

# **Toward a Modern Seabased Expeditionary Capability**

**Enhanced Company Operations  
&  
Enhanced MAGTF Operations**

**Experimentation and Capability Development**

**NDIA Expeditionary Warfare Conference  
Panama City, FL**

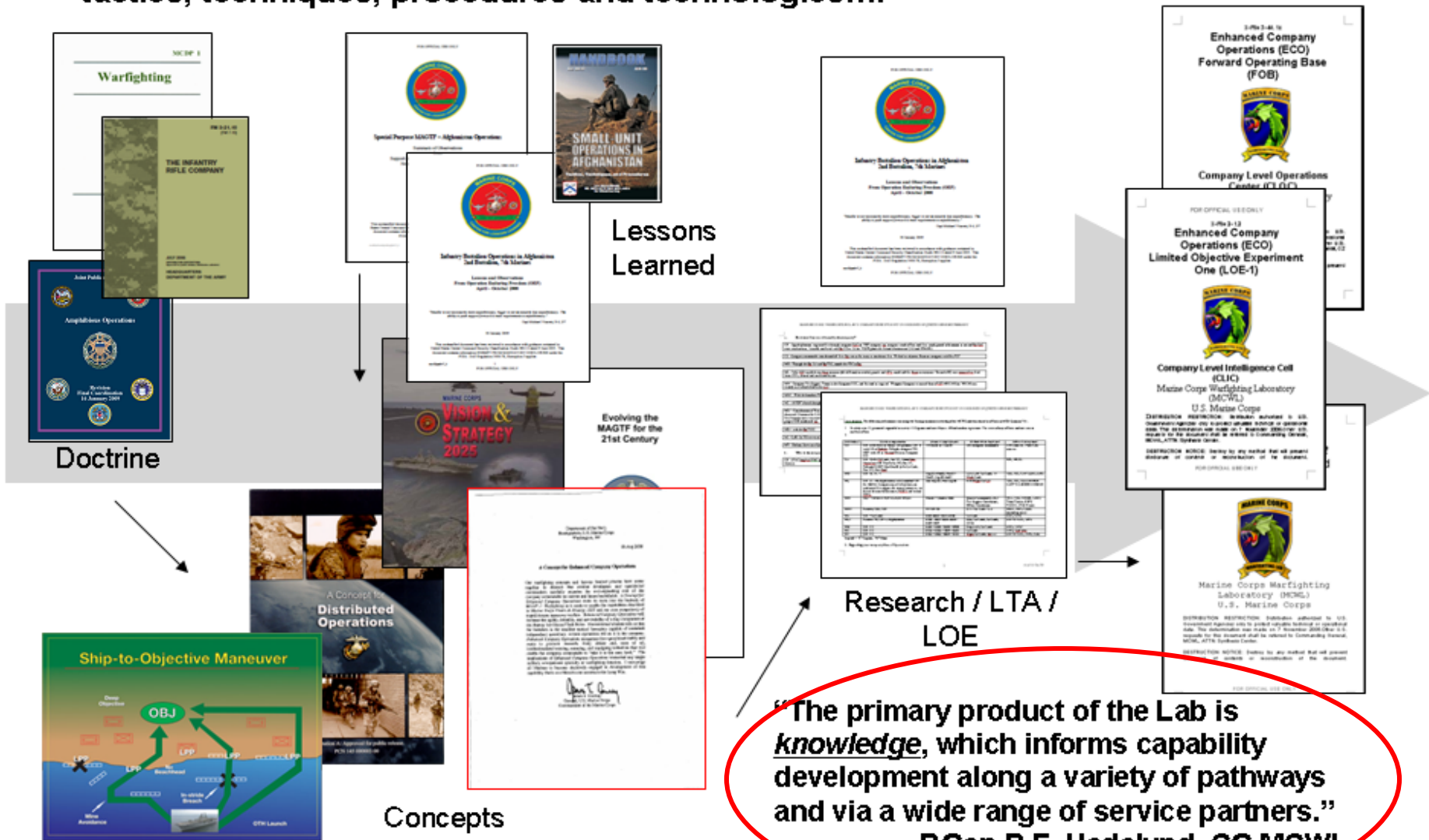
**19 Nov 2009**

**Vince Goulding  
Dir, Experiment Division  
