



# NAVMSMO M&S VV&A Overview

**“We must improve our use of modeling, develop and improve output metrics to better define our requirements and resource needs, and instill a culture of improved productivity in everything we do.”**

—CNO Guidance for 2004

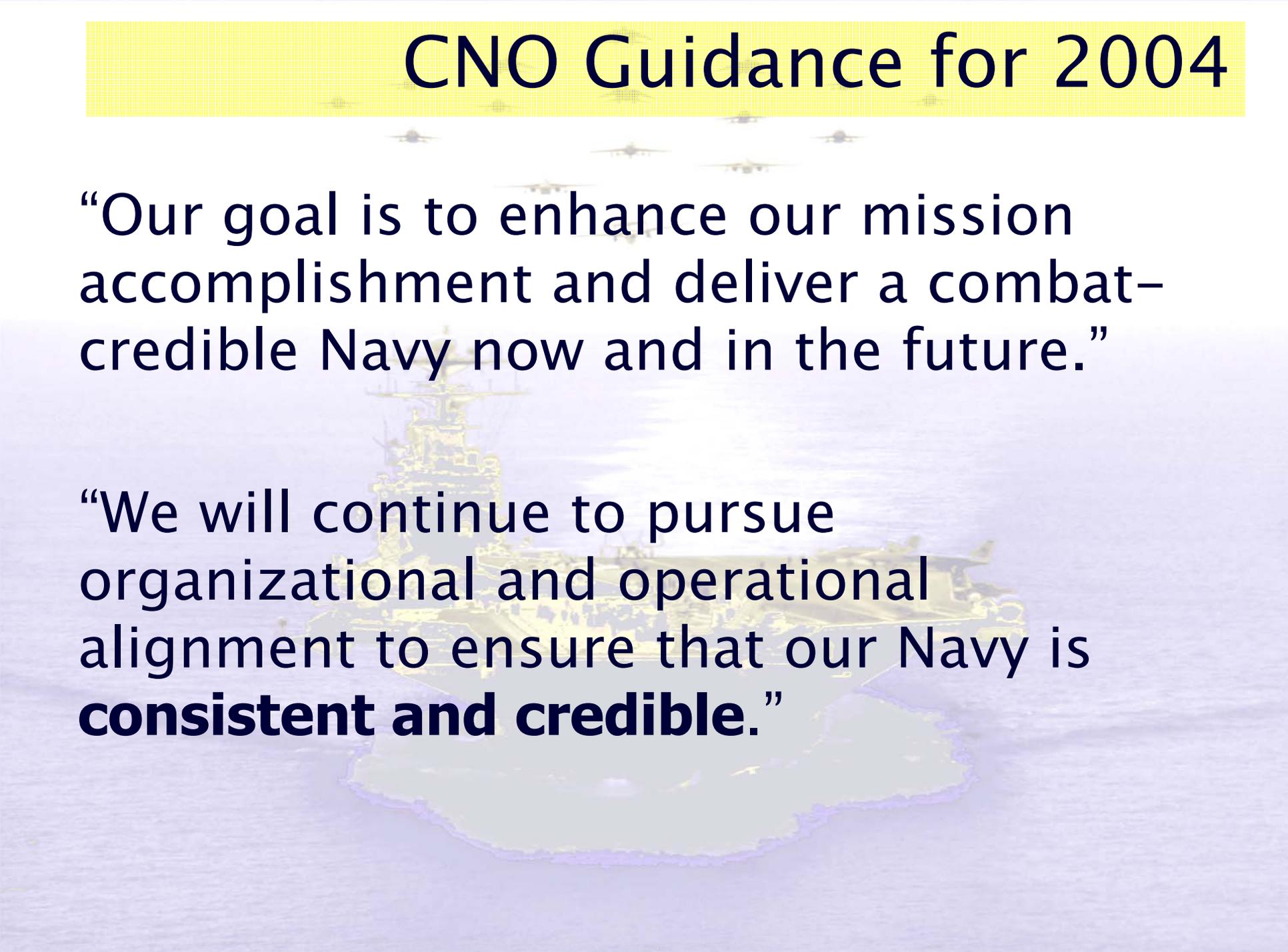


**“Those who can’t wait for accredited models and simulations will go forward without success.”**



–RADM Katherine K. Paige  
Chief Engineer, ASN (RDA)  
DMSO Industry Days, 24 May 2003

