



# Marine Corps Warfighting Lab (MCWL)

3 Dec 2009

BGen R. F. "Fuzzy" Hedelund  
Commanding General





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# Marine Corps Combat Development Command (MCCDC)

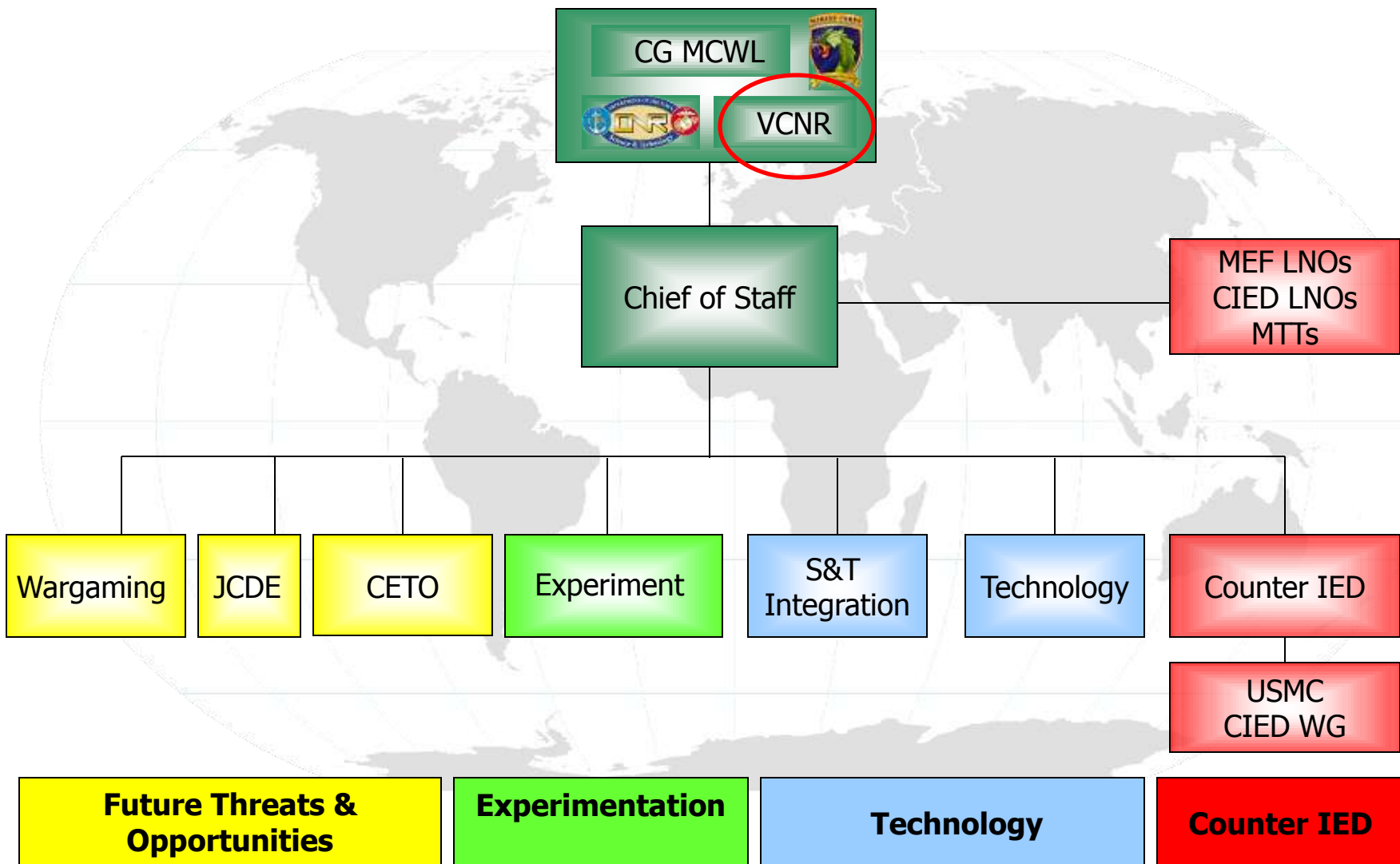


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# MCWL Divisions





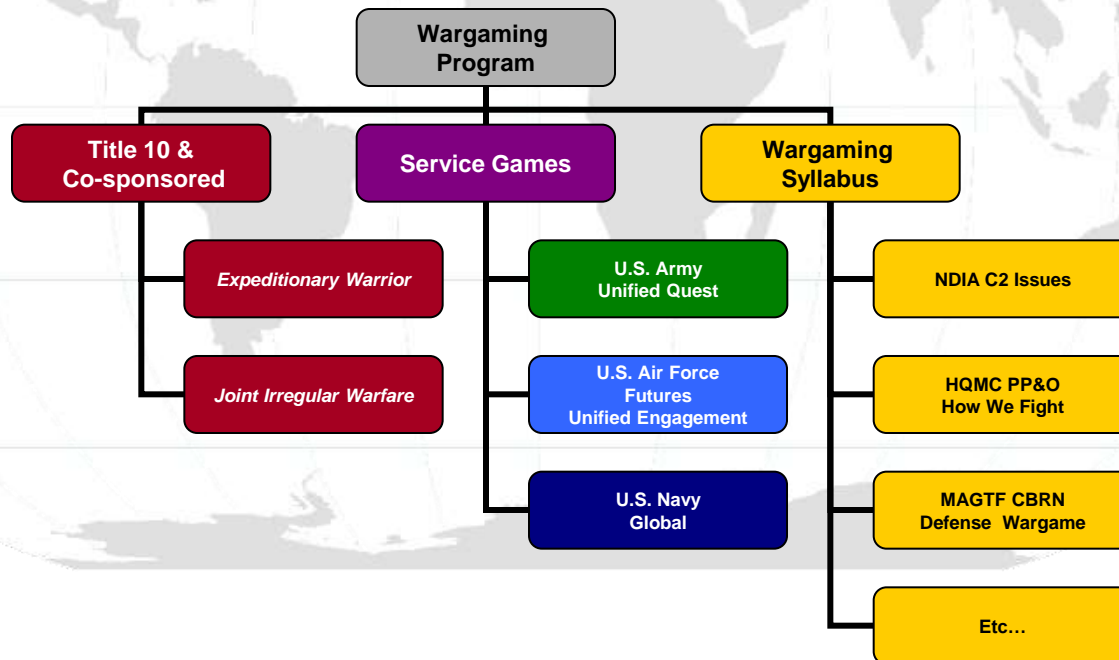
# USMC Wargaming Program

## 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

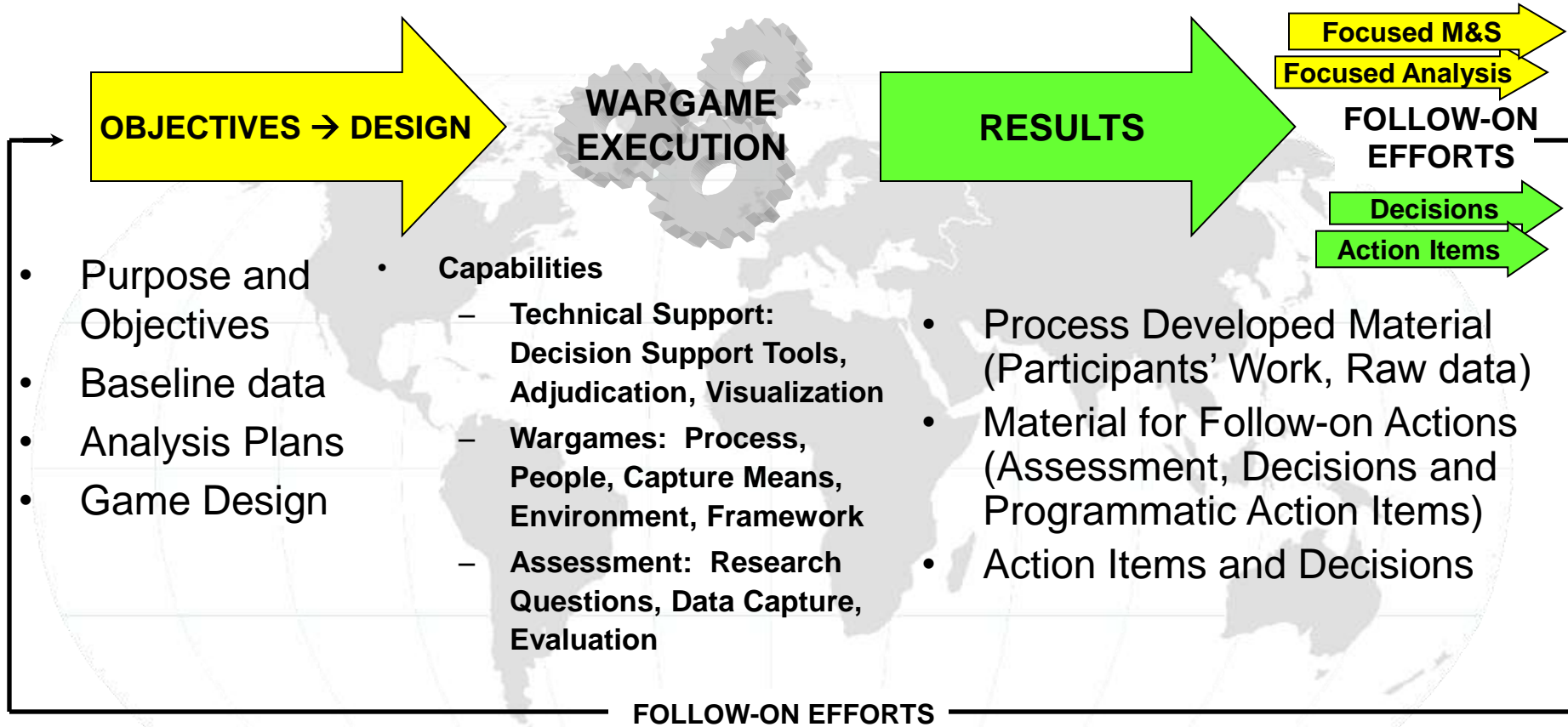
## Participant Level

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





# Methodology



**Wargaming Steps: Identify the problem, create the process, develop and coordinate the needed capabilities, execute the process, evaluate and use the results**



# Joint Concept Development and Experimentation (JCDE)



Co-located with USJFCOM J-9 in Suffolk, VA, JCDE's mission is to coordinate Marine Corps support to USJFCOM's joint concept development, experimentation and capability development initiatives - shape these activities to leverage Marine