Marine Corps Warfighting Lab  
vincent.goulding@usmc.mil**

# Marine Corps Warfighting Laboratory

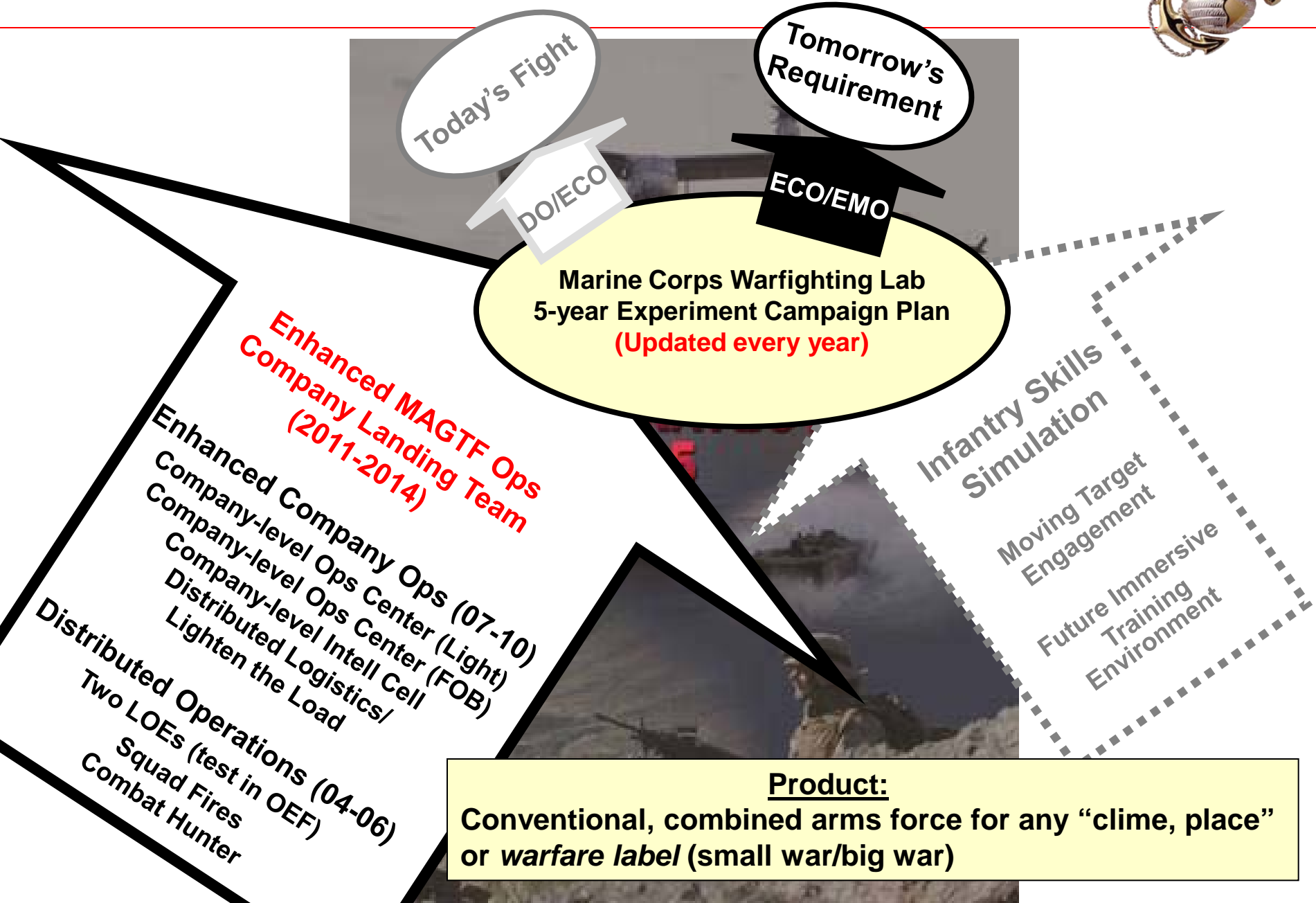


**MCWL Mission: “Conduct concept-based experimentation to develop and evaluate tactics, techniques, procedures and technologies....”**