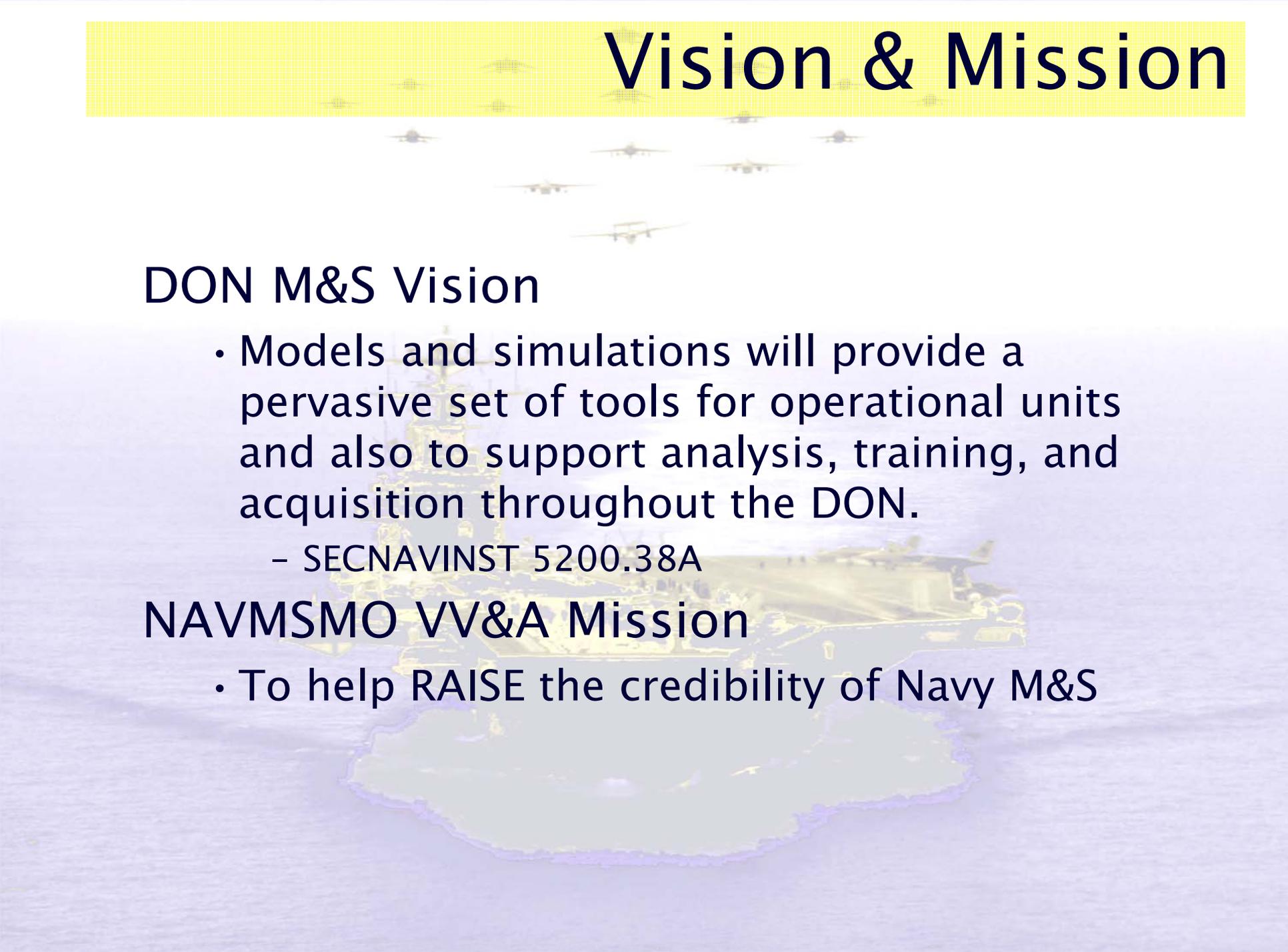
# CNO Guidance for 2004



“Our goal is to enhance our mission accomplishment and deliver a combat-credible Navy now and in the future.”

