



# Marine Corps Combat Development and Integration

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# Marine Corps Combat Development Command





# What We Do at CD&I and MCCDC

We fully integrate Marine Corps warfighting capabilities; including doctrine, organization, training, materiel, leadership and education, personnel, and facilities, to enable the Marine Corps to field combat-ready forces.

## Lines of Operation

### Integration Across

- D Doctrine
- O Operations
- T Training
- M Materiel
- L Leadership
- P Personnel
- F Facilities



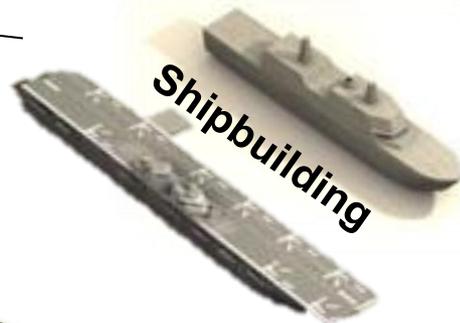
S&T and Experimentation



Training and Education



Ground Program Requirements



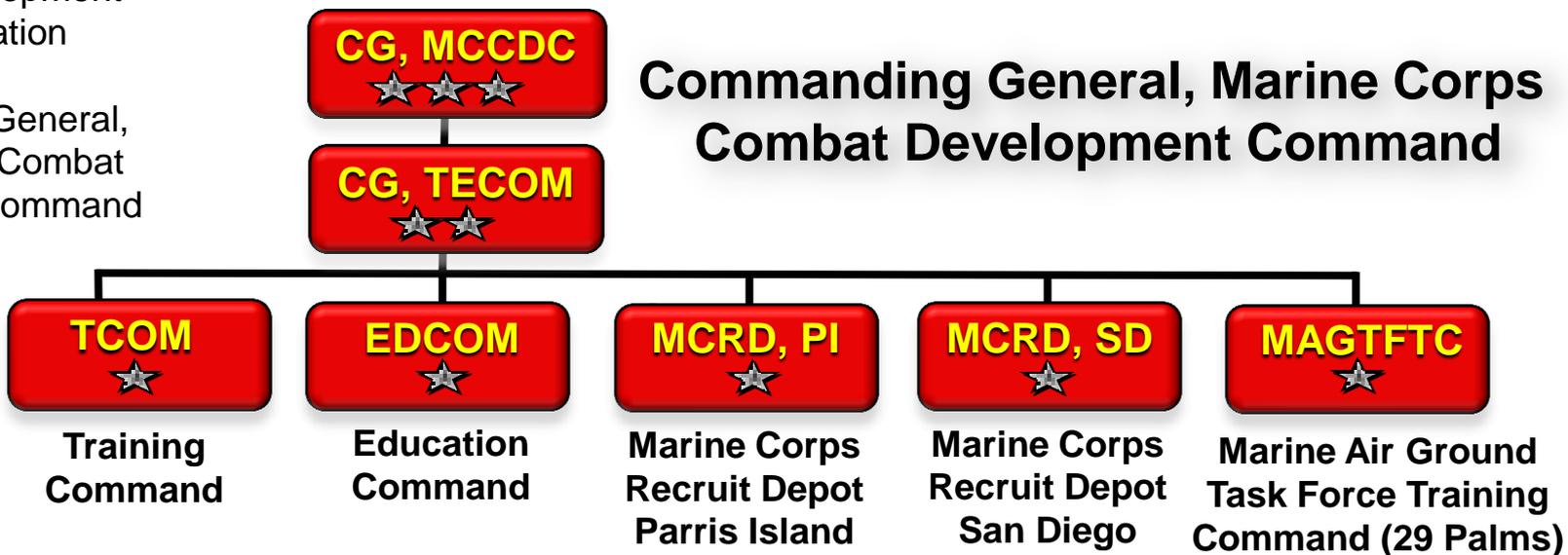
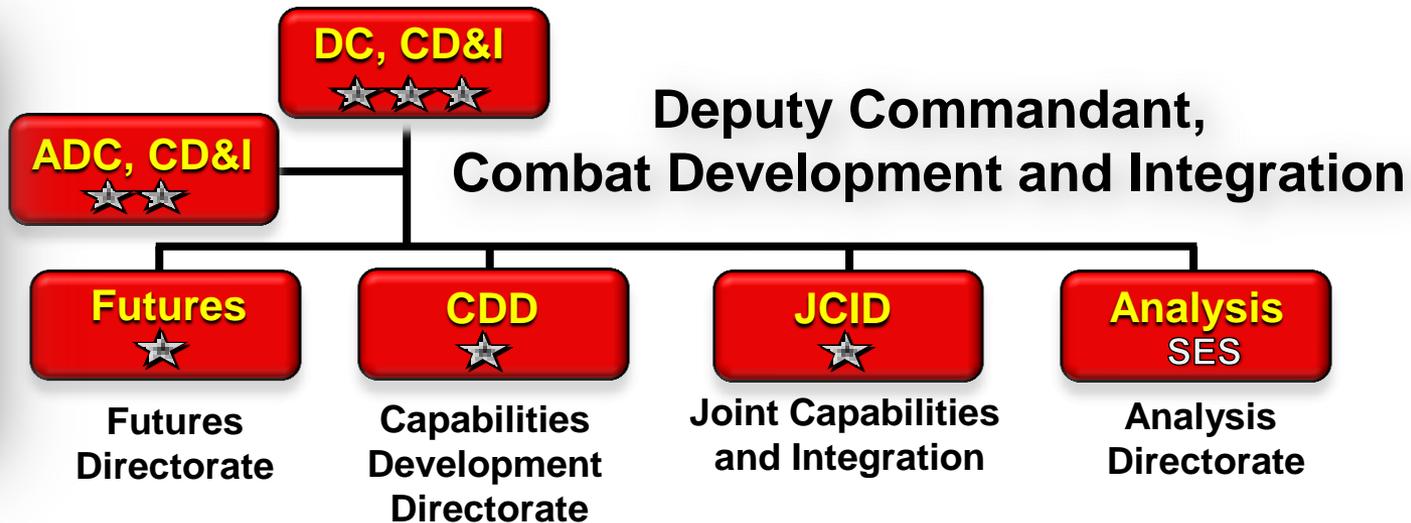
Shipbuilding



# CD&I and MCCDC Organizational Charts

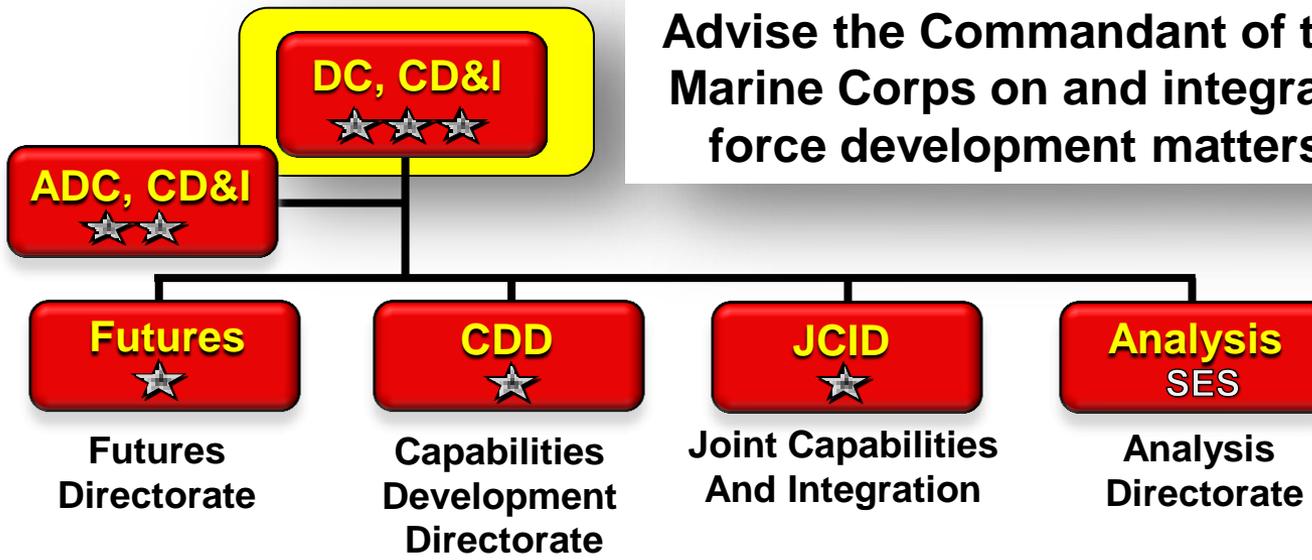


**LtGen Kenneth J. Glueck**  
Deputy Commandant,  
Combat Development and Integration  
And  
Commanding General,  
Marine Corps Combat  
Development Command





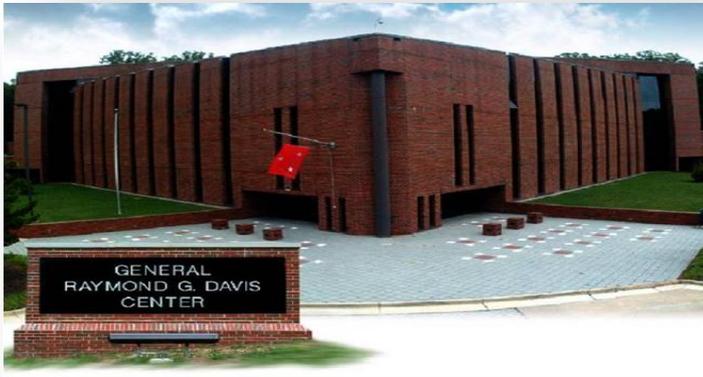
# Deputy Commandant, Combat Development and Integration



Advise the Commandant of the Marine Corps on and integrate force development matters



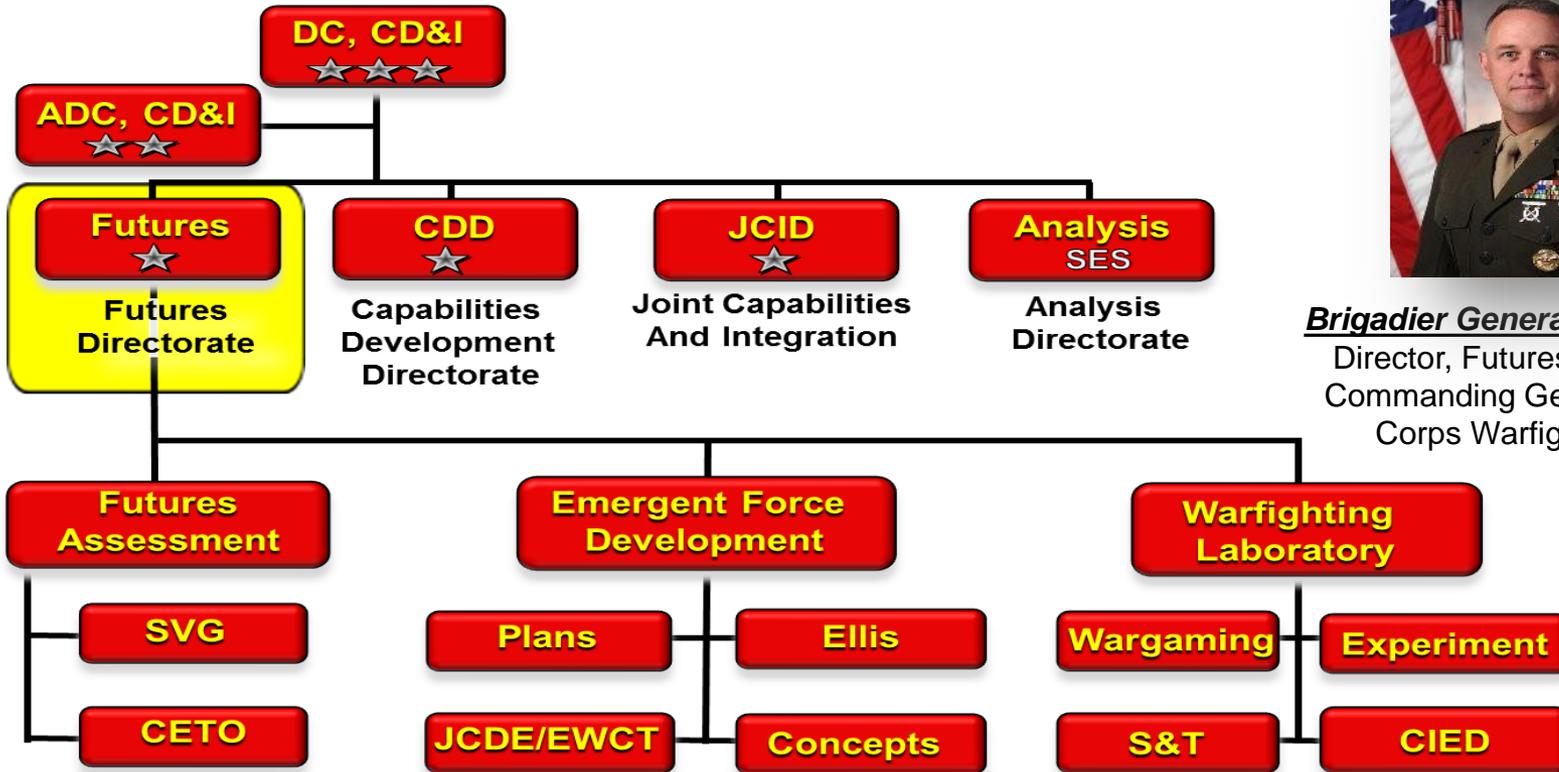
**LtGen Kenneth J. Glueck**  
Deputy Commandant, Combat Development and Integration