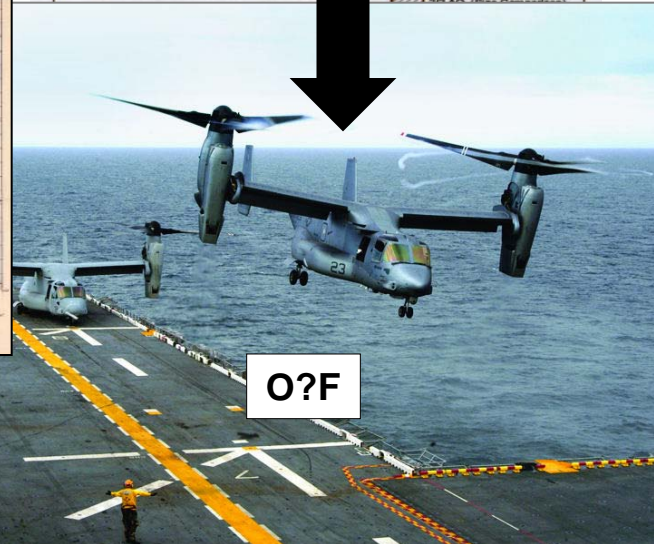
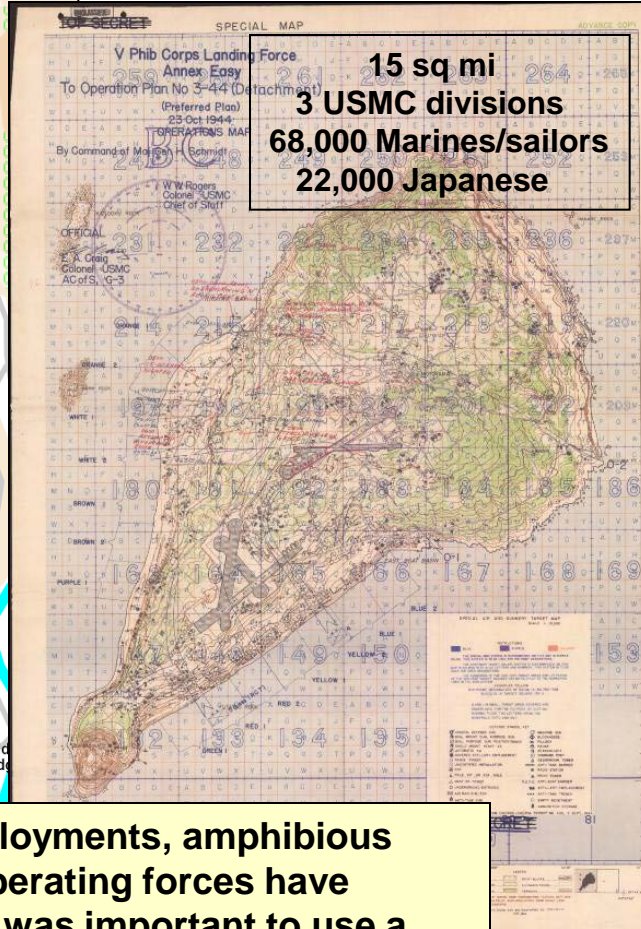
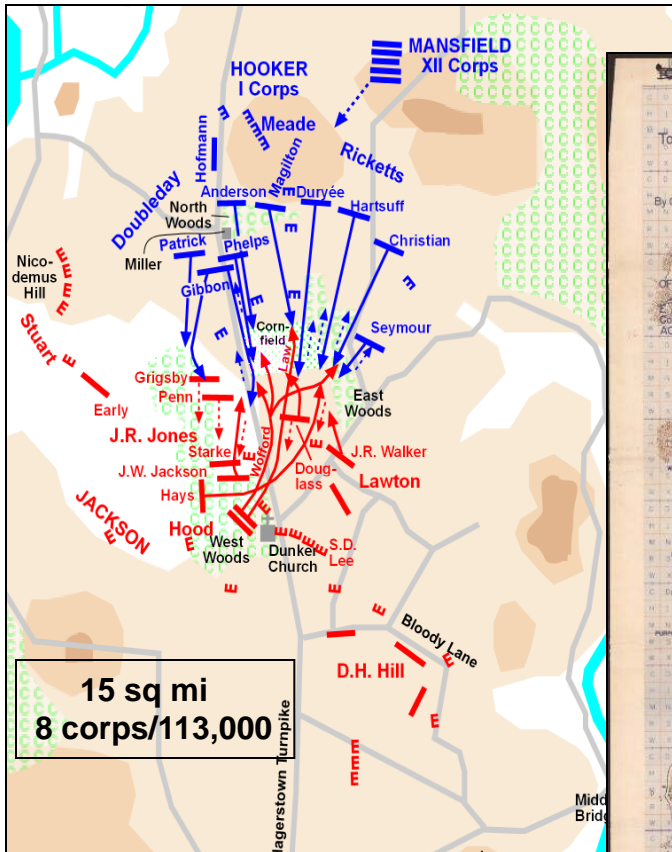


**“The primary product of the Lab is *knowledge*, which informs capability development along a variety of pathways and via a wide range of service partners.”**  
**BGen R.F. Hedelund, CG MCWL**

# ECO/EMO: Shift to the Deep Target



# The Challenge: Capability Must Reflect Reality



“With repeated OIF/OEF deployments, amphibious core competencies in the operating forces have eroded to the point where it was important to use a graduated approach toward building skills to live and operate aboard and from amphibious ships.”  
- Marine Corps Center for Lessons Learned  
MEU Operations Afloat 19 Oct 2009

# Setting the Stage: ECO 2007-2009



## LOE 1: Company-level Intel Cell (CLIC) ('07)

- Standardize “train, organize, equip”

## LOE 2: Company-level Ops Center (CLOC) ('08)

- Establish a baseline using Forward Operating Base

## LOE 3.3: Sustaining the Distributed Force (Jun '09)

- Unmanned air/ground vehicles
- Resupply and “mule” function
- Lighten the Load implications
- Limited CASEVAC
- **Mountain Warfare Training Center**