“We will continue to pursue organizational and operational alignment to ensure that our Navy is **consistent and credible.**”

# Vision & Mission



## DON M&S Vision

- Models and simulations will provide a pervasive set of tools for operational units and also to support analysis, training, and acquisition throughout the DON.
  - SECNAVINST 5200.38A

## NAVMSMO VV&A Mission

- To help RAISE the credibility of Navy M&S

# VV&A Defined

- **Verification:** the process of determining whether a model or simulation implementation accurately represents the developer's conceptual description and specifications.
- **Validation:** the process of determining the degree to which a model or simulation is an accurate representation of the real work from the perspective of the intended use.
- **Accreditation:** an official determination that a model or simulation is acceptable to use for a specific purpose.

-SECNAVINST 5200.40

The Bottom Line: VV&A seeks to ensure that our Navy M&S are **consistent and credible.**"

# Benefits of VV&A for the Navy

VV&A is a set of **sound business processes** that cultivates the consistent credibility of M&S:

- Informed Decision Making
  - Assurance in the credibility of M&S results
  - Confidence in the credibility of M&S design
  - Reduction of Risk Associated with M&S Use
    - Early identification of errors in M&S development cycle
- Compliance with DON Policy
- A Culture of Reusable M&S

# Importance of VV&A for M&S

Without a well-defined VV&A process:

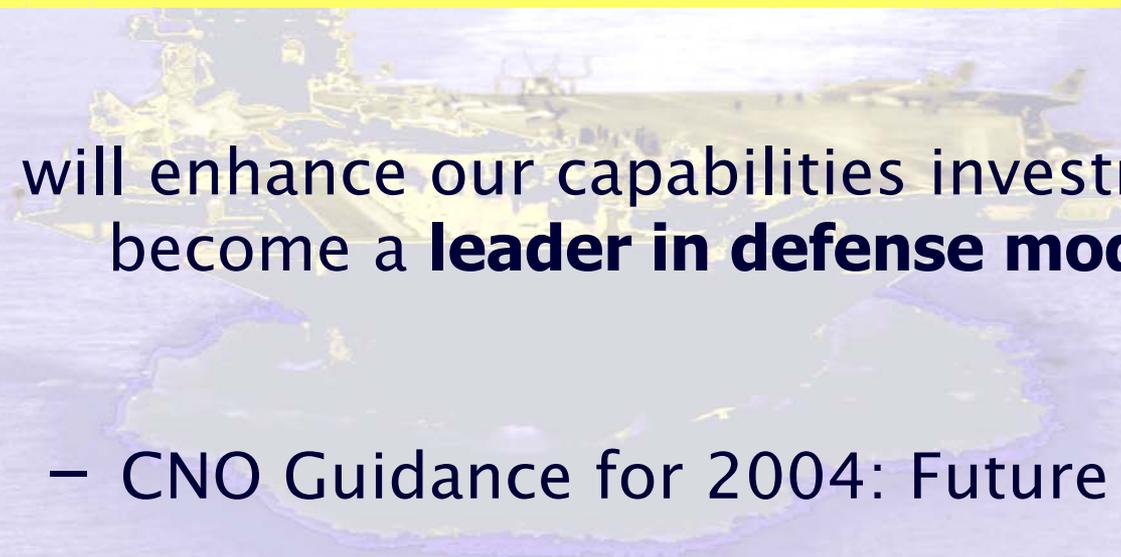
- M&S may solve the wrong problem.
- Valid M&S may be rejected.
- Invalid outcomes may be accepted.

VV&A ensures that the Navy's M&S:

- Address the correct problem.
- Produce accurate, consistent, and reproducible results.
- Are built on a solid framework of standardized organization, process, products, and techniques.