- ✓ Assess strategic landscape and translate vision into capability
- ✓ Produce solutions for capability gaps
- ✓ Joint integrator for combat development
- ✓ Develop and evaluate of innovative concepts and technologies
- ✓ Integrate processes to organize, train and equip



# Futures Directorate

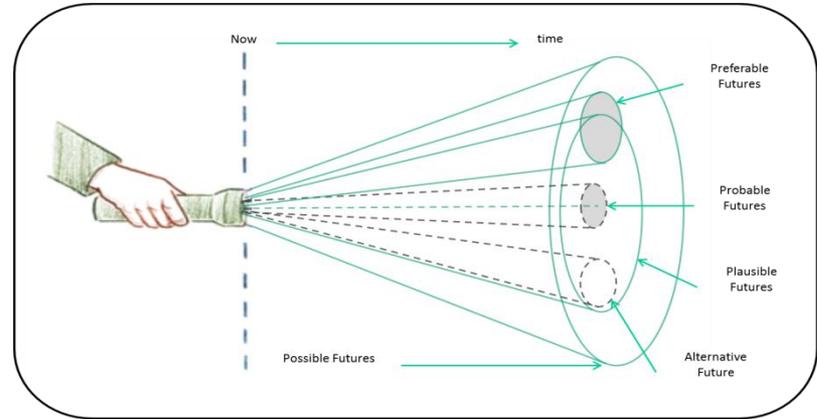
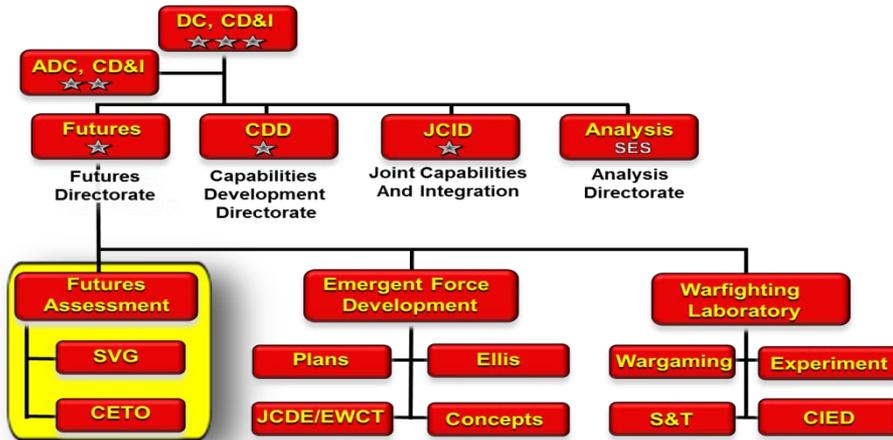


***Brigadier General Kevin Killea***  
 Director, Futures Directorate  
 Commanding General Marine Corps Warfighting Lab

**Mission:** Enhance the current and determine the future Marine Corps strategic landscape by assessing plausible future security environments, developing and evaluating Marine Corps Service Concepts, and integrating these concepts into Naval, Joint, and other Service concepts in order to identify potential gaps and opportunities to inform future force development and enable conditions for future operational advantage.



# Futures Assessment

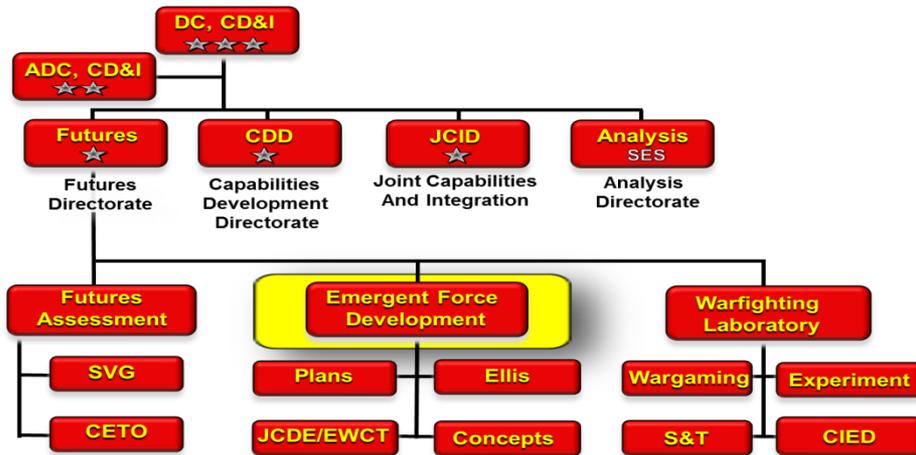


**Mission:** Provide assessments of plausible future security environments by researching and assessing emerging and future world threats, opportunities and strategic settings to inform development of institutional concepts and future force development

- Project plausible future operational environments, deriving potential operational requirements and influencing and shaping future operating concepts.
- Conduct research and make recommendations for developing “change strategies” to enable the Marine Corps to institutionalize and field future warfighting capabilities across the DOTMLPF spectrum.
- Coordinate with external organizations and agencies to determine the future security environment



# Emergent Force Development



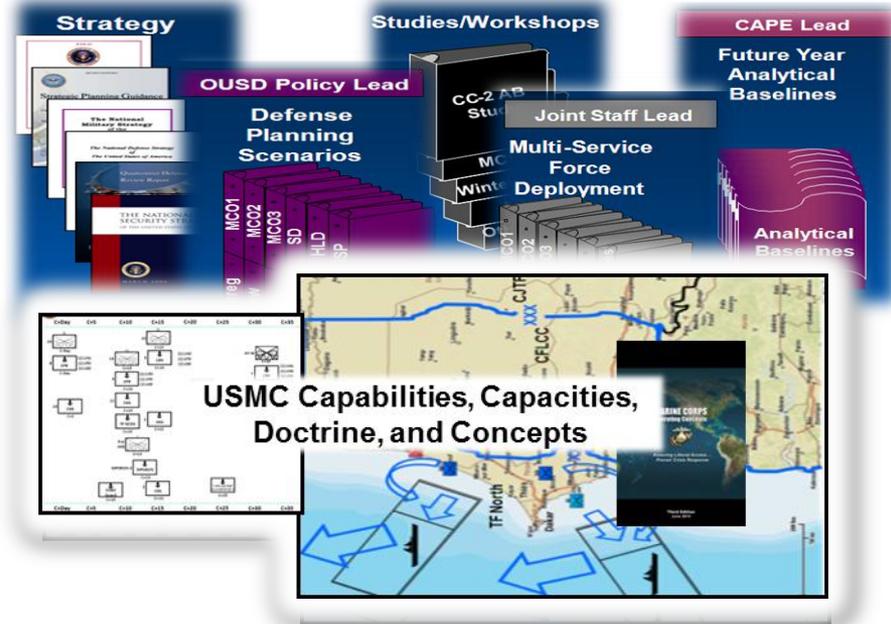
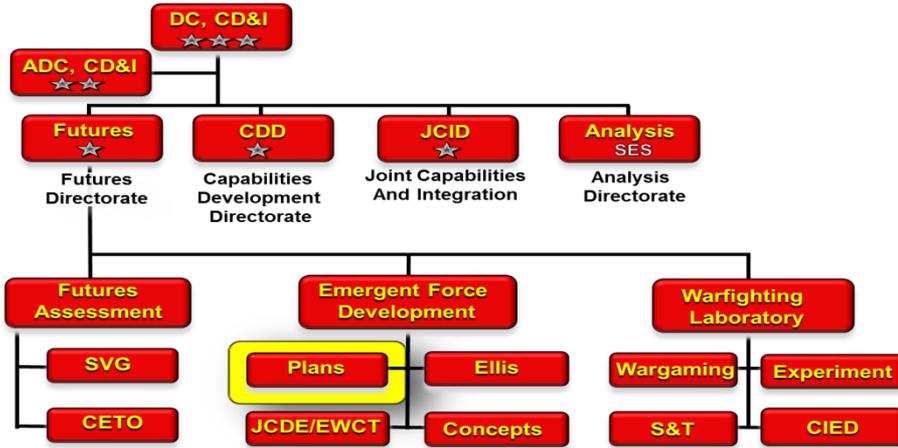
Mission: Examine select future security environments, emerging warfighting opportunities and challenges, Naval warfare and joint /coalition integration and capabilities, in order to **develop Marine Corps service concepts and concepts of operation** to promote development of the emergent Marine Corps force

## Mission Essential Tasks:

- Develop an iterative and interactive relationship with CDD for capability development
- Develop internal relationships within Futures
- Develop a cooperative Naval relationship for capability development
- Develop and provide Lifecycle management to Marine Corps, Naval, USSOCOM, joint, multinational and other service concepts
- Propose revisions to joint / naval doctrine
- Support Strategic Analysis (SSA) scenario development , future USMC CONOPS w/ Naval, Service, USSOCOM, OSD and Joint force planning activities/studies
- Provide approved joint scenarios iso USMC force development
- Develop naval warfighting and partnerships and development of Littoral Warfare Expertise
- Provide Marine Corps support to joint and other service capability development including TRADOC and FFC



# Emergent Force Development “Plans”



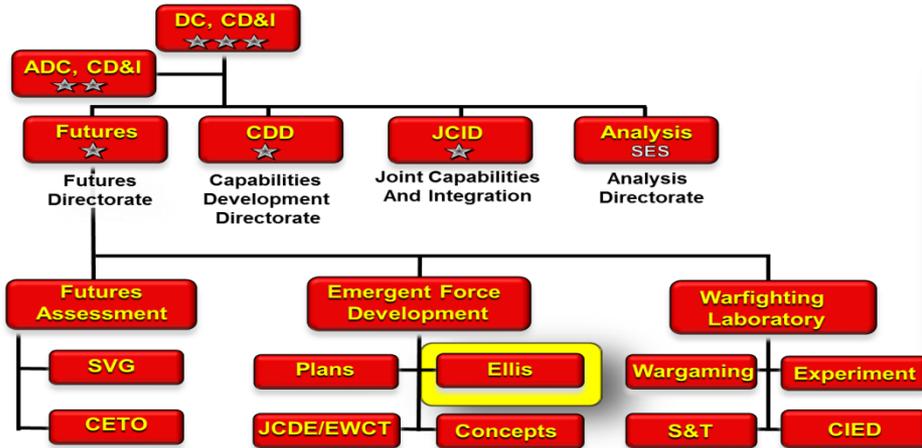
- Serves as the **Marine Corps lead** in representing and integrating USMC capabilities, capacities, doctrine, and concepts within future year Support for **Strategic Analysis (SSA) scenario development**

and analysis processes as governed by DODD 8260 series, Defense Planning Guidance (DPG) and other applicable directives.