## LOE 3.1: Company-level Ops Center (light) (Jul '09)

- Build on CLOC
- Expeditionary (dismounted)
- Prototypical communications suite (CAPSET V)
- **Marine Corps Mountain Warfare Training Center**

## Distributed Artillery (Aug '09)

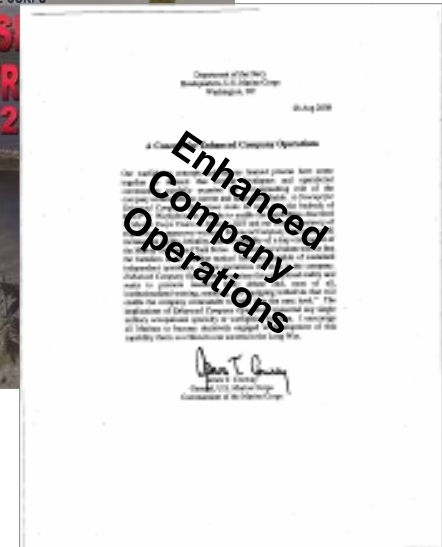
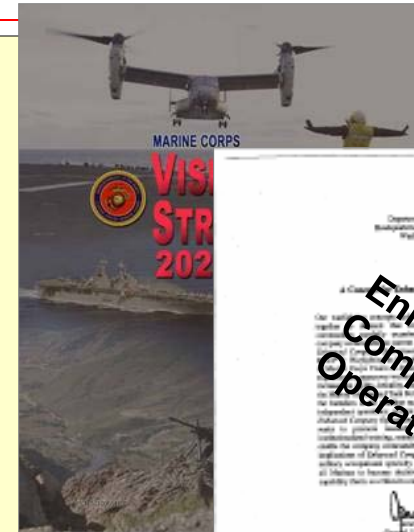
- M777 artillery battery (3X2)
- Develop Tables of Organization/Equipment for ECO LOE 4

## ECO Fires (Oct '09 & Jan '10)

- MSTP/C2TECOE
- Company-level fire support coordination

## LOE 3.2: CLOC (light) part II (Dec '09)

- Refine prototypical comm suite IOT inform CAPSET V
- Inclusion in ECO LOE 4
- Demand reduction (water/power)



# Transitioning to EMO/CoLT



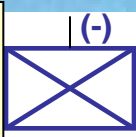
## ECO LOE 4 (2010):

- Culminate 6 years of live force experimentation
- Conduct first Marine Corps STOM experiment
- Provide a starting point for an EMO program

- Identify capability gaps at all levels – especially in the areas of C2/ISR, fires, logistics
- Assess the impact of an enhanced company/company landing team (CoLT) on immediate HHQ, MAGTF/NavY
- Employ and assess experimental Infantry Company T/O
- Test a prototype C2 suite (CAPSET V) in the context of STOM and ECO
- Evaluate proposed Company C2 TTP's in the area of fires, logistics, operations and intelligence
- Evaluate the contribution and cost of organic Unmanned Ground Vehicles (UGV)
- Evaluate the utility of a logistic support element within the Company
- Evaluate the contribution and cost of enhanced attached/organic surface indirect fire support and enhanced infantry weapons capable of providing fire support
- Examine the fire support coordination function/capability within the company headquarters



# ECO LOE 4 CONOPS



LPA 1

LPA 2

LHD06

LPA 3



# EMO Campaign Plan



- **2011: EMO LOE 1 C2ISR/Fires (Live Force)**
  - Develop/assess fires related capabilities that enhance the ability of the MAGTF to support ECO
  - Identify/assess C2 & ISR related capabilities that enhance these functions and enable the MAGTF to fully exploit ECO
- **2012: EMO LOE 2 Logistics (Live & Constructive)**
  - MARFORPAC (RIMPAC?)
  - Identify/address logistics capability gaps and develop logistics related capabilities that enable the MAGTF to support ECO
- **2013: EMO LOE 3 MAGTF (Constructive)**
  - Assess the combined impact of the C2ISR, Fires, and Log related enhancements developed and tested in previous projects
- **2014: EMO 4 MAGTF (Live & Constructive)**
  - Culminating event for EMO
  - Provide a live force venue that allows MCCDC to assess the combined impact of the C2ISR, Fires, and Logistics-related enhancements developed and tested in previous LOEs.