# NAVMSMO M&S VV&A Program



“We will enhance our capabilities investments and become a **leader in defense modeling and analysis.**”

– CNO Guidance for 2004: Future Readiness

# The NAVMSMO M&S VV&A Program

## **Purpose: RAISE the Credibility of M&S**



- **R**efine Policy
- **A**dvance  
Standardization
- **I**ncrease  
Implementation
- **S**pread Awareness
- **E**ducate the  
Community

# Foundations

## Baseline Policies for the Requirement of VV&A:

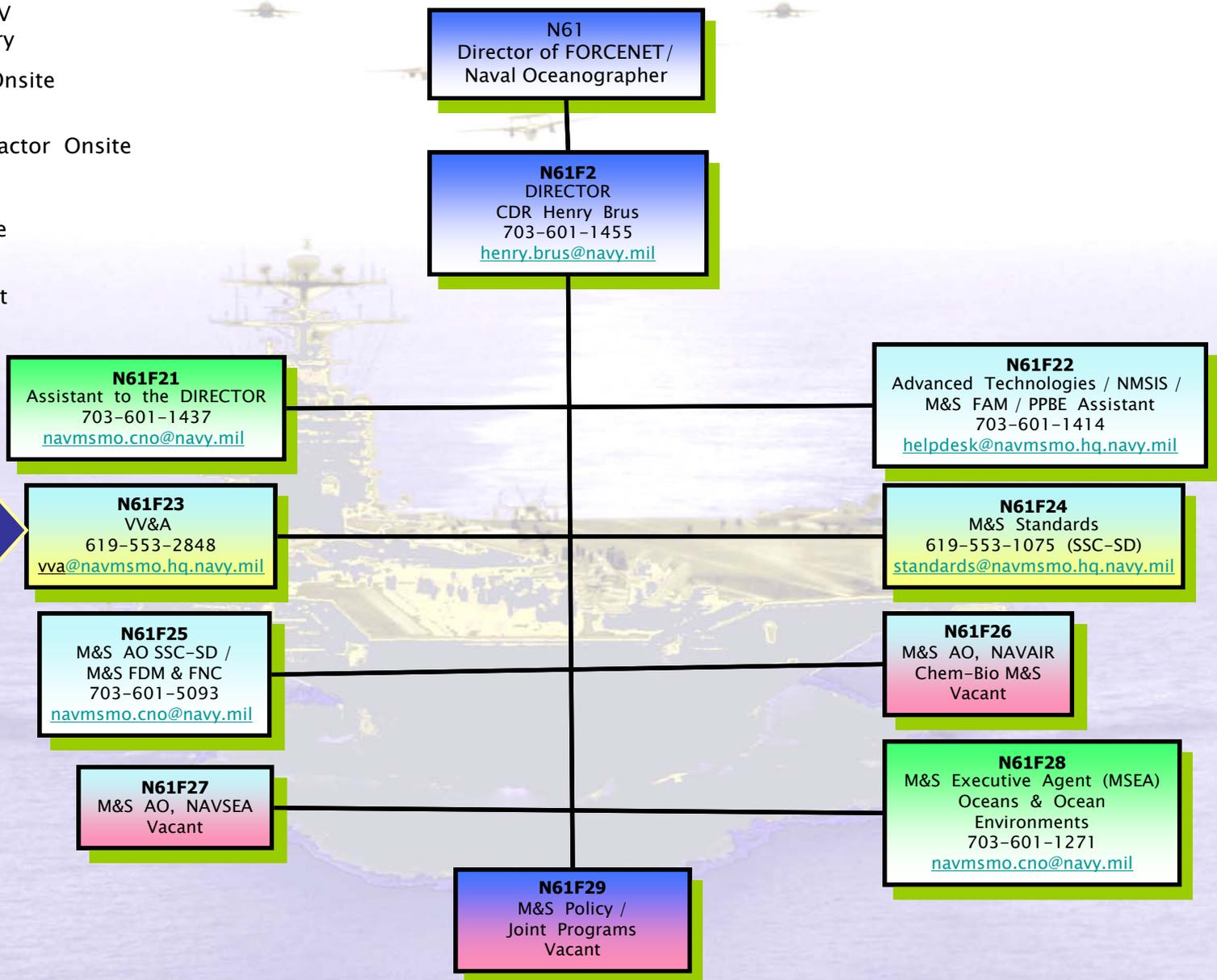
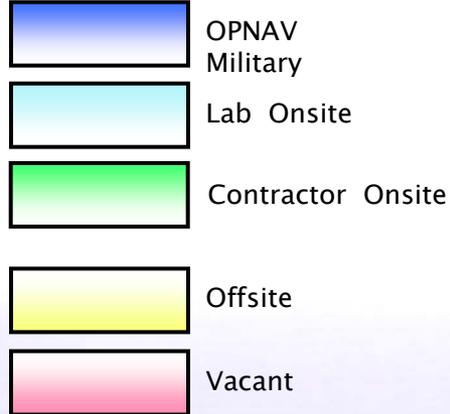
- DoDI 5000.61
- SECNAVINST 5200.38A
- **SECNAVINST 5200.40A** (draft)
- OPNAVINST 5200.34

