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Intelligence

MODELING AND SIMULATION

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 14-2, *Intelligence Collection, Production, and Application*. This instruction guides intelligence modeling and simulation activities. It also includes intelligence support to modeling and simulation (M&S) activities in weapon systems acquisition, research and development, test and evaluation, education and training, military operations, and national level policy making.

SUMMARY OF REVISIONS

This revision aligns this instruction with AFPD 14-2.

1. Responsibilities:

1.1. HQ USAF/IN:

- Issues plans, directives, procedures, and publications for the management and approval of intelligence Modeling and Simulation (M&S) in coordination with Air Force, Department of Defense (DoD), and Defense Intelligence Agency (DIA) components.
- Encourages the use of M&S within the Air Force intelligence community, enhances intelligence support to Air Force M&S activities.
- Represents Air Force intelligence interests on all applicable M&S issues and provides intelligence representation at the DoD level as requested by the Secretary of the Air Force.
- Complies with and supports DoD M&S Master Plan and Investment Plan.
- Ensures intelligence M&S activities comply with DoD and Air Force Verification, Validation, and Accreditation (VV&A) policies.
- Ensures intelligence M&S activities comply with DoD level standards, interface, portability, and architecture policies.

- Establishes a focal point for M&S intelligence resource and policy decisions.
- Establishes an intelligence M&S configuration management strategy or plan.

1.2. HQ USAF/IN Focal Point:

- Establishes and chairs intelligence M&S working groups or panels for reviewing, prioritizing, and funding intelligence M&S and support activities.
- Identifies, in conjunction with the Air Force intelligence community, management metrics for evaluating the intelligence M&S support activities.
- Programs resources as needed to carry out functional M&S responsibilities according to Air Force priorities.
- Ensures prioritized support for intelligence M&S user needs.
- Provides representation, in coordination with HQ USAF/XO, on Air Force and DoD M&S policy steering groups, panels, and working groups (such as Executive Committee for Modeling and Simulation (EXCIMS) panels and Defense Modeling and Simulation Office (DMSO) working groups).

1.3. Air Intelligence Agency (AIA)/CC:

- Ensures AIA intelligence M&S activities comply with DoD and HQ USAF/IN plans, policies, directives, procedures, and publications.
- Plans and provides resources as needed to carry out functional M&S responsibilities according to component priorities.
- Reviews and coordinates Air Force intelligence M&S plans, directives, procedures, and publications and complies with DoD M&S Master Plan and Investment Plan.
- Establishes VV&A procedures and processes for AIA intelligence M&S applications consistent with HQ USAF/IN policies.
- Ensures maximum compliance and compatibility with DIA intelligence M&S production and review process.
- Establishes a focal point for AIA M&S products and support who will plan and coordinate AIA M&S activities.

1.4. MAJCOM/INs. Provide command representation to applicable HQ USAF/IN working groups and panels. As detailed below, they will also implement higher headquarters directives and identify intelligence M&S support requirements to HQ USAF/IN focal point:

1.4.1. To implement higher headquarters directives:

- Follow DoD and Air Force directives regarding intelligence support to M&S.
- Comply with the DoD M&S Master Plan and Investment Plan.

1.4.2. To identify M&S support requirements:

- Establish command procedures to identify the command's requirements for threat support and intelligence support to M&S.
- Validate, integrate, and prioritize command threat and intelligence support requirements.
- Advocate command's requirements within the intelligence community.

- Identify data sets for user developed M&S to the intelligence community. Use Intelligence Support Plans (ISP) and Intelligence Production Requirements (IPR), when appropriate, and ensure the command has a formalized process for identifying requirements when neither ISPs nor IPRs are appropriate.
- Represent command interests on all matters pertinent to intelligence M&S activities and support.
- Plan and provide resources as needed to carry out functional M&S responsibilities according to command priorities.
- Establish VV&A procedures for command intelligence M&S applications consistent with HQ USAF/IN directives.

2. Intelligence Modeling and Simulation Procedures:

2.1. Model Responsibilities. User needs and requirements drive intelligence models and simulations. The development of models and simulations for a specific application must have a user proponent sponsoring that specific application or be traceable to a user support requirement.

2.1.1. Ultimate responsibility for a model or simulation will reside with the organization maintaining configuration control of the model or simulation. Intelligence input data sets for a specific model or simulation are the responsibility of the organization, agency, or office generating that data set. Proper use of the input data sets is the responsibility of the user of the model or simulation.

2.2. Funding. Use intelligence funding to support general intelligence M&S activities (i.e., common-use M&S applications), multiple users, and multiple applications. Use funding from the user to support specific intelligence M&S activities for a single specialized application.

2.2.1. A HQ USAF/IN led working group will determine prioritization for funding of intelligence M&S activities supporting new general intelligence use, multi-user, or multi-application models and simulations. The group will convene at least annually and consist of intelligence and user M&S representatives.

2.2.2. The user will fund support for single specialized requests and coordinate directly with the intelligence M&S activity providing the support.

2.3. Verification, Validation, and Accreditation. The organization, agency, or office responsible for a model or simulation will verify and validate that model or simulation.