# Things to Consider



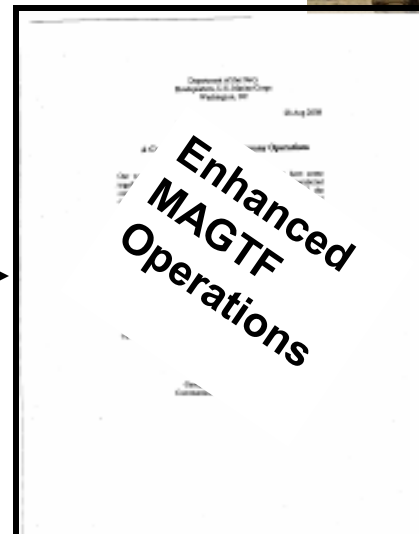
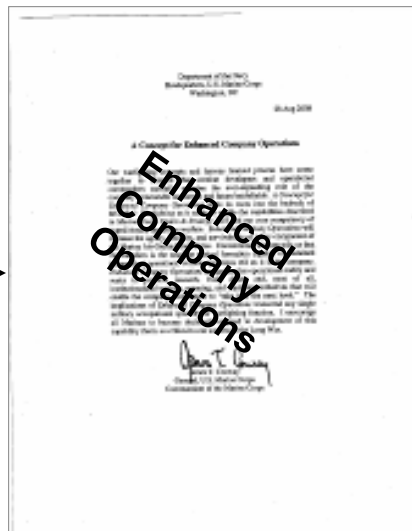
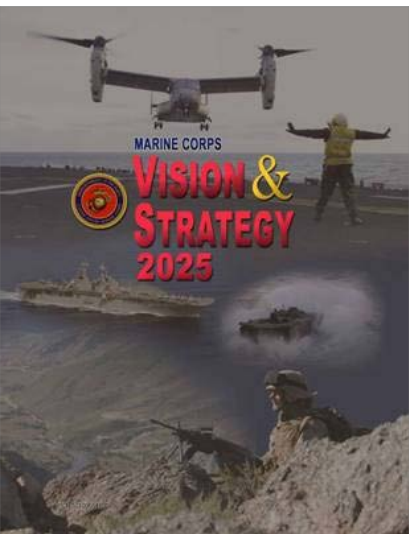
- History (doctrine) may or may not be a guide to the future
  - Joint Publication 3-02 was recently signed, but is intellectually dated
- Navy/Marine Corps not as far along as we think (19 Oct MCCLL: 13<sup>th</sup> MEU)
- Non-traditional approaches deserve a look
- Success in “*complex joint operating environments*” requires tactical interoperability...
  - Can a Marine rifle company “talk” to its Army counterpart?
  - to Navy/Marine/Joint/coalition SOF?
  - the seabase?
- Advance force ops needs a serious re-think
  - STOM is based on intell/operational prep of the environment (IPE/OPE)\*
  - To include coalition/joint, NGO, PVO, host nation etc.
  - Is there a unitary advance force? If so, who does it report to/work for?
- Realistic stand-off distances and connectors of different speeds must be exercised
- Weight/Cube: Can we get the GCE to the scene?
  - Can we get it ashore?
  - Can higher headquarters support/sustain much more capable subordinate units?
  - How do we reduce demand?
- **Non-traditional tactical organizations and command relationships must be considered**

# Why we come to work



- To develop knowledge....
- DO → ECO → EMO/CoLT represent a logical progression
- Address operational imperatives and future requirements
- Enable achievement of Vision & Strategy 2025
- Seriously look at the future force across Doctrine, Organization, Training etc.

**Objective:** Enhance the Marine Air-Ground Task Force starting where the rubber meets the road



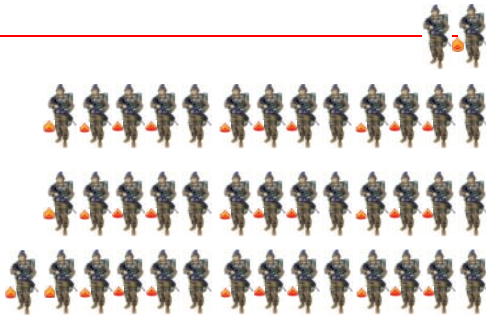
## Hard issues:

- OTM/OTH comms
- Fires
- Resupply
- Casualty handling/evac
- Reduced demand
- Lightening the Load
- Tables of Organization