# The NAVMSMO M&S VV&A Program

- Organization
- From Purpose to Goals
- Methods of Fulfillment



# Structural Organization



# From Purpose to Goals

**Refine Policy** Proposal, promotion, and promulgation of solid Requirements for VV&A.

**Advance Standardization** Strategic promotion of VV&A best techniques, tools, and methods for Standardization.

**Increase Implementation** Pragmatic guidance for effective Implementation of VV&A.

**Spread Awareness** Pervasive Awareness of VV&A and its benefits through qualitative outreach.

**Educate the Community** Qualitative and accessible Education on VV&A for the entire DON.



# Distinctive Products and Services



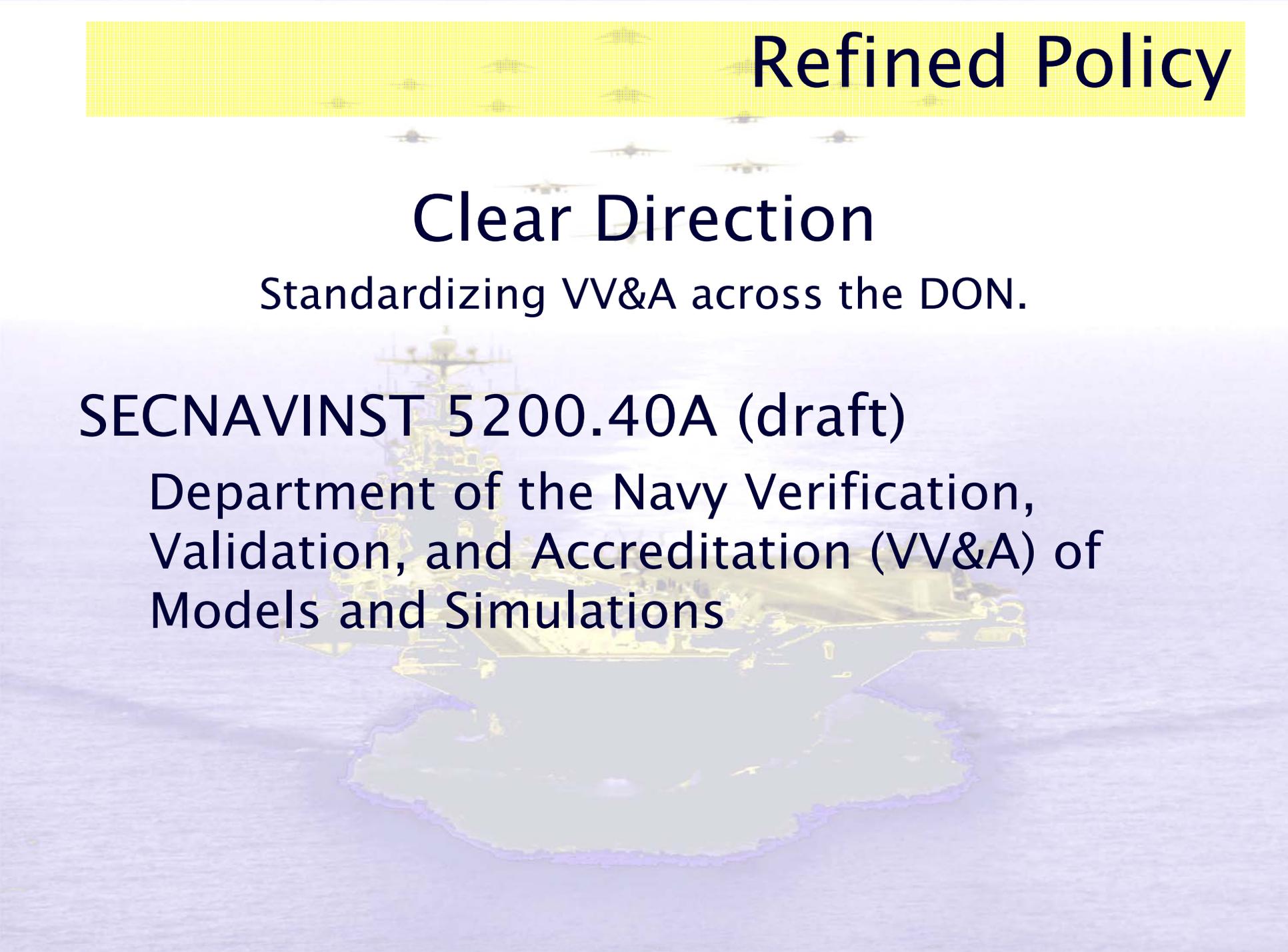
**“Vision without action is a daydream.”**