Corps contributions to the future joint operational environment. As directed, coordinate MCCDC support to other Service combat development activities within the Tidewater area.

## Tasks

- Coordinate USMC support to USJFCOM's joint transformation activities
- Provide subject-matter-expert support to USJFCOM-sponsored Joint Capability Integration and Development System initiatives presented to the FCBs, JCB, and JROC
- Perform Service Liaison Officer functions in support of USJFCOM
- Ensure USMC is kept informed of USJFCOM activities & processes
- As directed, support other Service combat development activities in the Tidewater area



# Center for Emerging Threats and Opportunities (CETO)



## Mission

**“Assess and analyze the future security environment; identify and analyze emerging threats; develop and appraise promising concepts, opportunities and technologies; and serve as a catalyst to stimulate thought and debate on issues of importance to the Marine Corps.”**

## Activities

- **Commercial Hunter: Disruptive Technologies Limited Objective Experiment (LOE) 09-2**
- **Re-Honing the Marine Corps' Expeditionary Edge**
- **Flashpoints 2009: Instability/Conflict model**
- **Changing Character of Warfare: Hybrid Threats and Implications**
- **JFCOM-Israeli Defense Force Experimentation Plan: Operationalize Hybrid Warfare Concept**
- **Strategic Vision Group (SVG) Direct Support**





# Experiment Division



**Experimentation:** Plan, execute and assess *concept-based* experimentation in order to inform the development of technologies, tactics, techniques, procedures, and organizational and training enhancements



**Experimentation Priorities:** ECO LOE 4 (ID STOM capability gaps)  
Transition from ECO to EMO/CoLT (2011-2014)

## **Modeling & Simulation:**

- Marine Corps community lead for experimental M&S
- Marine Corps representative to joint M&S experimentation
- Support experiment planning and execution with M&S
- Represent MCWL in the M&S Working IPT & Infantry Skills Simulation WG
- Develop/assess M&S in support of small unit training/performance