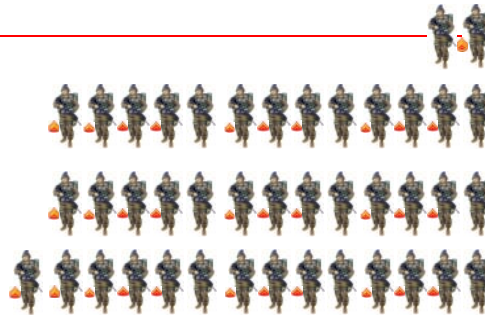


Semper fidelis

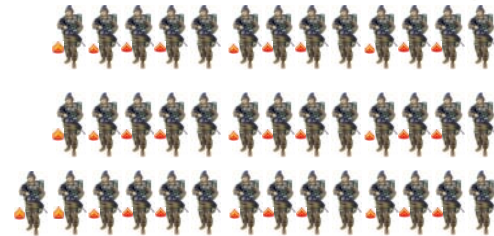
# The Man in the Arena



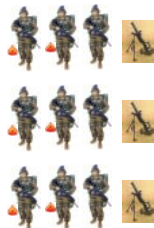
1st Platoon



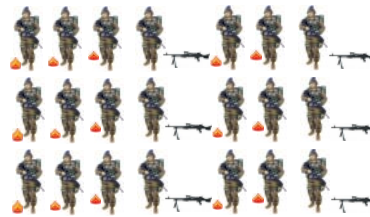
2d Platoon



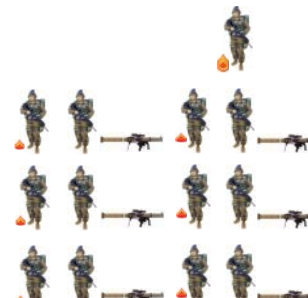
3d Platoon



Mortar Section

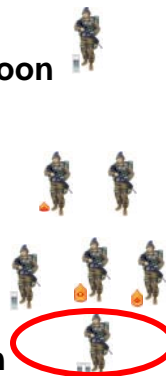


MG Section



Assault Section

Weapons Platoon

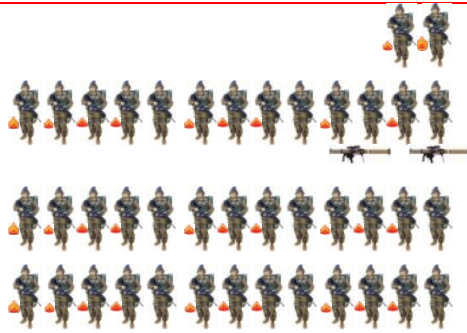


HQ Section

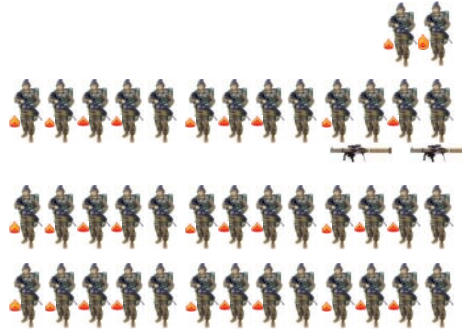
MOS AND RANK SPREAD T/O 1013G

MOS	E-1 PVT	E-2 PFC	E-3 LCPL	E-4 CPL	E-5 SGT	E-6 SSGT	E-7 GYSGT	E-8 1STSGT	O-1 2NDLT	O-2 1STLT	O-3 CAPT	TOTALS
0311	31		54	28	12							125
0331	6		6	6	3							21
0341	3		3	3								9
0351	6		3	3	1							13
0369						5	2					7
8999								1				1
TOTAL EM	46		66	40	16	5	2	1				176
0302									5	1		6
TOTAL OFF									5	1		6
Summary	46		66	40	16	5	2	1		5	1	182