- Integrate and coordinate the overall planning, direction, and timely development of future year USMC Concepts of Operations within Naval, Service, OSD and Joint force planning activities/studies.
- Support selected joint studies to include **Quadrennial Defense Reviews (QDR)**, Mobility Capability Requirements Studies (MCRS)/Mobility Capability Assessments (MCA), Operational Availability (OA) Studies/Joint Force Assessments (JFA) and other Program Reviews (PR)



# Emergent Force Development “Ellis Group”



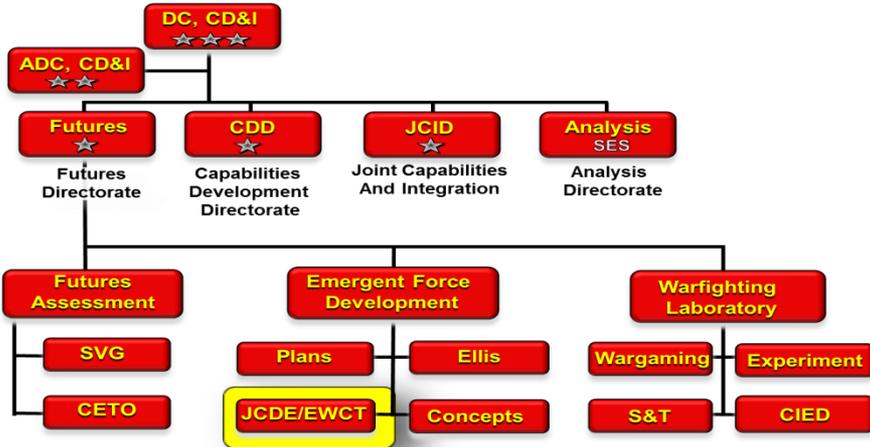
The Ellis Group conducts sustained and progressive examination of emerging warfighting challenges, identifies opportunities for increasing naval warfighting effectiveness, develop littoral warfare expertise, and coordinates with naval partners.

- Provides operational insights to both the CNO and CMC
- Support / coordinate the Naval Board
- Support Cooperative Strategy 21<sup>st</sup> Century re-write (USMC lead)
- Support Development of MC Ten Year Obj Force Plan
- Sponsor analysis and recommend solutions to operational challenges
- Conduct a strategic symposium series with CNA and OPNAV
- Develop a Littoral Maneuver CONOPS to enhance amphibious operations
- Develop an Expeditionary Operations CONOPs within ASB to describe the role of expeditionary forces
- Develop a Naval SOF Integration concept to increase collaboration between SOCOM and Sea Services
- Enhance integration of naval operations





# Emergent Force Development "JCDE/EWCT"



## Joint Concept Development and Experimentation (JCDE)

Coordinate Marine Corps support to and participation in joint and other Service force development activities in Hampton Roads in order to shape joint force 2020 and supporting Service initiatives.

Increases coordination between CD&I and the Joint Concept Development & Experimentation (JCD&E) process, the Chairman Joint Chief of Staff program to address joint force capability gaps and future security challenges.



## Expeditionary Warfare Collaborative Team (EWCT)

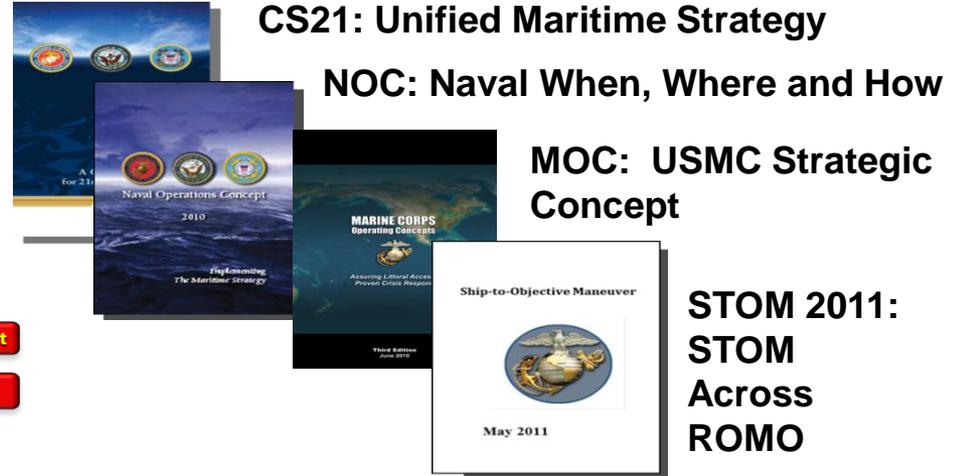
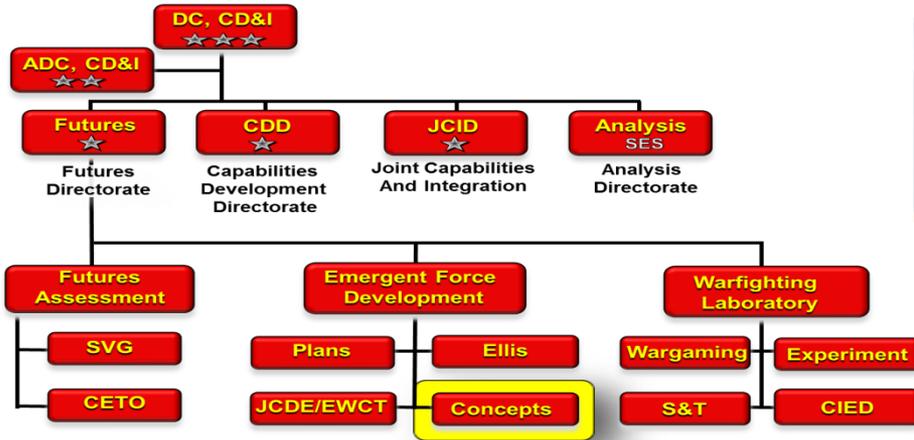
Increases coordination between CD&I and Fleet Forces Command (FFC). Provides Service level coordination and integration support to naval capability development activities in order to support naval strategy and warfighting concepts

EWCT-Quantico (Sailors) reports to Fleet Forces Command (FFC) and works in CD&I HQ

EWCT-Norfolk (Marines) reports to DC CD&I through CG MCWL and works in FFC N5/8/9 spaces in Norfolk



# Emergent Force Development “Concepts”



**“Develop Marine Corps service concepts, and lead Marine Corps participation in the development of joint, naval, multinational and other service concepts” in order to inform development of “future warfighting capabilities to meet national security objectives.”**

*If a service does not possess a well-defined strategic concept, the public and political leaders will be confused as to the role of the service, uncertain as to the necessity of its existence, and apathetic or hostile to the claims made by the service upon the resources of society.*

—Samuel P. Huntington, 1954



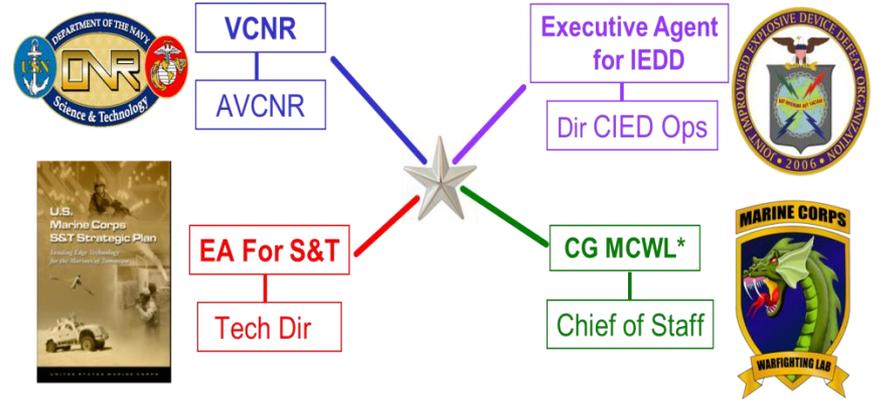
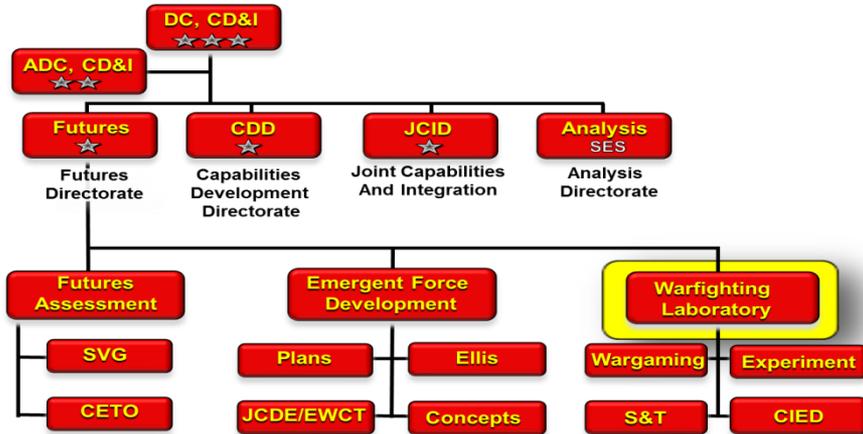
# Concept: Ongoing Efforts



- **Branch Head/General Support**
  - ISO Ellis: Revision of *A Cooperative Strategy for 21<sup>st</sup> Century Seapower* (CS21R)
  - ISO FD: Marine Corps Strategy/Objectives (exact title TBD)
  - ISO Ellis: Multi-Service Concept for Military Engagement and Crisis Response in the Maritime Domain
- **Naval and Marine Corps Concepts Section**
  - ICW DC AVN & NWDC: LHD/A and F-35B Integration White Paper
  - ICW USFFC: Enhanced ARG/MEU CONOPS
  - ICW CDD: Concept and Programs Project (Annual, Wiki and Web Application)
  - ICW DC M&RA: Marine Total Fitness Concept
  - ICW CDD: Combined Arms Capabilities Integration (CACI) Concept
  - ISO CDD Cyber Electronic Warfare Coordination Cell Concept (CEWCC)
  - ICW DCA: research potential concept for barge FARPS
- **Joint Concept Section**
  - ICW TRADOC & USSOCOM: Strategic Landpower Task Force concept
  - Joint Concept for Entry Operations (JCEO)
  - Joint Aerial Layer Network Command and Control (JALN-C2)
  - Joint Concept for Rapid Aggregation
  - J7 Joint Concept Working Group: FY 14 Plan for Concept Development
  - ABCA Projects: Conflict Prevention; Role of ABCA Land Forces in Gaining and Maintaining Access in an Anti-Access/Area Denial Environment; Compendium of National Concepts.



# Warfighting Laboratory

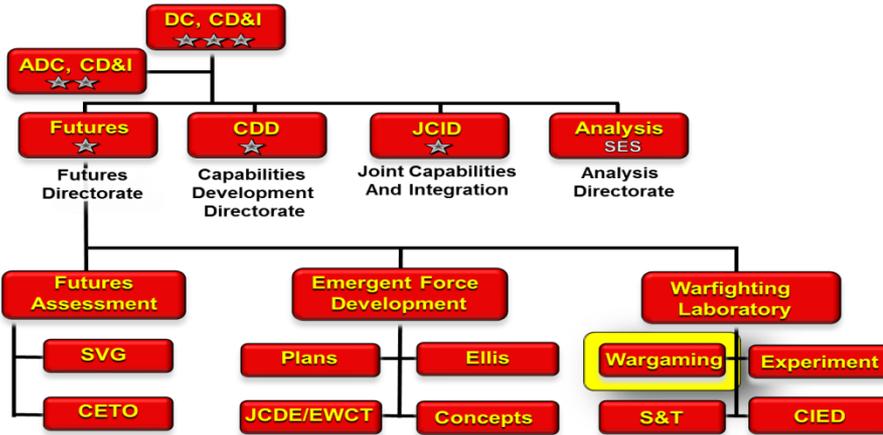


Mission: Rigorously explore and assess Marine Corps service concepts using an integral combination of wargaming, concept based experimentation, technology assessments, and analysis to validate, modify, or reject the concept’s viability, identify capability gaps and opportunities, in order to inform and future force development

**A Balance Between “Thoughts and Things”**



# Warfighting Laboratory “Wargaming”



Plan and execute the Marine Corps’ Title 10 Wargaming program and all other internal combat development, advocate and special interest wargames. Support and /or supplement live force experimentation as appropriate. Act as service lead for Naval, Joint, DoD and Interagency wargaming matters.

## Expeditionary Warrior (EW) 2013

- Organized from forward-deployed forces mitigating tyranny of distance
- Intent-based/adaptive organizations enabling rapid aggregation
- Agility through scalability

## Naval Services Wargame 2013

Addressing a better understanding of the principles that guide the scalable, timely aggregation of forces across varied distances in anticipation of a response to crises.