# Science & Technology Integration



- Assist CG, MCWL in fulfilling responsibilities as the DC, CD&I's Executive Agent for S&T:
  - *Executive Secretary for the USMC S&T IPT*
  - *Support the EA for Marine Corps S&T and DC CD&I on TOG Working Group and Corporate Board issues*
  - *Serve as the Marine Corps entry for and coordination of DARPA technology transition within the Corps*
  - *Serve on the Future Naval Capabilities WG.*
  - *Coordinate Marine Corps S&T requirements process among MCSC, PEO, LS, ONR, CDD, Operating Forces, Advocates, and the Future Naval Capability IPTs*
  - *Produce Marine Corps S&T Planning Documents (Strategic Plan, Investment Plan (in coordination with ONR 30) and Handbook, etc.)*
  - *Act as Office of Record for USMC participation in Joint Test Evaluations (JT&E) and Joint Concept Technology Demonstrations (JCTD).*
  - *Represent Marine Corps S&T interests & coordinate input to the Defense Science Board*
  - *Three organizations responsible for "execution" (through ONR):*
    - *ONR Code 30: Expeditionary Warfare & Combating Terrorism*
    - *Marine Corps Warfighting Lab*
    - *Joint Non-Lethal Weapons Directorate*





# S&T “Integration” Function



Naval Technology  
Developer



OSD Technology  
Developer

## EA For S&T:

- S&T IPT
- Meets on Call
- Chair: ONR 30
- MCWL Tech Dir,  
Exec Sec
- Supports Combat  
Development



Requirements



Acquisition



Marine Corps Office of Record for:  
Joint Concept Technology Demos (JCTD), Joint Test & Evals (JT&E), and DARPA Coordination



# Technology Division

- **Support Experimentation** : “Identify candidate technological solutions to support ECP experimental efforts.”
  - **Non-Developmental Items: COTS/GOTS**
  - **Tech development (2-4 years) to TRL 6/7**
  - **Surrogates/Concept Demonstrators**
  - **Capability Development, not Material Development**
- **Support Warfighter: technology solutions**
  - **Provide limited equipment for operational experimentation**
    - **Extended User Evaluations (EUE)**
    - **Spin-outs from ongoing experimentation**
  - **Support selected UUNS with research/assessments**
- **Investigate emerging technology**
  - **Developmental projects (pertinent to USMC capability gaps)**
  - **Technical consultants for fleet questions**



# Technology Areas



- **GCE**
  - Counter-sniper projects
  - Fire Support Systems
  - Combat Robotics
  - Precision Targeting
  - Advanced Infantry weapons
- **Force Protection**
  - Ground Vehicle Survivability
- **LCE**
  - Engineers
  - ECO Logistics
    - Unmanned Systems
- **Expeditionary Medical**
  - CasEvac for ECO
    - Mobile Trauma Bay
  - Point-of-Injury Care
- **C4**
  - ECO Comms (OTM/BLOS)
    - (JCTD/JUONS support)
  - ECO Tactical C2
    - Integrated ISR/C2
    - Network management
  - MPod
- **ACE/UAS**
  - Experimental Tier II UAS
    - UAS Payloads
  - ECO Aerial Resupply (UAS)
  - Cargo UAS
  - Lethal Aerial Munition
- **RSTA**
  - Small unit sensors, networked
  - Common Handheld Controller



