of S&T projects such as the Mobile Modular Command & Control (M2C2) system and the Network-On-The-Move (NOTM) capability into Programs of Record (PoRs) ensures warfighters are equipped with cutting edge technology .



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TEAM MC2SA

MAGTF C2 Systems and Applications (MC2SA) provides the common, modular and scalable collaborative planning software for all elements and echelons of the MAGTF and is the software baseline for MAGTF C2.

COMBAT CAMERA SYSTEMS

CCS supports all elements of the MAGTF by providing a full range of professional imagery collection, print and reproduction capabilities.



COC

The Combat Operations Center (COC) is a deployable, self-contained, centralized facility that provides shared command and control / situational awareness (C2/SA) functionalities in a collaborative environment.

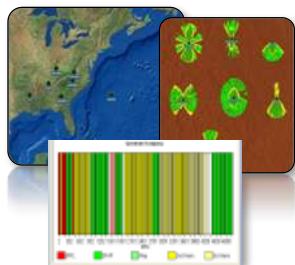




Marine Air Ground Task Force (MAGTF) Command, Control and Communications Directorate

PM NCS MISSION

PM NSC Team leads the Marine Corps' effort in research and development, acquisition and sustainment of tactical networking and switching equipment; wireless broadband, and satellite ground communication systems, as well as cryptographic equipment.



SATCOM SYSTEMS

EHF and SHF wideband SATCOM systems providing long-haul communications to higher headquarters for reach back into the GIG and intra-MAGTF communications down to the Battalion level. Systems include ECCS, LMST, Phoenix, SMART-T, DAGR, GBS TGRS, and SCI COMMS.



TACTICAL NETWORKS

Tactical switched systems, technical control functions, communications security to our Operating Forces. Systems being developed include COMSEC, DTC-R, TSM, and JECCS.



EXPEDITIONARY COMMUNICATIONS

Tactical networking systems and other GIG-enabling technology that enhances the expeditionary Operating Forces. Systems being developed include NOTM, TDN DDS-M, VSAT, and NPM/SPEED.





Marine Air Ground Task Force (MAGTF) Command, Control and Communications Directorate

PM RS MISSION

To develop, procure, integrate, field and provide life cycle management of logistically supportable, fully integrated and interoperable Radar Systems and to provide our customers timely and cost effective support while maintaining the highest standards of professional integrity.

Foreign Military Sales (FMS) Team

The FMS Team supports multiple FMS cases for Kuwait, Bahrain and Egypt to provide sensor and C2 platforms that are interoperable with US forces. The FMS Team are representatives of the Command in these international communities, and support US Foreign Policy objectives as well.



Family of Target Acquisition Systems (FTAS)

FTAS: Equipment required to search, detect, track, locate and process hostile indirect fire (IDF) weapons - mortar, artillery, and rocket projectiles for counter fire or servicing. The equipment includes the AN/TPQ Firefinder, the AN/TPQ-48 Lightweight Counter-Mortar Radar and the AN/TSQ-267 Target Processing Set.

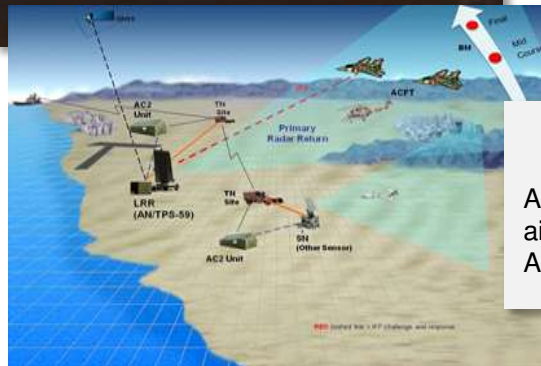


AN/TPQ-48



AN/TSQ-267

AN/TPQ-46



Long Range Radar Systems

AN/TPS-59: 3-D Long Range Radar, which detects aircraft and tactical ballistic missiles.

AN/TPS-63: 2-D Medium Range Radar

AN/TPS-59



AN/TPS-63





Marine Air Ground Task Force (MAGTF) Command, Control and Communications Directorate

PM TCS MISSION

(PM TCS) leads the Marine Corps' tactical communication modernization effort through the acquisition and life cycle management of tactical communication systems supporting combat and training operations.



Tactical Data Radio Systems

Line-of-Sight (LOS) and Beyond LOS voice and data tactical radio capabilities.

Command and Control Radios

MultiBand Line-of-Sight and Satellite man-packable and vehicular mounted capabilities.



