



# **Marine Corps M&S Brief for National Defense Industrial Association (NDIA) Systems Engineering Division**

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# ***Agenda***

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**Marine Corps M&S Policy**

**Four Primary Communities**

**Way Ahead**



# *M&S Management Foundation Documents*

- **Authority**

- DoDD 5000.59 – DoD Modeling and Simulation (M&S) Management
- DoDI 5000.70 – Management of DoD Modeling and Simulation Activities
- SECNAVINST 5200.28B – DON M&S Management

- **MCO 5200.28A – Marine Corps M&S Management**

- Authorizes DC/CD&I as lead for Marine Corps M&S
- Establishes MCMSO to lead Marine Corps M&S IPT
- Establishes four community leads for Marine Corps M&S

## **DoDD 5000.59**



- The M&S SC shall: “Advise and assist the USD(AT&L)”
- “M&S tools, data, and services shall be visible and accessible”

## **DoDI 5000.70**



“Establishes the Director, DoD Modeling and Simulation Coordination Office (M&SCO) as the focal point for coordinating all matters related to DoD M&S”

## **SECNAVINST and MCO**



Requires Navy and Marine Corps to establish offices that will coordinate M&S activities and share information



# M&S Organizational Structure

**DoDD 5000.59**

**Lead DoD M&S  
USD AT&L**

**Established  
DOD M&S Steering Committee  
SES Level**

**Modeling & Simulation  
Coordination Office**

**M&S Deputies**

DOD M&S Communities	
Acquisition→	USD AT&L
Training→	USD P&R
Planning→	JS / J-5 & Policy
Analysis→	CAPE & JS / J-8
Testing→	USD AT&L / DOT&E
Experimentation→	JS / J-7 / JCW
Intelligence→	USD I

**DC CD&I -- MCO 5200.28A**

**Lead USMC M&S  
MCCDC Senior Analyst  
-M&S Officer OCCFLD Manager**

**Established  
MCMSO  
-USMC M&S IPT  
-M&S Enterprise Strategy  
-M&S Standards**

**USMC M&S IPT Charter  
(To Be signed by 4 Communities)**

**USMC M&S IPT**

USMC M&S Communities/Voting Members	
Acquisition→	CG MARCORSYSCOM
Training→	CG TECOM
Analysis→	Dir, OAD, MCCDC
Experimentation→	CG MCWL
Planning, Test, Intel, Aviation, and Logistics also full participants	



# ***MCMSO Role***

- **Support the USMC representative to the DoD M&S SC**
- **Represent Marine Corps at DoD , Joint Staff, and SECNAV M&S Enterprise events**
- **Serve as Marine Corps POC for DoD, Joint Staff, SECNAV, and HQMC M&S policy, guidance, and planning decisions**
- **Represent Marine Corps in Navy M&S Office Meetings**
- **Oversee Marine Corps participation in NPS MOVES program – curriculum, student thesis, assignments, etc...**
- **Occfield Manager for 8825 (M&S Officers) MOS**
- **Lead Marine Corps M&S IPT - maximize the reuse, interoperability, and effectiveness of Marine Corps M&S data, tools, and services.**
- **Identify and prioritize Marine Corps M&S research areas**
- **Functional Area Manager (FAM) for Analysis/S&T portfolio**



# Marine Corps Training

*Many Smaller Programs Producing Larger Capability*

## *Individual Training*



## *Small Unit Training*



## *Staff Training*



**Network Operations & Training Environment**

**Marksmanship**

**Language Skills**

**Functional Skills**

**Team Training**



**Fire Support**

**C2 Training**

**Enhanced Company Operations**

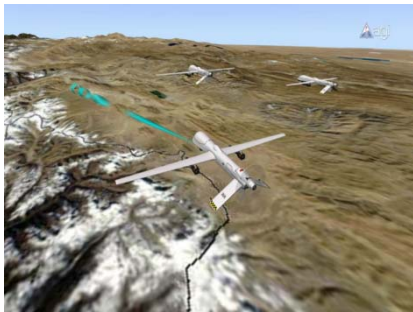
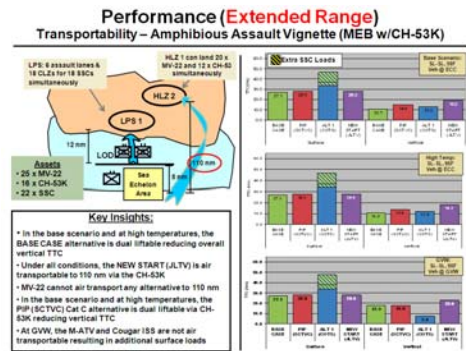
**MEF Staff Training**