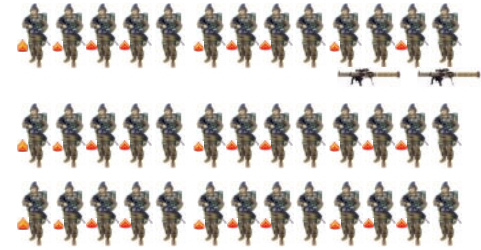
# Optimized for the Future Fight



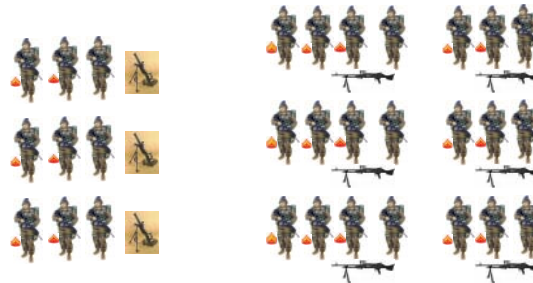
1st Platoon



2d Platoon



3d Platoon



Mortar Section



MG Section



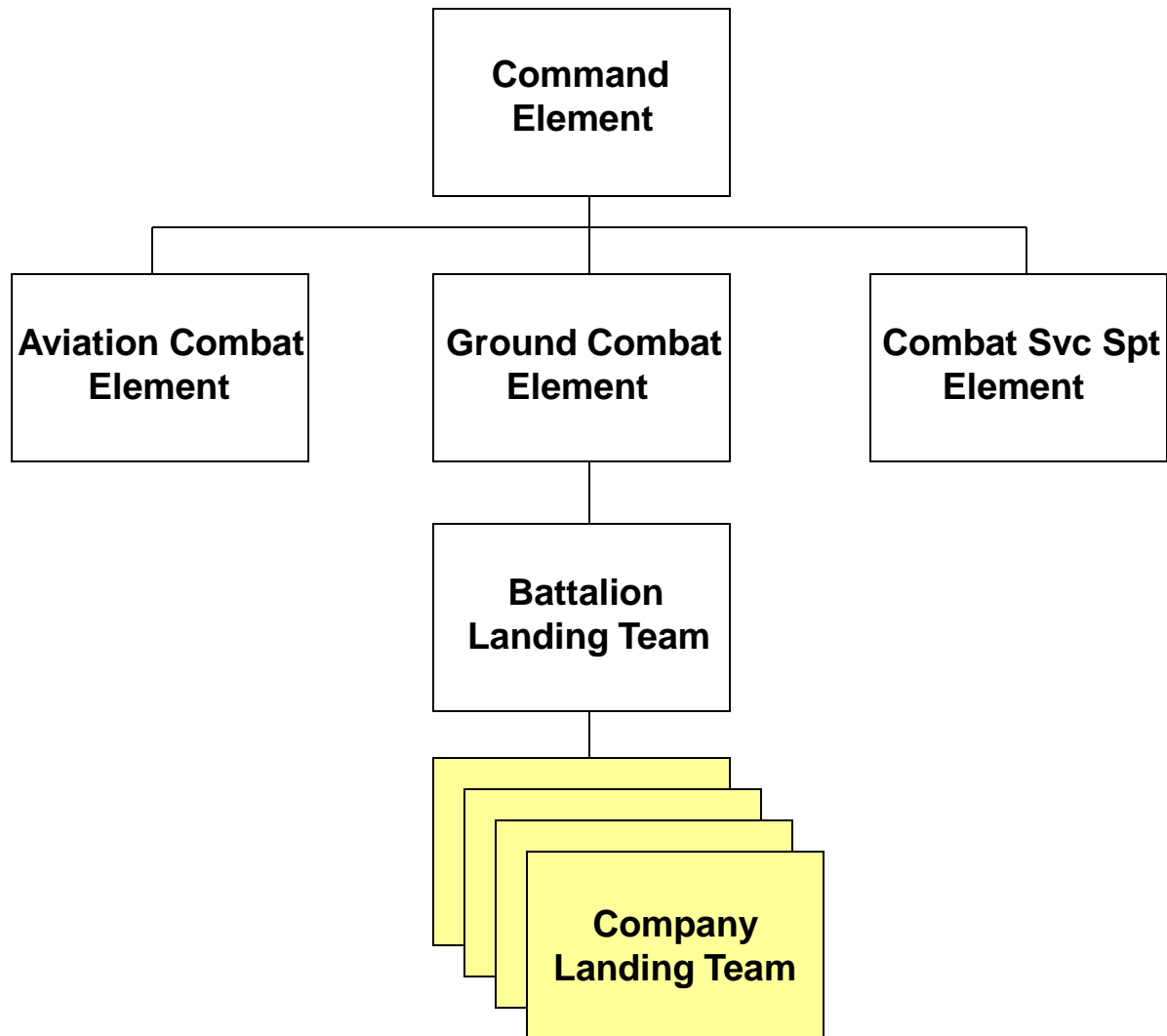
Scout Section

Weapons Platoon

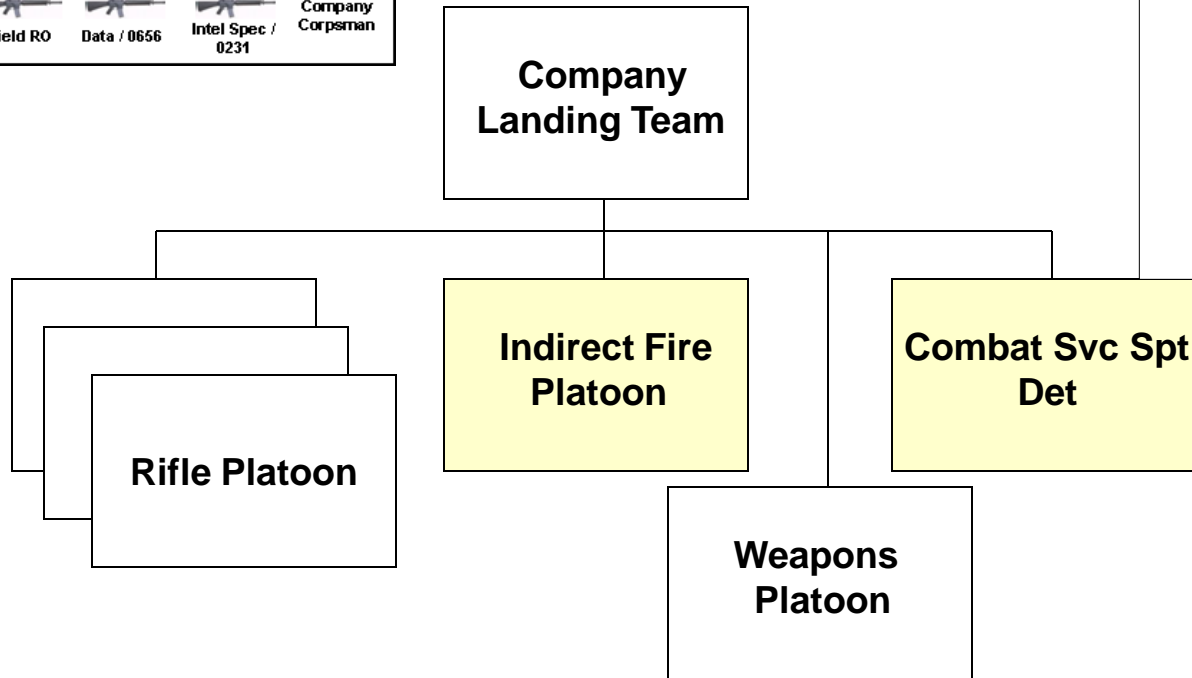
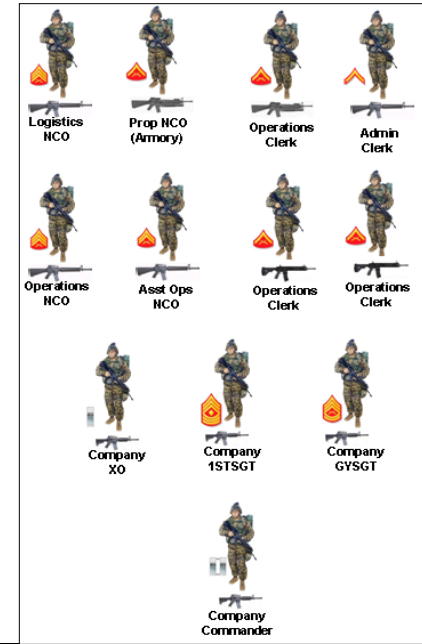
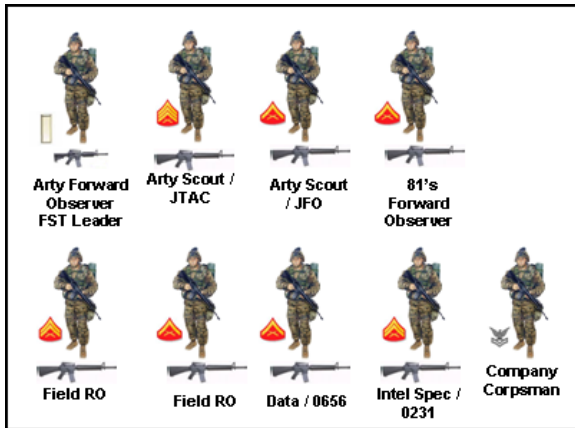


HQ Section

# A Simple Variation on Theme



# Train the Way We Fight



# LOE 4 Technologies



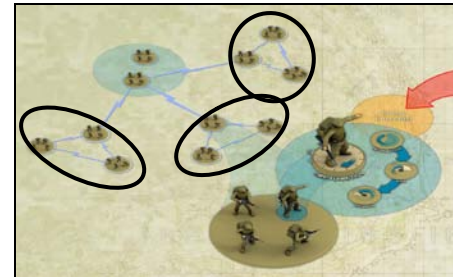
## **Distributed Tactical Communications System (DTCS):**

Expand the range of the tactical DTCS radio from 100 miles to 250 plus miles, in order to enable the Warfighter to execute STOM. Ship installation of DTCS occurring on LHD 6 to provide OTH voice comms from LFOC to CLOC



## **Next Generation Command and Control (NGC2):**

Trellis-Ware Communications – Mobile Mesh networks (MANET) technologies, compression algorithm technologies, implementation of Position Locating Information throughout the network, and development of a network management system to facilitate smooth network transitions