# USMC Wargaming Program



**Mission: Plan and execute the Marine Corps' Wargaming Program and act as the Service's cognizant entity for wargaming matters.**

## Service Level

- Examine issues and provide insights
- Generate and refine concepts and issues
- Test and refine plans, concepts, and new technologies
- Assess alternatives (policies, courses of action, etc.)
- Shape and focus service and joint experimentation

## Participant Level

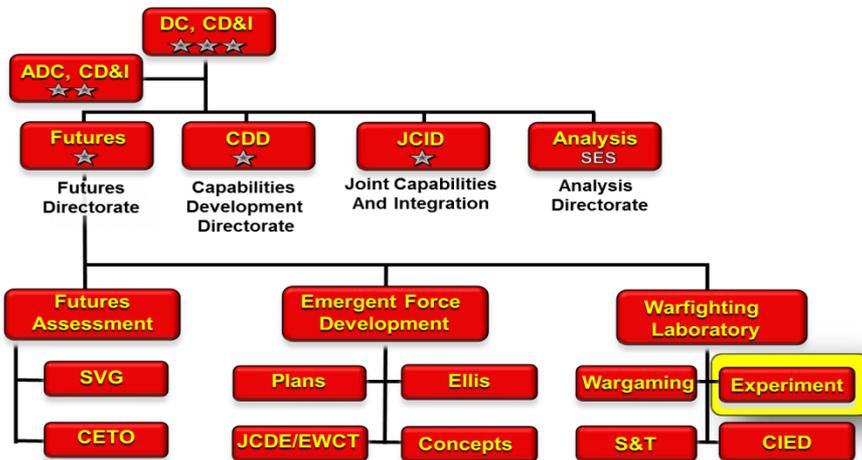
- Mission analysis
- Estimate of the situation
- Calculate risk
- Make decision
- React to consequences
- Human participation
- Communication mechanics





# Warfighting Laboratory

## “Experiment”



### Enhanced MAGTF Operations Limited Objective Experiments (EMO LOE)



#### LOE #3 (Fires)

- Digital Fires / FSC / Armed UAS capability to Company. (HART/SL).
- Cyber (EW and CNO (OCO, DCO, CNE)) (non-kinetic) with MAGTF fires (kinetic).
- TACP equipment set with and without Technology enhancements (i.e. HART/SL, GUSTO, JFO Equipment, and ICA).
- Fires request and approval process.
- HIMARS in an amphibious environment
- ESG/MEB/MEU C2 issues during distributed amphib ops
- MEB staff processes.
- SOF integration processes.
- Sea based sustainment techniques and procedures.

#### Advanced Warfighting Experiment (AWE)

- Culminates “EMO Series” and initiates transition to “Future Maritime Operations”
- Functionality, organization and C4 for Blue/Green fly-in command element (FICE)
- SOF and Non-DoD entities
- Sea based logistics support with a T-AKE (T)
- Energy Efficiency and Logistics Demand Reduction
- Casualty care and evacuation
- Alternative ship to shore connector(s) (T)
- Advanced warfighting technologies



### Enhanced MAGTF Operations Limited Objective Experiments (EMO LOE)



#### LOE #1 (Command and Control)

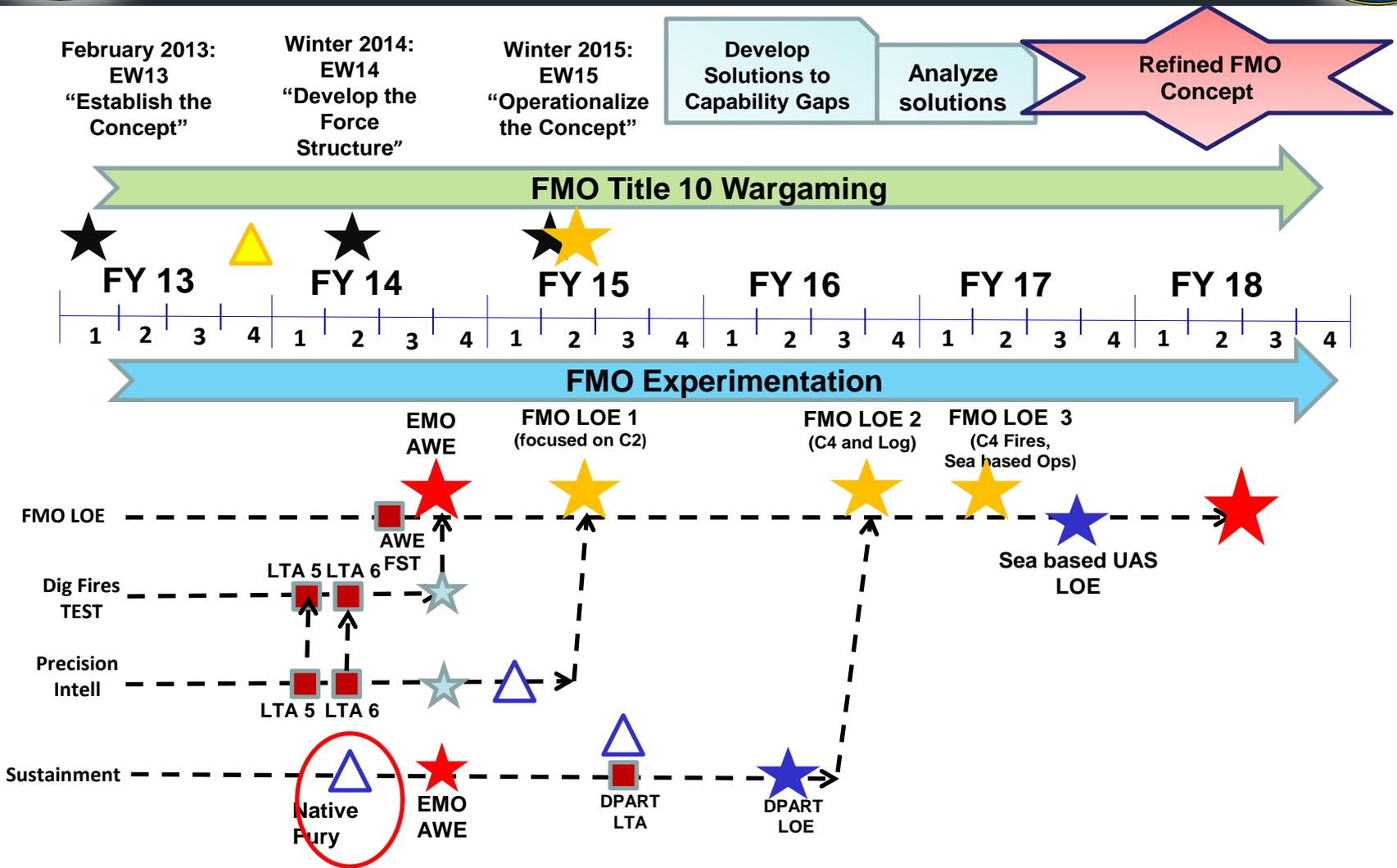
- The V-22 -- a true “game changer”
- MAGTF C2 from 170-185 nm→ STOM RQMT
- ITV capability critical in dismounted formations
- SOF planning at MEU level (Crawling)

#### LOE #2 (Logistics)

- Improved timeliness and accuracy, especially in TACLOG
- Successfully demonstrated on tactical radios (117Gs) using VMF
- LCE is capable of conducting sustainment operations as independent maneuver element
- Autonomous vehicles are effective tools for the provision of logistics



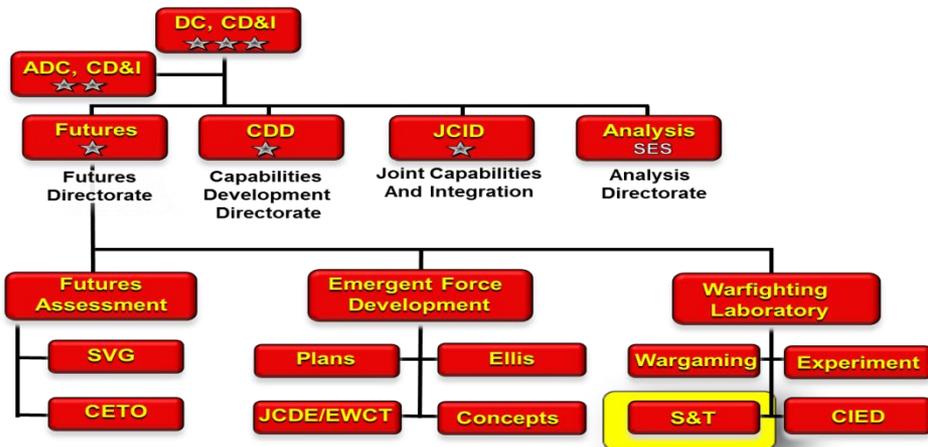
# FMO Experimentation Timeline





# Warfighting Laboratory

## “Science & Technology”



- Leverages technology that is primarily surrogates/concept Demonstrators (NOT “prototypes”)
- Focused on capability development...not material development
- Technology principally supports our concept based experimentation
- Our three main lines of operation are:

### Advanced Communications

#### Distributed Tactical Communications System (DTCS)

Range: 300 miles (90%)  
700 miles (30%)  
Weight: 1.5 lbs  
Power Source: BA123 (4)  
Wave Form: Netted Iridium  
Distribution: MEB / MEU / BLT / Comp / Plat / Squad  
Notes: OTH / OTM / BLOS.  
Provides PLI, 2.4kbps data channel

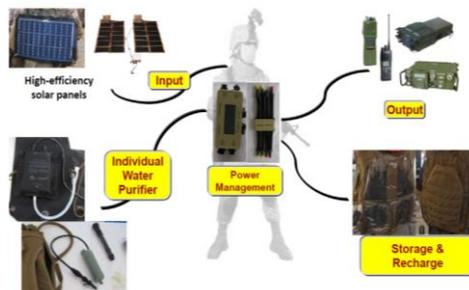


#### MAGTF Enabler-Light (MEL)

- Internally Transportable in MV-22 / CH-53
- KU SAT
- NIPR LAN (Email – File Transfer)
- DTCS / TWR (Amp)
- UHF / VHF / HF (AMP)
- 3 Workstations / 6 Tablets



### Logistics Demand Reduction



Marine Austere Patrolling System



SPACES Battery Charger



SLMCO 5.0 Small Unit Water Purifier

### Unmanned Systems



Ground Unmanned Support Surrogate (GUSS)



DARPA LS3



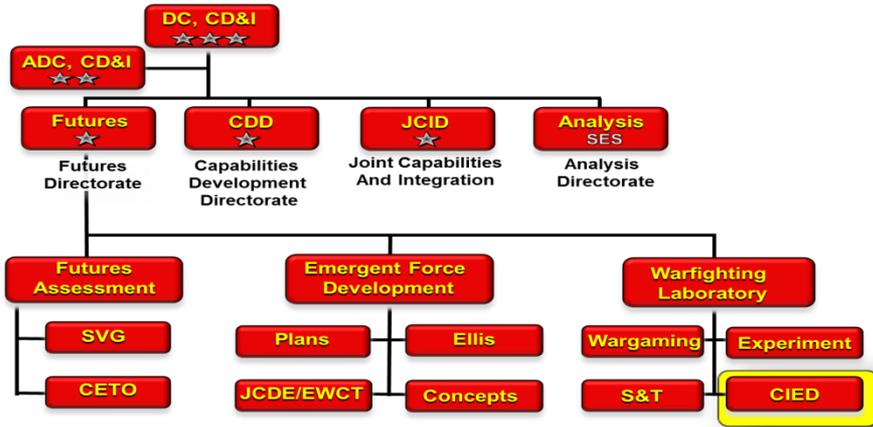
ONR Gyrocopter



DARPA Shrike



# Warfighting Laboratory "Counter IED"



Threat will continue into the future and requires a layered defense that protects Marines and enables enemy exploitation