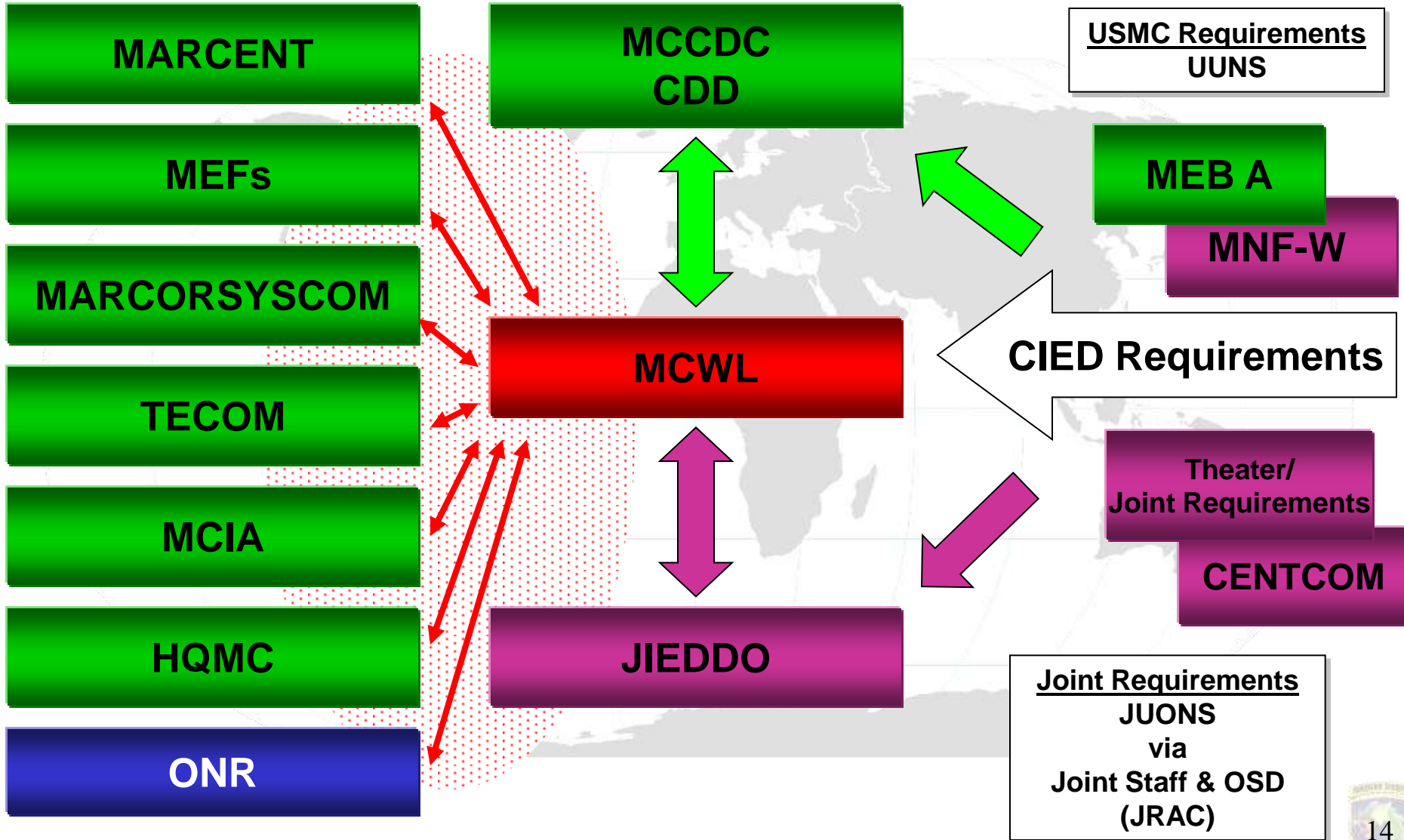
# Counter IED Division



- Entry point for support to the operating forces in Overseas Contingency Operations (OCO); MCCDC POC to Naval Innovation Laboratory (NAIL) for rapid development & fielding of prototype solutions to meet urgent needs in OCO; and responsible for the Marine Corps Improvised Explosive Device (IED) Working Group (WG), to include:
  - USMC Focal point for developing IED countermeasures
  - Interface to all IED-related organizations external to USMC to include JIEDDO
  - USMC Executive Agent for JIEDD Capabilities Approval & Acquisition Management Process (JCAAMP) *LOO-IPTs (Action Officer) → JR2AB (Dir CIED) → JIPT (CG MCWL) → SRSG (ACMC)*
  - Coordinate efforts to develop material and non-material solutions
  - Link efforts to operating forces needs/requirements (UUNS) / DC, CD&I
  - **Authority:** (Ref: 161351Z MAY 07 CMC WASHINGTON DC CDI)
    - MCWL is the Coordinating Authority for all USMC IED Defeat efforts
    - MCWL is the USMC authority for all Joint IED Defeat Organization (JIEDDO) issues



# USMC IED Defeat





# Summary

- **The future is our foxhole**
  - Our primary product is **knowledge**, which informs capability development
  - We are serious about our role as “headlights of the Marine Corps”
- **We conduct concept-based experimentation**
  - ECO and EMO/Company Landing team (COLT)
- **S&T priorities:**
  - Lighten the Load (Immediate Cargo UAS, GUSS, SCTVC, LS3)
  - Expeditionary Power and Water
  - Wargaming
  - Ground Simulation (Infantry Skill Simulation, Moving Target Engagement)
- **We are committed to supporting Marines in the fight:**
  - ECO LOE 4, EMO/CoLT
  - C-IED
  - Future Opportunity Assessment (Corpspedia, Commercial Hunter)



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# Questions?



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