**Joint Training**

**Commercial Games (PME)**



# Analysis



## Mission Level to Campaign Analysis

- STOM Model – Vertical (STOMM-V)
- STOM Model – Surface (STOMM-S)
- Systems Tool Kit (STK)
- Combined Arms Analysis Tool for the 21st Century (Combat XXI)
- Synthetic Theater Operations Research Model (STORM)

**\*\*Manpower, Logistics, and P&R all have their own set of analytical tools as well**





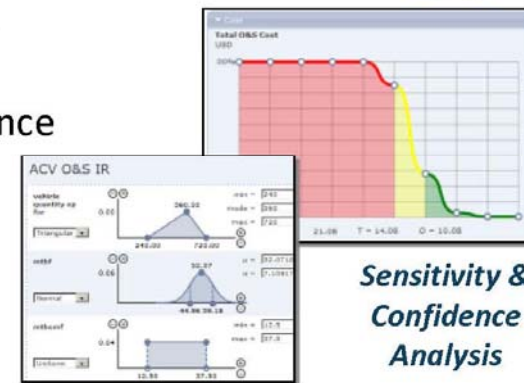
# Acquisition



## Framework for Assessing Cost and Technology



- **Collaborative Development:** browser-based tool enables analysis as a web service
- **Performance:** “black box” approach to performance models integration through metadata interface
- **Cost:** acquisition cost estimating relationships and trusted O&S cost model
- **Model Based Sys Eng:** Leveraging SysML and accepted systems engineering standards



*Dynamic Alternative Comparison*

	Alternative 1	Alternative 2
Land Range at Cruise 300.00 400.00	243.83 mi	409.58 mi
Max Swim Speed 8.00 12.00	7.89 mph	10.30 mph
Max Water Speed at 1' SWH 8.19 17.48	3.47 knot	5.31 knot
Minimum HP Required to Maintain S 727.65 300.00	670.20 hp	603.21 hp

*Collaborative In- Browser 3-D Manipulation*







# Experimentation

- MCWL uses M&S to aid in the development of experimental ideas, plan and rehearse experiment events, and to simulate the actions of elements not participating in the live experiment IOT provide the context in which the capability will need to perform.
- Conducts research and development to explore how M&S tools and techniques can be used in operational planning at the regimental, battalion and company levels; in stride analysis and the ability to model discrete events that are critical to mission success.

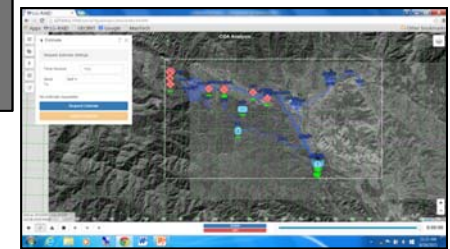
*Course of Action Development*

*Course of Action Wargaming*

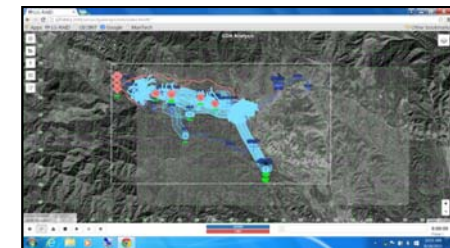
*Course of Action Comparison - Decision*

*Digital Rehearsals*

**Input COA SOM**



**Run Estimate**



*If COA is good  
– send to STP  
to finish order*

**Analyze Results**

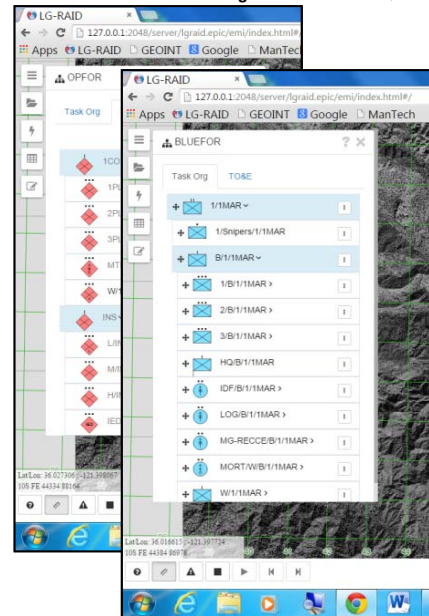


*Make Changes  
– Run Again*

Steps 2,3, and 4 of the MCPP overlap and allow for a more well informed plan and identifies critical events by location and relative time.



**Establish Red Task Org**



**Establish Blue Task Org**



# Marine Corps Live Virtual Constructive Equip, Field, Train, and Sustain the Force

## Five Tasks to Change How We Organize, Train, and Equip

- Integrate the Naval Force to Fight At and From the Sea
- Evolve the MAGTF
- Operate With – and Without – Networked Communications
- Enhance Our Ability to Maneuver
- Exploit the Competence of the Individual Marine



Live



Virtual



Constructive

***LVC will Enable the Marine Corps to field the  
“Right Force in the Right Place at the Right Time”***



# *Questions?*