Command Wire  
Pre-Det

Pressure  
Devices

Remote-control  
Neutralize

Persistent  
Surveillance

Low/No-  
Metallic  
Detection

Explosives  
Detection





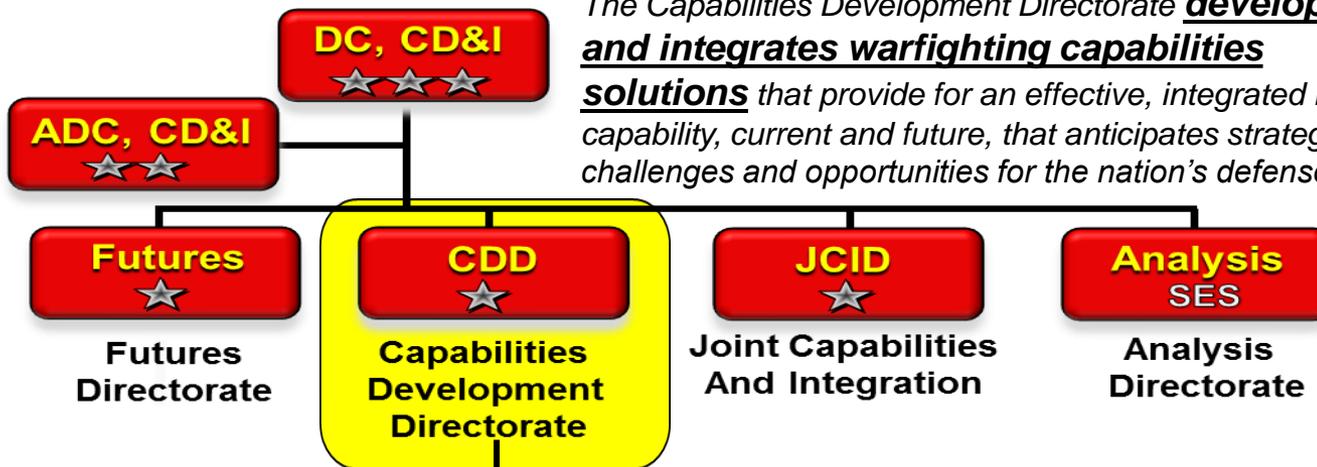
# Capabilities Development Directorate



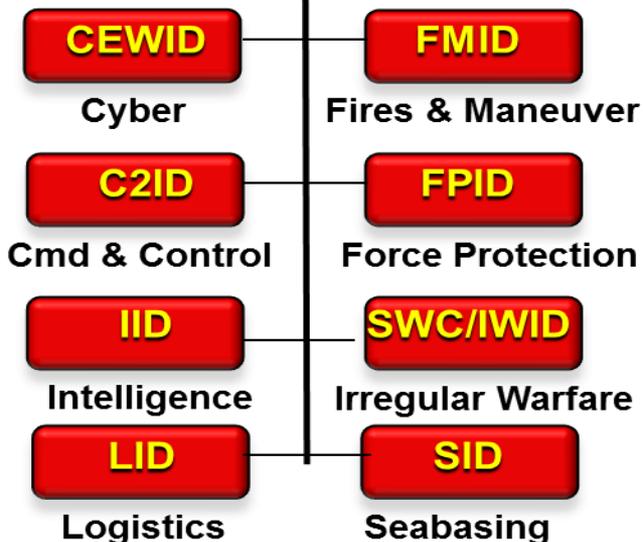
The Capabilities Development Directorate **develops and integrates warfighting capabilities solutions** that provide for an effective, integrated MAGTF capability, current and future, that anticipates strategic challenges and opportunities for the nation's defense.



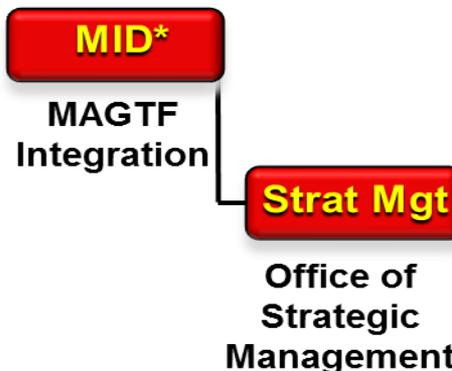
**Brigadier General William F. Mullen, III**  
Director, Capabilities Development Directorate



### 'Functional' Integration Divisions



### 'Cross-functional'

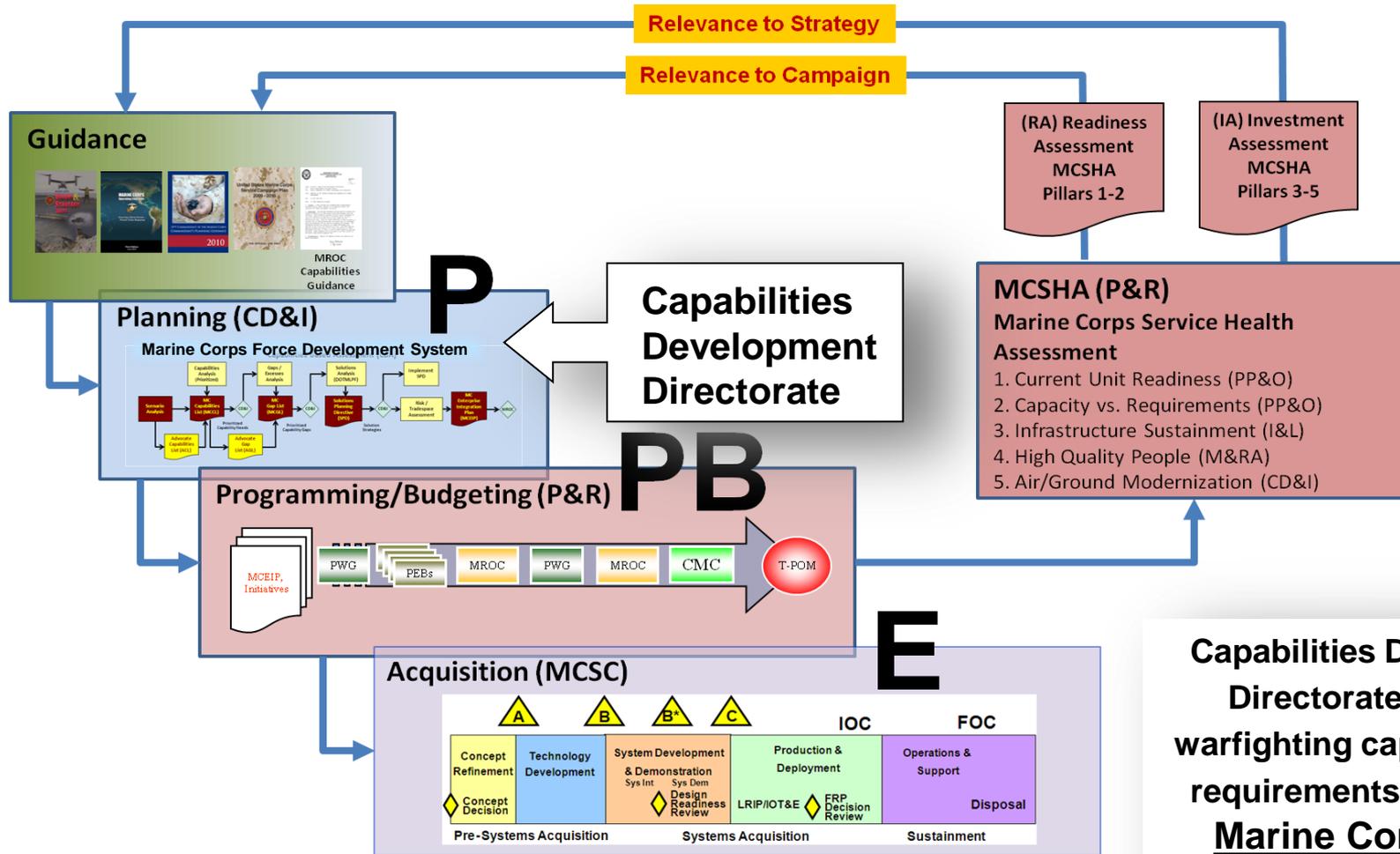


### Supporting Elements





# CDD is the “Planning” in PPB&E



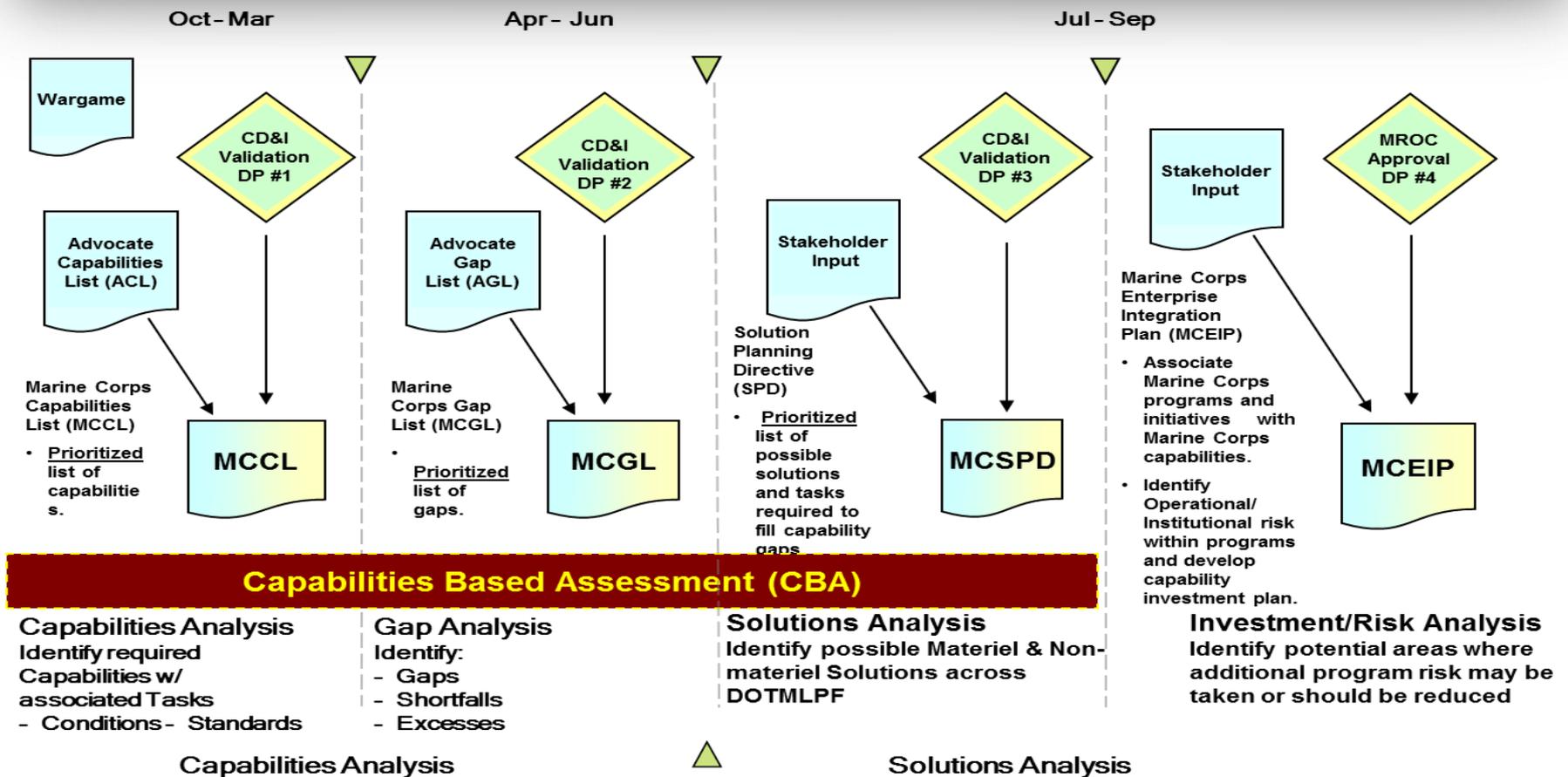
Capabilities Development Directorate develops warfighting capabilities and requirements through the Marine Corps Force Development System (MCFDS)



# Marine Corps Force Development System (MCFDS)



**MCFDS is executed through "Integrated Enterprise Capabilities Planning" Resulting in the Marine Corps Enterprise Integration Plan (MCEIP)**





# Marine Corps Enterprise Integration Plan Overview



## Marine Corps Enterprise Integration Plan (MCEIP)

- The **culminating document** created at the end of the annual CBA cycle.
- Serves as the **long-range plan** to synchronize, integrate, and coordinate efforts related to capability investments in order to meet MAGTF needs.
- Articulates CBA analytical results and consolidates the Marine Corps Capabilities List (MCCL), Marine Corps Gap List (MCGL), and Solutions Planning Directive (SPD).
- Provides an **assessment of tradespace** for all USMC programs and initiatives, providing the foundation for Capabilities Based Budgeting during a given POM year.
- **Specifies a prioritization of desired future capabilities** based on operational priorities, guidance, planning documents, critical capability gaps, and desired future direction for MAGTF Combat Development.