**–Japanese Proverb**

# Distinctive Products & Services



- Refine Policy
  - Policy
  - SECNAV Assessment Report
- Advance Standardization
  - Technology Area Group
  - VV&A Documentation Tool
- Increase Implementation
  - Implementation Handbook
  - Implementation Support
- Spread Awareness
  - Documentation Archive
  - Technical Working Group (TWG)
- Educate the Community
  - Publications
  - Training



# Refined Policy

## Clear Direction

Standardizing VV&A across the DON.

**SECNAVINST 5200.40A (draft)**

Department of the Navy Verification,  
Validation, and Accreditation (VV&A) of  
Models and Simulations

# Advanced Standardization

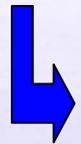
## Technology Area Group (TAG)

Advocating VV&A **Standards**.

- Identification, nomination, evaluation, and advocacy of VV&A standards and best practices.
- Support to the NAVMSMO Standardization Effort (MS3G).
- Membership: the DON's top SMEs in M&S VV&A.
  - 100% volunteer force that provide the majority of the standards for DON M&S VV&A.

# Advanced Standardization VV&A Documentation Tool (VDT)

Automating the VV&A documentation process.  
“Work smarter, not harder”



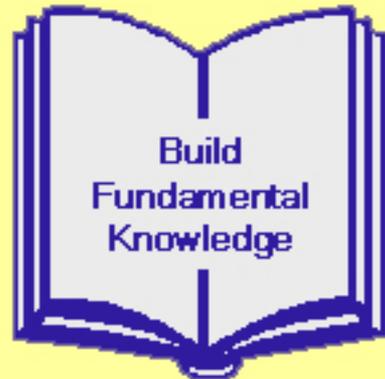
- Standardizes Navy VV&A document content & format
- Automates production of VV&A documents
- Leads users through the VV&A process
- Accreditation and V&V Agents/Teams share common information

# Increased Implementation

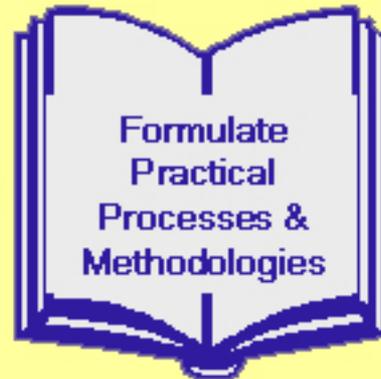
## VV&A Implementation Handbook

Providing pragmatic guidance for VV&A:  
process, implementation, and lessons learned.

