2025 MRL Deskbook – Overview and Summary of Changes

1 May, 2025

The MRL Working Group (MRLWG) and Department of Defense (DoD) announce the release of the 2025 version of the Manufacturing Readiness Level (MRL) Deskbook, effective 1 May 2025.

MRL criteria and metrics provide a standardized scale and vocabulary for assessing and discussing manufacturing maturity and risk. Using these tools, an MRL Assessment offers a structured method to evaluate manufacturing processes, procedures, and techniques across technologies, components, items, subsystems, and systems. This deskbook details best practices for conducting manufacturing assessments using the MRL criteria. It targets individuals responsible for performing these evaluations, including acquisition PMs, systems engineers, manufacturing managers, and leaders of technology development and demonstration projects

The 2025 revision of the MRL Deskbook introduces administrative improvements aimed at enhancing clarity, consistency, and ease of use. Informed by feedback from the MRL Working Group and the broader user community, the updates focus on refining language, structure, and formatting to support more effective understanding and implementation of Manufacturing Readiness Levels. While no policy changes were made, and the MRL Criteria Matrix and DoD Instruction 5000.02 remain unchanged, the revision strengthens alignment with current DoD acquisition guidance and the Major Capability Acquisition pathway. Several sections were reorganized or clarified to better convey key concepts, and terminology was updated for consistency across the document. A revised Users Guide Tool is anticipated later in 2025 to complement these enhancements.

We encourage all users to begin referencing the updated 2025 MRL Deskbook which will be available for download at https://dodmrl.org.

For feedback or recommended updates for future revisions, please contact Mr. Rami Akouri (rami.akouri.ctr@us.af.mil), the MRLWG Secretariat. Please include your proposed change, affected section/page, source reference, and contact information.

Specific updates:

General Document-Wide Updates

- Common language (term) usage:
    - Corrected use of "Manufacturing" & "Production" based on Defense Acquisition University (DAU) definitions
    - Replaced [Manufacturing] "Readiness" with [Manufacturing] "Maturity", where appropriate
    - "MRL Assessment" is used in place of "Manufacturing Readiness Assessment (MRA)"

- Defined and consistent terms for assessment roles:
    - "Responsible Organization" refers to the entity leading the MRL Assessment
    - "Assessed Organization" refers to the group subject to the assessment
- Revised grammar, formatting, and structure for readability and precision
- Updated or removed all outdated or invalid hyperlinks
- Updated revisions to references, standards, and other citations

Section 1

- Removed the "MRL justification" content previously located in Section 1

Section 2

- Updated Figure 2-1 to clarify messaging on the notional relationship between Technology Readiness Levels (TRLs) and Manufacturing Readiness Levels (MRLs)
- Updated Section 2.5 with revised references to relevant public laws and Government Accountability Office (GAO) reports

Section 3

- Revised Adaptive Acquisition Framework-related figures in Section 3 and Appendix B, based on diagrams derived from DoDI 5000.88 to better reflect current acquisition pathways

Section 4

- Revised the layout of Figure 4-1 for improved visual clarity

Appendices

- Former Sections 7 and 8 ("Users Guide for Performing MRL Assessments" and "Effectively Adapting and Using MRL Criteria") moved to the appendix and reclassified as Appendix B and Appendix C, respectively
- As a result, "Operational Technology Cybersecurity" and "Acronyms" have been reclassified as Appendix D and Appendix E, respectively