## **Mobile Tactical Network CLOC Enabler (METN-CE):**

Mobile CLOC C4 enabler that integrates current MCWL initiatives (DTCS and TW) with Mobile Modular Command and Control (M2C2) or Warfighter Information Network Tactical (WIN-T) to create On the Move (OTM) / Beyond Line of Sight (BLOS) tactical network for CLOC operations.



## **Panasonic CFU-1:**

Toughbook employed at Platoon and Co. level. Provides Operational and Planning tools through the inclusion of Command Post of the Future (CPOF) and Tactical Ground Reporting System (TIGR). Also capable of operating Marine Link (Co. level and above)





# LOE 4 Technologies



## GCE

### **Combat Robotic Systems (CRS):**

Organic, remotely operated weapons system capable of operation in battlefield conditions.



**MAARS**

## UAS

### **MCWL UAS Research Surrogate (TIER II UAS):**

Employ XMQ-19A as a test platform to investigate emerging UAS technologies; develop and refine experimental UAS TTPs, and Provide MAGTF level ISR enable for EMO experimentation.



## CSS

### **Ground Unmanned Support System (GUSS):**

Off-road unmanned system, either remote or on board operation with 500lbs payload capacity, and provision of Supply support to Squad and Platoon. Support Lighten the Load initiative and alternate water and power.

