



DoD INSTRUCTION 5000.92

INNOVATION AND TECHNOLOGY TO SUSTAIN MATERIEL READINESS

Originating Component:	Office of the Under Secretary of Defense for Acquisition and Sustainment
Effective:	May 7, 2021
Releasability:	Cleared for public release. Available on the Directives Division Website at https://www.esd.whs.mil/DD/ .
Approved by:	Stacy Cummings, Acting Under Secretary of Defense for Acquisition and Sustainment

Purpose: In accordance with the authority in DoD Directive 5135.02, this issuance:

- Establishes policy to develop, implement, and expand the application of innovative practices, processes, and technology for:
 - Sustaining materiel readiness across the life-cycle of DoD systems.
 - Improving industrial base operations.
- Assigns responsibilities for the development, implementation, and management of DoD sustainment innovation through the application of improved processes and technology.
- Provides procedures for an integrated approach to sustainment innovation and technology development, adoption, and application to improve materiel readiness and reduce life-cycle cost.

TABLE OF CONTENTS

- SECTION 1: GENERAL ISSUANCE INFORMATION 3
 - 1.1. Applicability. 3
 - 1.2. Policy. 3
- SECTION 2: RESPONSIBILITIES 4
 - 2.1. Under Secretary of Defense for Acquisition and Sustainment (USD(A&S))..... 4
 - 2.2. Assistant Secretary of Defense for Sustainment (ASD(S)). 4
 - 2.3. Assistant Secretary of Defense for Acquisition. 5
 - 2.4. Under Secretary of Defense for Research and Engineering (USD(R&E))..... 5
 - 2.5. Secretaries of the Military Departments and Directors of the Defense Agencies. 5
 - 2.6. Chairman of the Joint Chiefs of Staff. 6
- SECTION 3: SUSTAINMENT TECHNOLOGY PROCEDURES 7
 - 3.1. Best Practices. 7
 - 3.2. Oversight and Strategy..... 8
- GLOSSARY 9
 - G.1. Acronyms. 9
 - G.2. Definitions..... 9
- REFERENCES 10

SECTION 1: GENERAL ISSUANCE INFORMATION

1.1. APPLICABILITY.

This issuance applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the DoD.

1.2. POLICY.

a. Materiel availability is foundational to military readiness and the DoD's ability to field a lethal force necessary to counter threats to America's national security.

b. Sustaining materiel availability requires a coordinated effort among and across multiple life-cycle functional domains including program management, engineering, manufacturing, supply, information technology, and maintenance. As emerging weapon systems' technological complexity increase and as legacy weapon systems age, new and innovative technologies and processes must be continuously integrated into the DoD's sustainment enterprise, to improve the effectiveness and efficiency of providing materiel availability to U.S. warfighters.

c. The development and adoption of sustainment-focused technologies, including manufacturing, and processes, referred to in this issuance as "sustainment technology," occurs best when an approach is taken that:

(1) Prioritizes investments in sustainment technology based on the benefits projected to the implementing Military Service organization.

(2) Exercises technology transition best-practices across the DoD's sustainment enterprise.

d. DoD will:

(1) Pursue innovations in sustainment concepts and capabilities to sustain national defense materiel readiness at optimal cost.

(2) Use an integrated approach to develop, evaluate, and implement sustainment innovation ideas, products, processes, and technology to optimize weapons systems' performance and readiness.

(3) Budget for sustainment technology development and adoption where business case analysis projects improvements to materiel readiness and reduction to life cycle cost of weapon systems.

(4) Employ a coordinated and collaborative approach to assess sustainment technology needs and develop sustainment technology solutions across the life cycle of military equipment, weapon systems, and industrial base infrastructure.