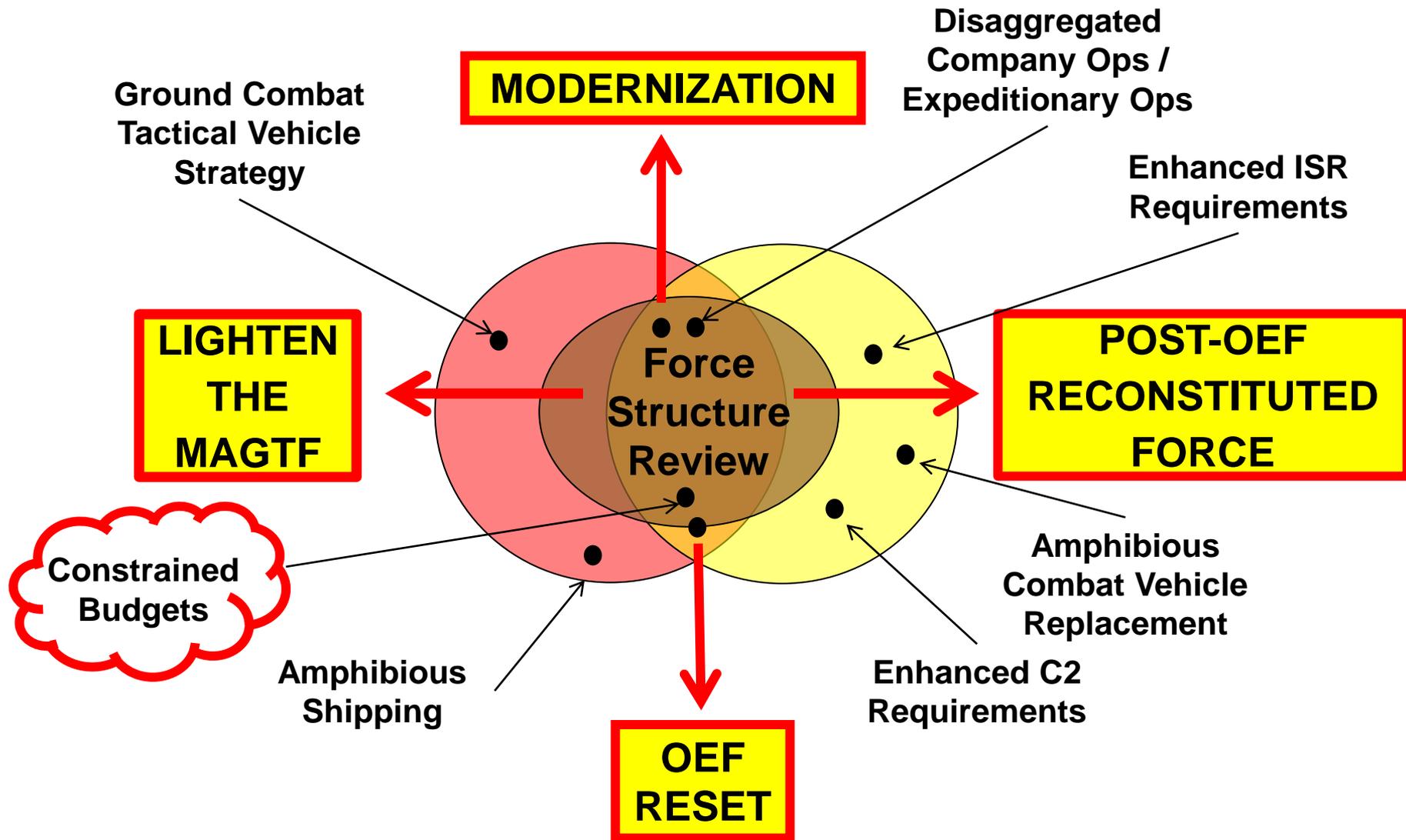
# *POM Challenges*



- **Equipment Investment (WIPEB) represents 14% of USMC TOA**
- **‘Top 15’ Programs cost as much as the ‘bottom 150’**
- **No way to have significant cost avoidance without touching priority programs**
- **‘Bow wave’ of unaffordable requirements**
- **Significantly aggravated by new fiscal reality**
- **Requirement to identify trade-space in all investments**
- **“Where can we accept Risk?”**



# Integration Challenges





# Major Ground Programs



**EFSS** will afford the MAGTF commander increased flexibility in tailoring his fire-support systems to support the scheme of maneuver



**HIMARS** primarily employs the guided MLRS rocket to provide precision fires in support of maneuver forces



**G-BOSS(E)** provides Marine Corps forces with 24-hour persistent ground surveillance to display and track items of interest through the use of unique, high-resolution, day and night cameras and sensors



**COCs** present, display, and communicate the commander's intent and required information in support of expeditionary maneuver warfare



**G/ATOR's** expeditionary, multi-role capabilities represent the next generation in ground radar technology and will provide crucial enhancements to warfighting

**Cargo UAS** has been added as an initiative to enhance our assault support capabilities and to reduce the vulnerability of ground logistics supporting Marines stationed at remote combat outposts



**The ACV's** Over the Horizon (OTH) launch capability enables the Navy and Marine Corps to project power from the sea



**The JLTV** is the next generation of light tactical vehicles needed to support joint forces across the full range of military operations and provide a vital force enabler, multiplier, and extender



**The LAV A2** Program enhances crew force protection and vehicle survivability and allows the fleet to continue to effectively support air and ground operations

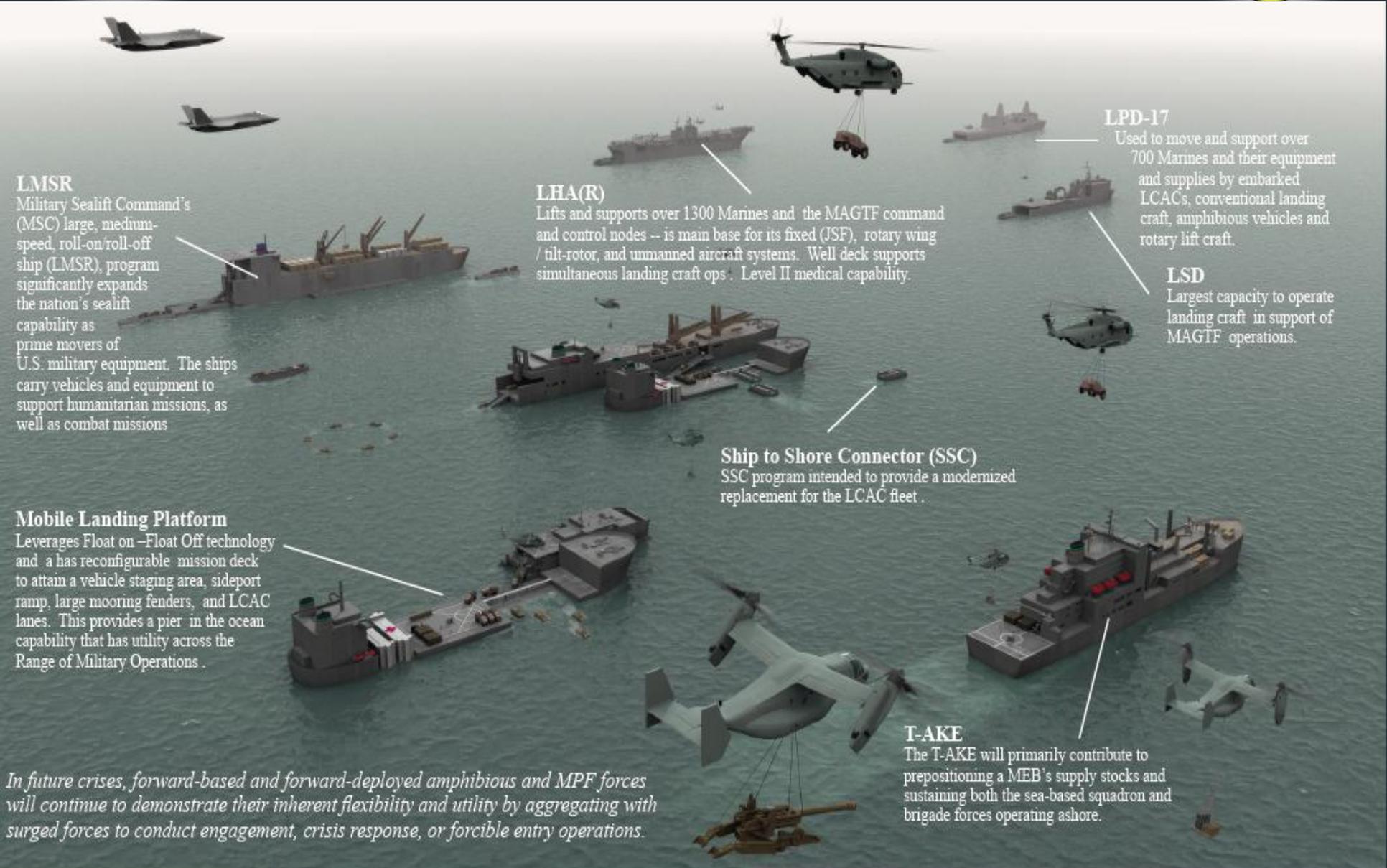


**The HMMWV ECV** is the fourth-generation design of the and is replacing the aging fleet of baseline A1 variants and some A2 variants





# Major Shipbuilding Programs



**LMSR**  
Military Sealift Command's (MSC) large, medium-speed, roll-on/roll-off ship (LMSR), program significantly expands the nation's sealift capability as prime movers of U.S. military equipment. The ships carry vehicles and equipment to support humanitarian missions, as well as combat missions

**LHA(R)**  
Lifts and supports over 1300 Marines and the MAGTF command and control nodes -- is main base for its fixed (JSF), rotary wing / tilt-rotor, and unmanned aircraft systems. Well deck supports simultaneous landing craft ops. Level II medical capability.

**LPD-17**  
Used to move and support over 700 Marines and their equipment and supplies by embarked LCACs, conventional landing craft, amphibious vehicles and rotary lift craft.

**LSD**  
Largest capacity to operate landing craft in support of MAGTF operations.

**Ship to Shore Connector (SSC)**  
SSC program intended to provide a modernized replacement for the LCAC fleet.

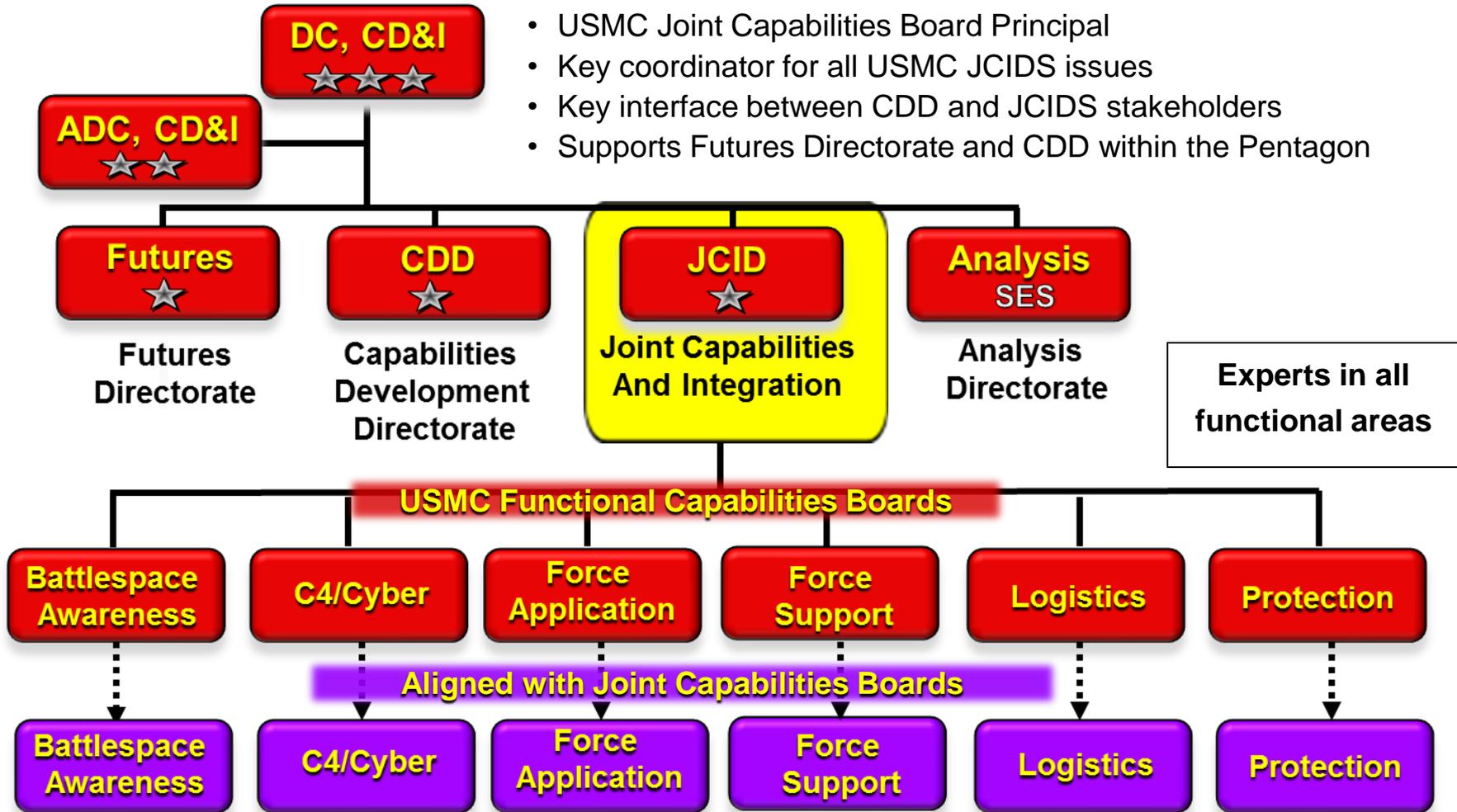
**Mobile Landing Platform**  
Leverages Float on -Float Off technology and has reconfigurable mission deck to attain a vehicle staging area, sideport ramp, large mooring fenders, and LCAC lanes. This provides a pier in the ocean capability that has utility across the Range of Military Operations.