Systematic Framework for Advancing VV&A Knowledge in  
the Department of the Navy



Volume 1  
VV&A Framework



Volume 2  
VV&A: Adopt, Adapt & Improve



Volume 3  
VV&A: Practical Examples

# Increased Implementation

## VV&A Implementation Support

Lending a helping hand  
to jumpstart the VV&A effort.

- VV&A Help Desk
  - Answers to specific questions on VV&A
- Program Assistance
  - Assistance to individual M&S programs to kick off their VV&A efforts

[vva@navmsmo.hq.navy.  
mil](mailto:vva@navmsmo.hq.navy.mil)

# Pervasive Awareness

## Qualitative Documentation Archive

Providing a repository of information on Navy M&S VV&A implementation.

- Identification, collection, and archival of VV&A documents.
- Main Holdings
  - 108- OT&E Accreditation
  - 70- Threat Validation
  - 46- Verification and Validation for OT&E
  - 9- Oceanographic and Atmospheric Master Library
  - 35-Other

# Pervasive Awareness

## Technical Working Group (TWG)

Socializing VV&A and  
Identifying the VV&A Community

- Identification and galvanization of the VV&A Community
- Identification of continued areas of concern.
- Subcommittee to resolve recurrent concerns
- Participation

DON, Army, Air Force, DMSO, Industry, Governmental Agencies, and Foreign Nationals

# Qualitative Education

## Publications

Educating the Navy, DOD, and Industry about DON VV&A.

- Promotion of standards
- Identification, consolidation, and improvement of Navy VV&A processes.
- Consensus-building
- Professional Forums

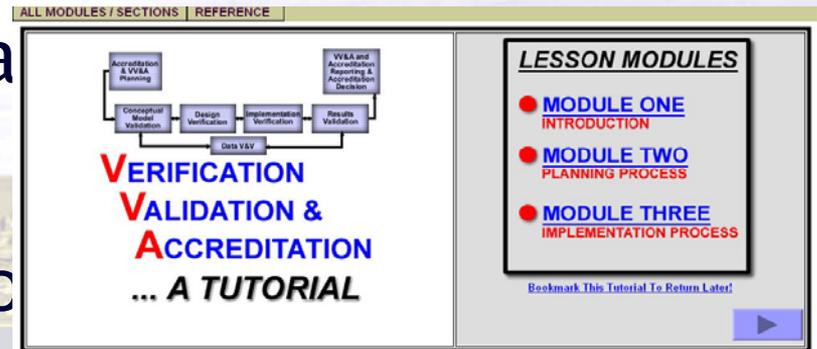
Simulation Interoperability Workshops, International Test and Evaluation Association (ITEA) M&S Workshops, Summer and Winter Simulation Conferences, Military Operations Research Society Symposia, Inter-service/industry Training, Simulation and Education Conference (I/ITSEC)

# Qualitative Education

## VV&A Training

Promulgating the VV&A concept through universally accessible education.

- On-Demand Education
  - Web-enabled tutorials
- Hands-on guidance
  - On-site education for M&S managers and VV&A practitioners



# Centralized, Universal Access

## The VV&A Website

Providing the “one-stop resource for all things VV&A.”  
<https://navmsmo.hq.navy.mil>

### VV&A Resources

- VV&A Policy
- VV&A Handbook
  - VV&A TWG
- VV&A Documents
  - VV&A Portal
    - Doc Tool
    - VV&A Tutorial
- VV&A Help Desk

The screenshot shows the NAVMSMO website interface. At the top, the logo "NAVMSMO" is displayed in yellow on a dark blue background. To the right of the logo is a search bar with the text "Search Options" and "Keyword Search" and a "START SEARCH" button. Below the logo, the text "navy modeling & simulation management office" is visible. A navigation menu on the left side lists various resources, with "VV&A" highlighted in a red circle. The main content area is titled "Verification, Validation, and Accreditation" and contains a paragraph about the VV&A program and a list of resources including "VV&A Policy", "VV&A Guidance", "VV&A Technical Working Group (TWG)", "Archived List of VV&A Documents", "VV&A Documentation Tool", and "VV&A Help Desk". At the bottom of the page, there is a footer with contact information and a date stamp.