Handheld Radios

Tactical Hand Held Radio (THHR) :Line-of-Sight handheld and vehicular mounted capabilities supporting the United States Marine Corps.





Marine Air Ground Task Force (MAGTF) Command, Control and Communications Directorate

- First infantry unit deployed with 34 IDDs in Sep 2011 (up from 13)
- UUNS requirement met in Jan of 2012
- Camp Lejeune/Pendleton Temp Kennel facilities operational Apr 2012
- Certified 504 USMC and 69 UK IDDs
- Executed 22 USMC Handler Training Courses in support of 22 units
- 3rd FMS case in support of the UK to be awarded in Apr 2012





Back-Up





Product Group Director:
Col Peter C. Reddy

Deputy

APGDs

Ops/Admin

PG Staff

C-IED:
Mr. Mark Billow

- RMNIIS
- VOSS
- PRDSS
- Secure 1000
- CSBS

**IED
Detection
Dogs:**
LtCol Ken
Burger

CREW:
Mr. Harry Downey

- CREW 2.0/2.1
 - CVRJ/Chameleon (II)
 - CVRJ Band C (IV-M)
- CREW 3.1 (USON)
 - Thor III (IVM)
 - QRD (UUNS - TPE)
 - BAT (UUNS)
 - HIIDE (UUNS)
 - BESD (AAP)
 - IDS
- CREW 3.3
 - USMC JCREW 3.3 (II)
 - Mounted
 - Dismounted
 - Fixed Site
 - GBOSS (IVM)
 - GBOSS(E) (III)

**Digital Fires
and Situational
Awareness:**
Maj Brian Newbold

- Digital FIRES
 - AFATDS (II-A)
 - BUCS
 - MTS
 - TLDHS (III)
- BFSA
 - JBC-P FoS
 - BFT FoS (IC-A)
 - BFT
 - BFT II
 - JCR
 - KGV-72
 - MRC
 - JBC-P (III-A)
- US
 - RVVT
 - Corporal (JCTD)

**MAGTF C2
Systems:**
LtCol Ty Ferrel

- COC
 - COC (V) 2-4 (III)
 - COC (V) 1 (AAP)
 - COC OTM (UUNS)
- MC2SA
 - JTCW (IVT)
 - C2PC
 - TSOA
 - GCCS (IAM)
 - TCO (IVT)
 - JC2
- CCS
- PAE
- MARCIM
- TTO
 - NOTM Incr 1 (1/2)
 - BMDL
 - SCC
 - DBMA/BMS-MC
 - SIE/DTN
 - BSN
 - TEDS JCTD
 - M2C2/COBRA3
 - H2 (H2C2, VSCP, Trusted H2, C2 Sleeve)

**Networking
and SATCOM:**
Mr. Greg Pardo

- TACNET Systems
 - OEF CC (UUNS)
 - COMSEC
 - DTC/-R (IVT/IVM)
 - TSM /FoS (AAP/IVM)
 - RSAM
 - DEOS
 - DITS
 - DITS-H
 - JECCS/-R (IVM/AAP)
- SATCOM Systems
 - LMST (IVT)
 - Phoenix
 - ECCS (IVM)
 - SMART-T
 - GBS
 - DAGR
 - SCI Comms (III)
 - SCI VSAT (USON)
- EXCOMM
 - NOTM Incr 2
 - TDN DDS-M/ (IVM)(USON)
 - SWAN (USON)
 - VSAT (IVM)
 - SPEED (AAP)

**Radar
Systems:**
Mr. Reginald
Brown

- Long Range Radar
 - AN/TPS-59 (IVT)
 - (V)3 PPM I
 - (V)3 PPM II
 - AN/TPS-63
 - 3DELRR (SI-AF)
 - VWC
 - FMS (17 Cases)
 - FTAS
 - AN/TPQ-46 (III-A)
 - LCMR (AAP)
 - TPS (AAP)

**Tactical
COMM
Systems:**
Mr. Lou Peradotto
(Acting)

- Platform Integration
- Hand Held
 - THHR Maritime (AAP)
 - THHR SVA (IVM)
 - THHR Urban (IVM)
 - IISR (IVM)
- C2 Radios
 - MBR II (IVM)
 - MBR (USON)
 - HFR (IVM)
 - MUOS (JTRS)
 - SINGARS
- Data Radios
 - WPPL-D (USON)
 - TRC-170/Ant Replacement (AAP)
 - MRC-142 B/C (AAP/IVM)
 - TEAMS (USON)
 - EPLRS
 - TSSR (USON)

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