**T-AKE**  
The T-AKE will primarily contribute to prepositioning a MEB's supply stocks and sustaining both the sea-based squadron and brigade forces operating ashore.

*In future crises, forward-based and forward-deployed amphibious and MPF forces will continue to demonstrate their inherent flexibility and utility by aggregating with surged forces to conduct engagement, crisis response, or forcible entry operations.*



# Joint Capabilities Assessment and Integration



- USMC Joint Capabilities Board Principal
- Key coordinator for all USMC JCIDS issues
- Key interface between CDD and JCIDS stakeholders
- Supports Futures Directorate and CDD within the Pentagon

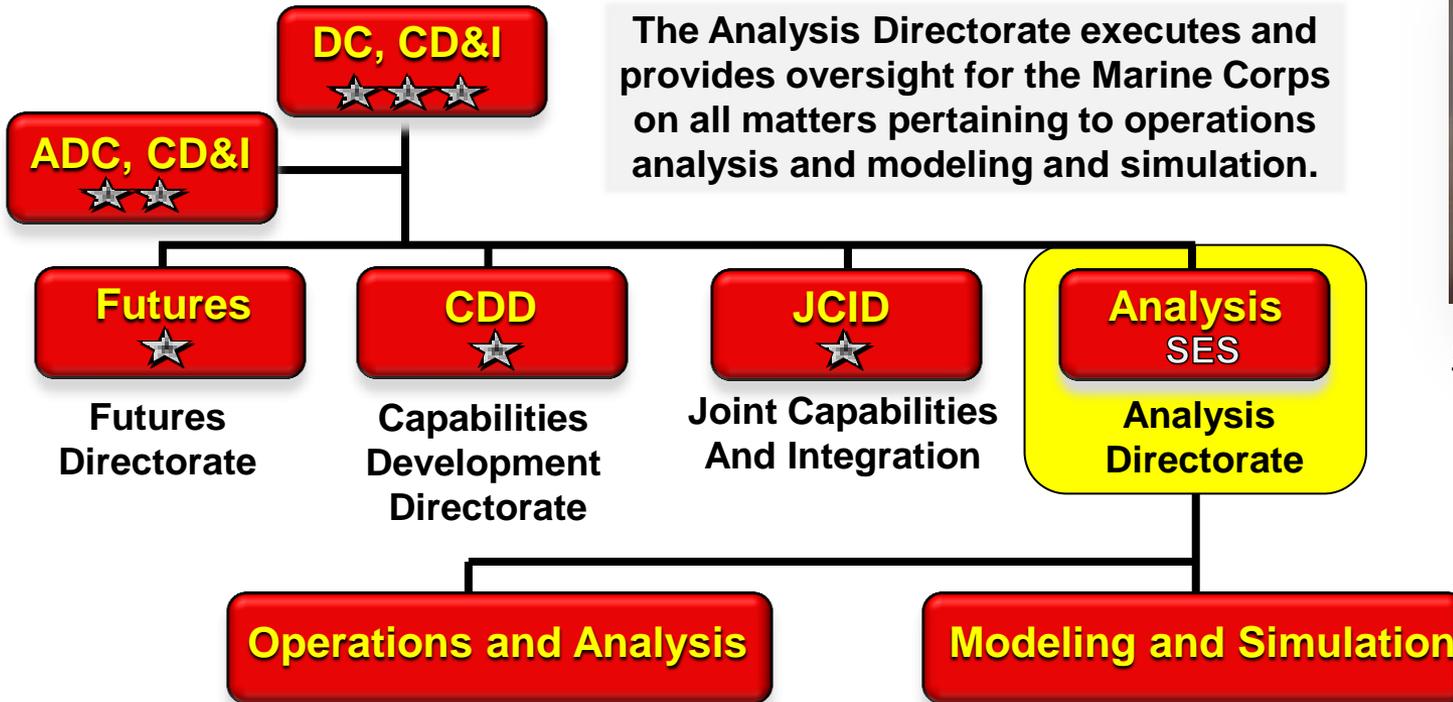
Experts in all functional areas

Ensuring new capabilities are conceived and developed in joint warfighting context and JCIDS proposals are consistent with integrated joint force.



# Analysis Directorate

The Analysis Directorate executes and provides oversight for the Marine Corps on all matters pertaining to operations analysis and modeling and simulation.



**SES George Akst**  
Director, Analysis Directorate

- The Marine Corps' service level activity responsible for studies and analyses
- Assists Operating Forces and other Marine Corps agencies with operations analysis support

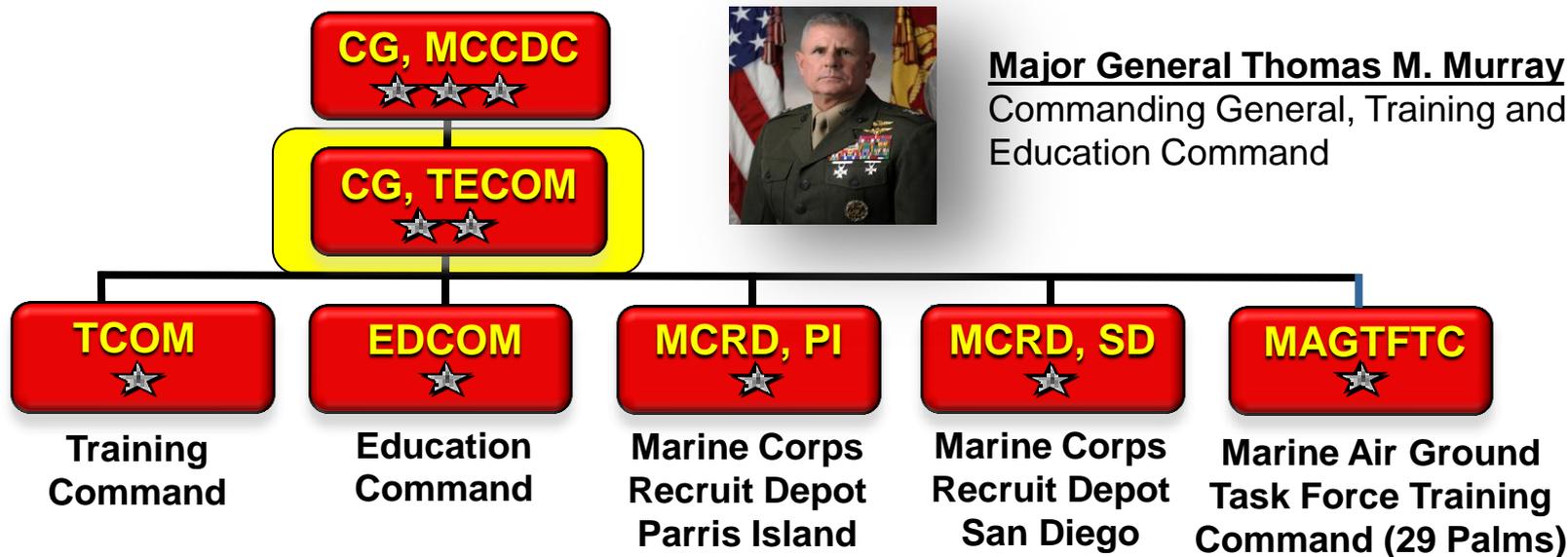
- Represents Marine Corps at DoD , Joint Staff, SECNAV and Navy M&S events
- Lead for Marine Corps M&S - maximize the reuse, interoperability, and effectiveness of M&S data, tools, and services



# MCCDC is Primarily Comprised of Training and Education Command



Mission: Develop, coordinate, resource, execute, and evaluate training and education concepts, policies, plans, and programs to ensure Marines are prepared to meet the challenges of present and future operational



Major General Thomas M. Murray  
Commanding General, Training and Education Command