**NAVMSMO** Search Options  
Keyword Search START SEARCH

Home | Help navy modeling & simulation management office

### Verification, Validation, and Accreditation

NAVMSMO manages a VV&A program that complements the [SECNAV 5200.40](#). The VV&A program provides VV&A guidance for Navy Modeling and Simulation users and providers. Key elements of the program include:

- [VV&A Policy - SECNAVINST 5200.40](#)
- [VV&A Guidance](#)
- [VV&A Technical Working Group \(TWG\)](#)
- [Archived List of VV&A Documents](#)
- [VV&A Documentation Tool](#) - This site is *currently Under Construction* and not will not be ready for public use until early 2004. Note: This is a secure, unclassified government web page which requires registration. Once registered, you will be given a UserID and password.
- [VV&A Help Desk](#)

Send comments and suggestions to [wa@navmsmo.hq.navy.mil](mailto:wa@navmsmo.hq.navy.mil).

Date Last Modified: 01/27/2004 09:17:42

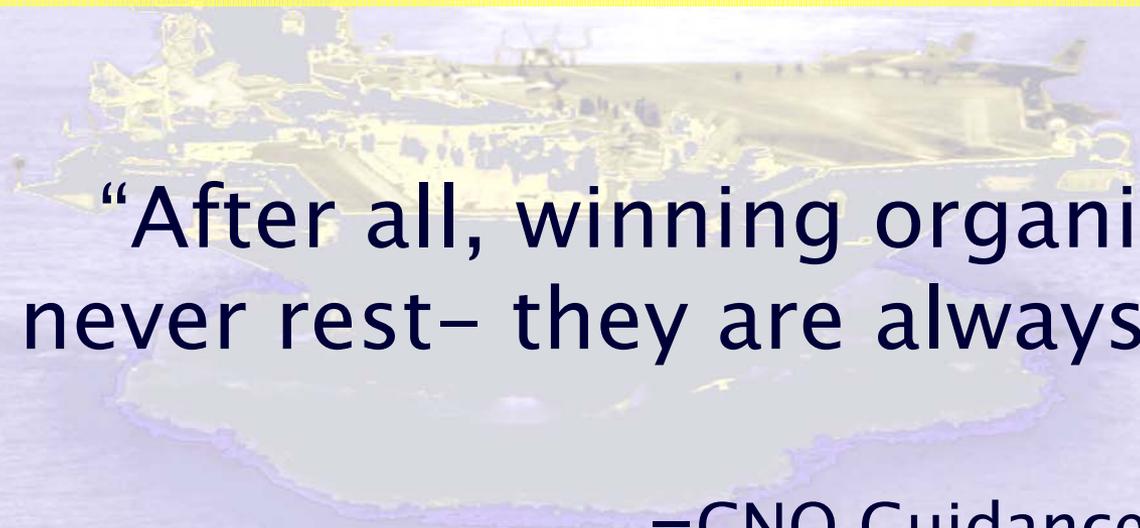
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# The Way Ahead: Future Works and Continued Areas of Concern



“After all, winning organizations  
never rest– they are always on the  
move!”

–CNO Guidance for 2004

# The Way Ahead

## Future Works

Marking the road ahead for M&S VV&A.

- **Refining Policy**
  - Promulgation of SECNAVINST 5200.40A
- **Advancing Standards**
  - Promulgation and standardized use of the VDT.
- **Increasing Implementation**
  - Publication of the DON M&S VV&A Handbook, Volume II.
  - Compilation of the DON M&S VV&A Handbook, Volume III.
- **Spreading Awareness**
  - Formation of the TWG Subcommittee
- **Educating the Community**
  - Creation of a second version of the VV&A Training Module to mirror the DON M&S VV&A Handbooks.

# The Way Ahead

## Outstanding Issues

Highlighting continued areas of concern for the consistent application of the VV&A process.

- Enforcement of Policy
- Acquisition Requirements
- Early Implementation of VV&A
- M&S Use in T&E
- Validity of Data
- Individual Data

Contact NAVMSMO anytime:

<http://navmsmo.hq.navy.mil>

Click VV&A on the left navigation bar

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