2.3.1. Validate intelligence M&S data sets according to DoD and DIA policies and guidelines using the approved process.

2.3.2. Model or simulation accreditation is the responsibility of the user. If an intelligence community model is provided to a user, the developer will assist the user in its accreditation.

2.3.3. The model user with support of the data set developer will accredit the model or simulation data sets developed for a customer model.

2.4. Standards. Whenever possible, intelligence M&S activities will comply with common interfaces, maximum portability, interoperability, and use of accepted standards (such as the Department of Defense Intelligence Information System (DoDIIS) Reference Model).

2.4.1. Air Force intelligence M&S shall use baseline threats approved by DIA according to DIAM 75-1, *Scientific and Technical Intelligence Production*, or validated according to DoD Instruction 5000.2, *Defense Acquisition Management Policies and Procedures*, February 23, 1991, with Change 1, to support acquisition milestones.

2.4.2. Air Force intelligence M&S, through the HQ USAF/IN focal point, will develop and periodically review investment strategies to ensure long-term technical capability to support evolving user M&S intelligence support requirements consistent with DoD Master Plan and Investment Plan.

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Attachment 1

GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

Section A--References

NOTE:

Check the current status of information from this document before you use it.

Multiaddress Memorandum from the Deputy Secretary of Defense, " *Modeling and Simulation Management Plan*," June 21, 1991

Multiaddress Memorandum from the Under Secretary of Defense for Acquisition, " *Establishment of the Defense Modeling and Simulation Office (DMSO)*," July 22, 1991

DoD 5025.1-M, *Department of Defense Directives Systems Procedures*, December 1990

DoD Instruction 5000.2, *Defense Acquisition Management Policies and Procedures*

DoD 8320-M, *DoD Data Administration*, September 26, 1991

DoD 8320.1-M-1, *Data Element Standardization Procedures*, January 1993

DIAM 75-1, *Scientific and Technical Intelligence Production*, October 24, 1988

AFPD 14-2, *Intelligence Collection, Production, and Application*

Section B--Abbreviations and Acronyms

AIA—Air Intelligence Agency

AFIWC—Air Force Information Warfare Center

DIA—Defense Intelligence Agency

DMSO—Defense Modeling and Simulation Office

DoD—Department of Defense

DoDIIS—Department of Defense Intelligence Information System

EXCIMS—Executive Committee for Modeling and Simulation

IPR—Intelligence Production Requirement

ISP—Intelligence Support Plan

MAJCOM—Major Command

M&S—Modeling and Simulation

VV&A—Verification, Validation, and Accreditation

Section C--Terms

NOTE:

The purpose of this glossary is to help the reader understand the terms used in this publication. It is not intended to encompass all pertinent terms. Joint Publication 102, *Department of Defense Dictionary of Military and Associated Terms*, and AFM 111, *Air Force Glossary of Standardized Terms*, contain standardized terms and definitions for Department of Defense and Air Force use.

Accreditation—The official certification that a model or simulation is acceptable for use for a specific purpose.

Common Use M&S—Modeling and simulation applications, services, materials, or facilities provided by a Department of Defense (DoD) component to two or more DoD components.

Cooperative Development—A project in which two or more Department of Defense components share in domain research technical studies or technology development but which may result in dissimilar modeling and simulation applications.

Executive Council for Models and Simulations (EXCIMS)—An organization established by the Under Secretary of Defense for Acquisition (USD(A)) and responsible for providing advice and assistance on Department of Defense modeling and simulations issues. USD(A) determines the membership which is at the senior executive service, and flag and general officer level.

General Use M&S Applications—Specific representations of the physical environment or environmental effects used by or common to many models or simulations, e.g., terrain, atmospheric (day/night, weather, seasonal) effects or oceanographic (sea state, salinity, water temperature, underwater terrain) effects.

Model—A physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process.

Modeling and Simulation Investment Plan—A Department of Defense (DoD) plan, published under the authority of the Under Secretary of Defense for Acquisition and with the coordination of the DoD Components, that establishes shortterm (present to 6 years) and longterm (beyond 6 years) programs and funding to achieve the specified goals and objectives outlined in the DoD M&S Master Plan.

Modeling and Simulation Master Plan—A Department of Defense (DoD) plan, published under the authority of the Under Secretary of Defense for Acquisition and with the coordination of the DoD components, that establishes shortterm and longterm DoD goals and objectives for the use of M&S capabilities within DoD. It also includes an assessment of current M&S capabilities, a status report on M&S efforts under development, and a road map that delineates the management, investment, and technical strategies required to achieve DoD M&S objectives.

Simulation—A method for implementing a model over time. Also, a technique for testing, analysis, or training in which realworld systems are used or where realworld and conceptual systems are reproduced by a model.

Validation—The process of determining (a) the manner and degree to which a model is an accurate representation of the realworld from the perspective of the intended uses of the model, and (b) the confidence that should be placed on this assessment.

Verification—The process of determining that a model implementation accurately represents the developers conceptual description and specifications.