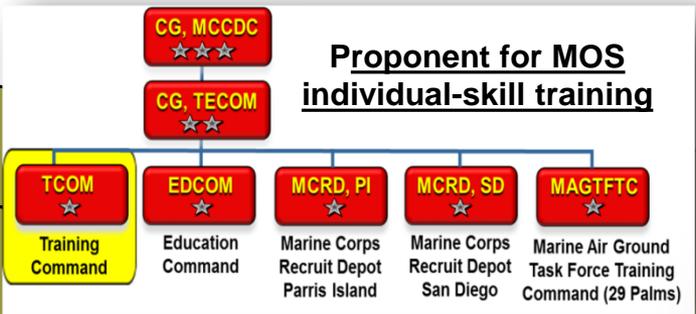




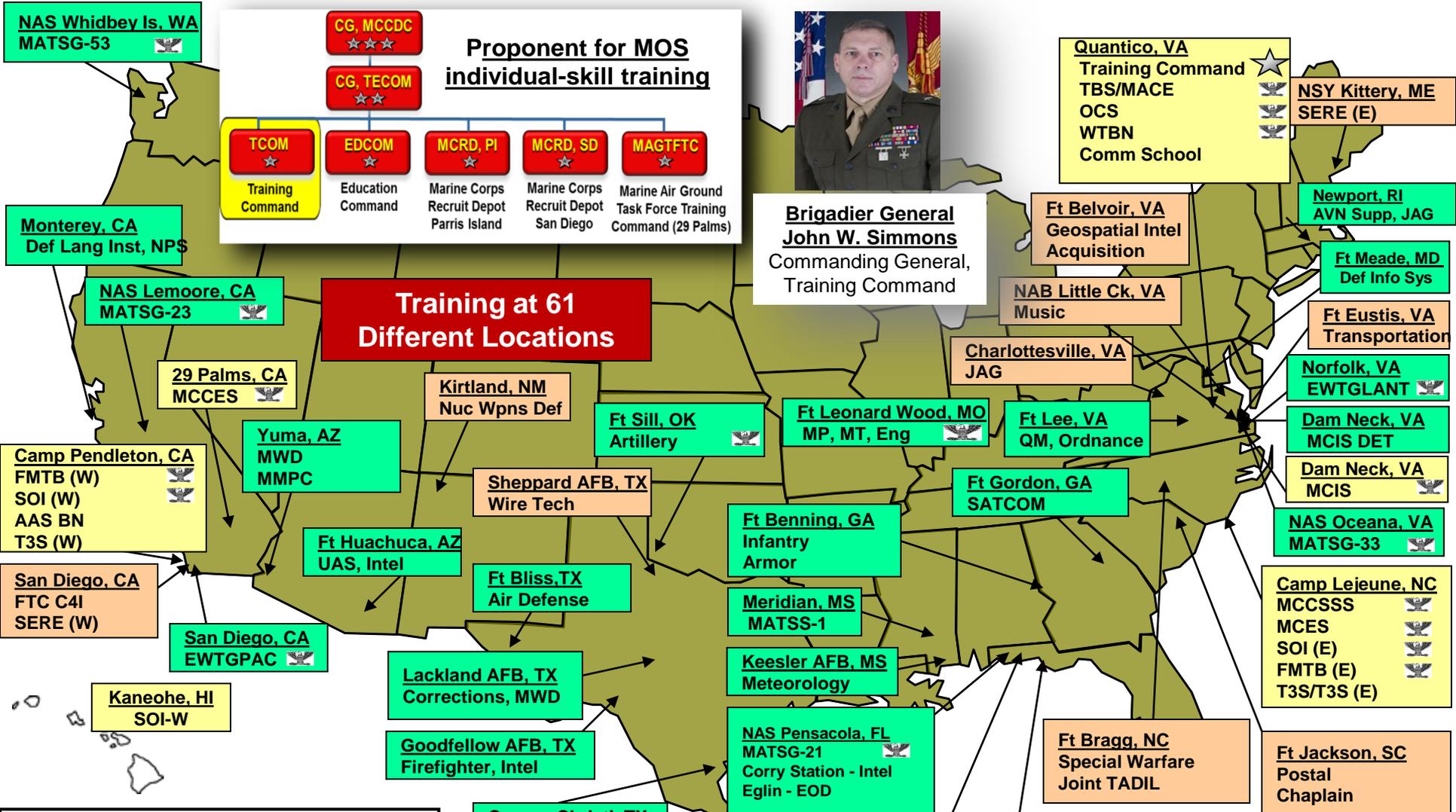
# Training Command



**Brigadier General John W. Simmons**  
Commanding General,  
Training Command



**Training at 61 Different Locations**



Key		
USMC Detachments	USMC Representatives	USMC Schools



# Education Command

CG, MCCDC  
★★★

CG, TECOM  
★★

PME through resident and distance education programs

TCOM  
★  
Training Command

EDCOM  
★  
Education Command

MCRD, PI  
★  
Marine Corps Recruit Depot Parris Island

MCRD, SD  
★  
Marine Corps Recruit Depot San Diego

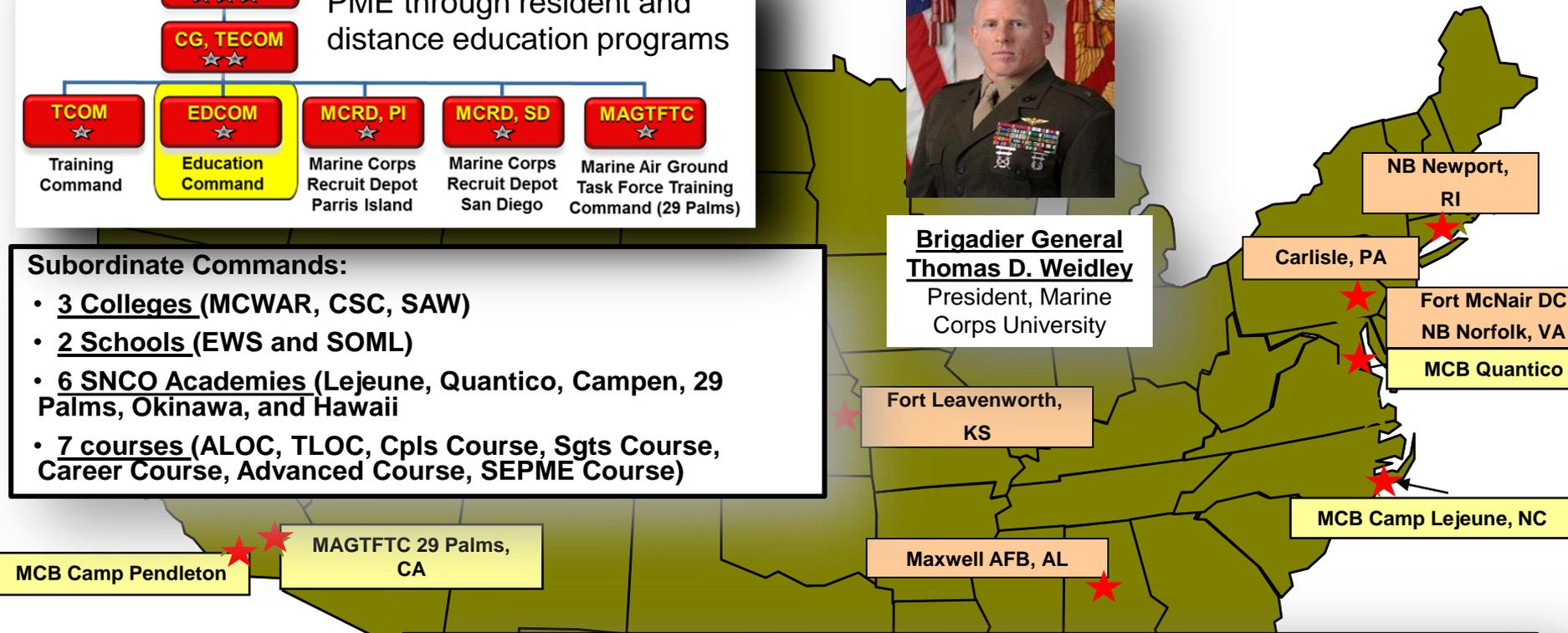
MAGTFTC  
★  
Marine Air Ground Task Force Training Command (29 Palms)

## Subordinate Commands:

- 3 Colleges (MCWAR, CSC, SAW)
- 2 Schools (EWS and SOML)
- 6 SNCO Academies (Lejeune, Quantico, Campen, 29 Palms, Okinawa, and Hawaii)
- 7 courses (ALOC, TLOC, Cpls Course, Sgts Course, Career Course, Advanced Course, SEPME Course)



**Brigadier General Thomas D. Weidley**  
President, Marine Corps University



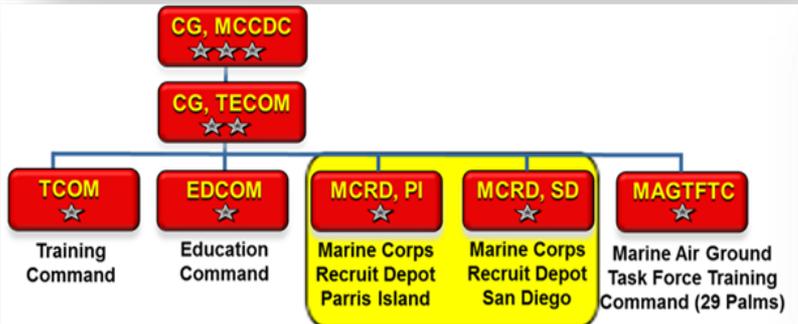
- Resident Officer PME courses in Quantico and Marines attend each of the service PME colleges and a wide numerous foreign PME venues
- Enlisted PME is at six SNCO Academies CONUS and OCONUS
- Distance Education Program (DEP) seminars throughout the world
- Host approx. 5,830 students annually from the Services, civilian agencies and approximately 25 countries

### Key

USMC Representatives	USMC Schools
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# Marine Corps Recruit Depots



...through indoctrination in our history, customs and traditions and by imbuing them with the mental, moral and physical foundation for successful service to Corps and country.



**Brigadier General  
Lori Reynolds**  
Commanding General  
Eastern Recruiting Region  
Marine Corps Recruit Depot Parris Island, S.C

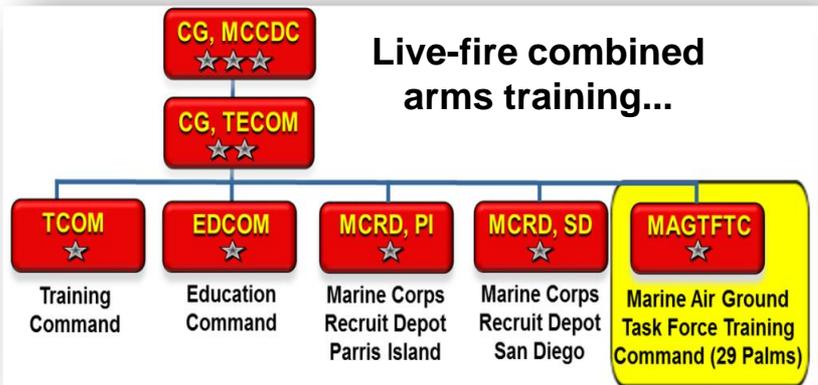
**Brigadier General  
James Bierman**  
Commanding General  
Western Recruiting Region  
Marine Corps Recruit Depot San Diego, CA



	<u>Annual Throughput</u>			
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
MCRD-SD:	16,768	18,322	18,332	14,091
MCRD-PI:	18,055	19,112	16,968	17,084
<b>Total:</b>	<b>33,823</b>	<b>37,434</b>	<b>35,300</b>	<b>31,175</b>



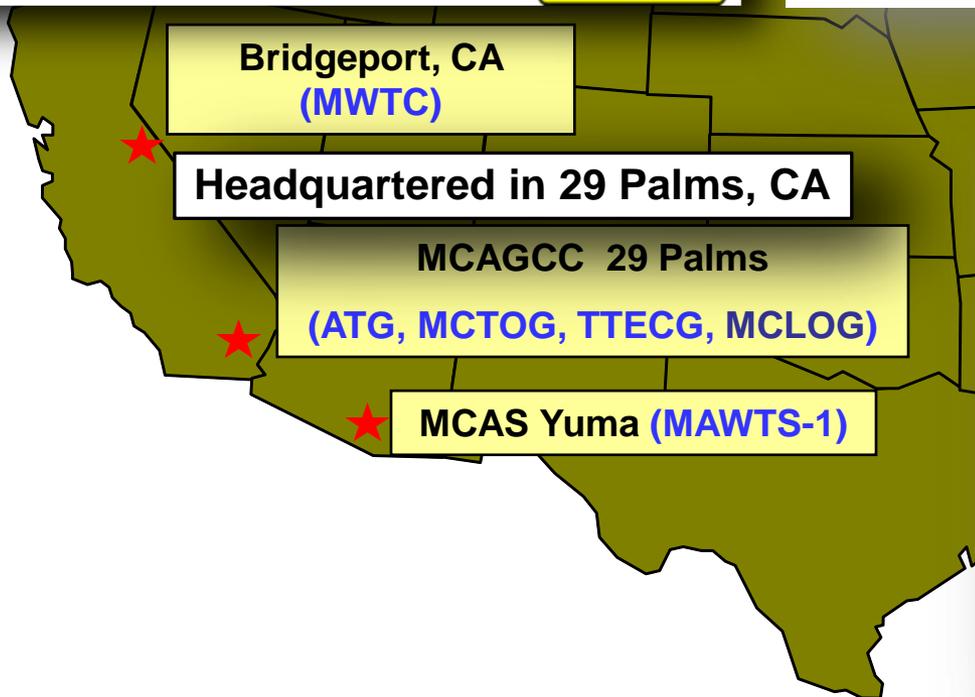
# MAGTF Training Command



...urban operations, and Joint/Coalition level integration training that promotes operational forces readiness.



**Major General David H. Berger**  
Commanding General, MAGTF Training Command; and Commanding General, Marine Corps Air Ground Combat Center



Comprised of five major subordinate training organizations:

- Marine Corps Tactics and Operations Group (MCTOG)
- Tactical Training Exercise Control Group (TTECG)
- Advisor Training Group (ATG) – eventually goes away due to FSRG actions
- Marine Aviation Weapons and Tactics Squadron One (MAWTS-1) in Yuma, AZ
- Marine Corps Mountain Warfare Training Center (MCMWTC) in Bridgeport, CA.



# Shift in Training

Current training  
(Prepares for “this war”)

- OEF-focused program and initiatives
- T&R Manuals tied **subjectively** to readiness (DRRS-MC)

- Sustaining U.S. Global Leadership
- CMC’s Planning Guidance
- Marine Corps Service Campaign Plan
- Marine Corps Operating Concepts
- Marine Corps Vision & Strategy
- Current Operations feedback

Future training  
(Prepares for “any war”)

- Focused training on post-OEF environment and force capabilities (amphibious & expeditionary)
- Coordinated programs and initiatives to enhance efficiency – requires a Service-Level TEEP
- DRRS-MC reporting tied to objective T&R standards

Current training

Prepares units for a specific mission, enemy and environment in support of Operation ENDURING FREEDOM (OEF).

Future training

Assists commanders in building necessary capabilities to operate across the range of military operations as the **middle-weight expeditionary force-in-readiness**.



**For More  
Information See  
Other Areas of  
This Website**