SECTION 2: RESPONSIBILITIES

2.1. UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND SUSTAINMENT (USD(A&S)).

The USD(A&S):

- a. Makes resourcing recommendations and ensures acquisition and sustainment programs are aligned to support DoD innovation and technology initiatives aimed at improving the sustainment of military equipment.
- b. Maintains responsibility for policy and guidance that supports the development and adoption of sustainment technology.
- c. Incorporates sustainment innovation and technology considerations into guidance and training and oversees that the applicable workforce is educated, trained and, where appropriate, certified within the acquisition and sustainment enterprise.
- d. Directs the use of common innovative sustainment processes and technologies to the greatest extent practicable.

2.2. ASSISTANT SECRETARY OF DEFENSE FOR SUSTAINMENT (ASD(S)).

Under the authority, direction, and control of the USD(A&S), the ASD(S):

- a. Promotes sustainment innovation through the development and use of improved processes and technology for military equipment and industrial base infrastructure.
- b. Supports an integrated approach to develop, evaluate, and use sustainment technology where it most benefits the DoD.
- c. Develops and recommends policy and guidance on improving sustainment technology development and utilization.
- d. Establishes an executive level committee comprised of appropriate stakeholders to monitor, review, and steer the implementation of sustainment technology and measure sustainment technology's effectiveness on the DoD's sustainment enterprise.
- e. Collaborates across appropriate DoD organizations, industries, associations, universities, government laboratories, and agencies to improve the DoD's utilization of sustainment technologies.
- f. Reviews weapon system sustainment practices to ensure technologies designed to improve sustainment effectiveness and efficiencies are fully considered throughout the life cycle.

2.3. ASSISTANT SECRETARY OF DEFENSE FOR ACQUISITION.

Under the authority, direction, and control of the USD(A&S), the Assistant Secretary of Defense for Acquisition:

- a. As part of program oversight responsibilities, requires that sustainment innovation and technologies be considered during each phase of the adaptive acquisition framework.
- b. Integrates innovative sustainment technologies and processes with program acquisition and technical planning to continually improve readiness and sustainment.
- c. Considers sustainment technology during program support reviews and other oversight reviews.

2.4. UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING (USD(R&E)).

The USD(R&E) advances sustainment technology by:

- a. Supporting the development of sustainment technologies that improve materiel availability and reduce life cycle cost.
- b. Reviewing sustainment technology development plans and projects to eliminate unpromising or duplicative programs.
- c. Guiding science and technology programs to advance sustainment technology capabilities.
- d. Aligning the focus of DoD investments in sustainment technologies with DoD readiness and life cycle affordability priorities.
- e. Identifying a lead within the Office of the USD(R&E) to participate in the executive level committee established by the ASD(S) and coordinate within the Office of the USD(R&E) to support the transition of technology to sustainment operations.

2.5. SECRETARIES OF THE MILITARY DEPARTMENTS AND DIRECTORS OF THE DEFENSE AGENCIES.

The Secretaries of the Military Departments and Directors of the Defense Agencies:

- a. Include the development and utilization of sustainment innovation and technology in appropriate policy and guidance per the considerations and best practices detailed in Section 3.
- b. Oversee and coordinate efforts throughout their respective Military Department or Defense Agency to promote sustainment technology development and utilization for military equipment and infrastructure.

- c. Designate a sustainment technology executive as the focal point for sustainment technology evaluation, development, and integration into Military Department and Defense Agency sustainment operations.
- d. Ensure information assurance processes support sustainment technology evaluation and implementation.
- e. Provide resources for sustainment technology requirements.
- f. Participate and collaborate in joint DoD sustainment technology forums, working groups, and senior leader meetings.
- g. Review and monitor weapon system programs for sustainment technology implementation and outcomes.
- h. Integrate common sustainment technologies, processes, and procedures for similar platforms and components.

2.6. CHAIRMAN OF THE JOINT CHIEFS OF STAFF.

The Chairman of the Joint Chiefs of Staff:

- a. Ensures that sustainment innovation, including technologies and processes, are integrated with joint performance requirements.
- b. Supports sustainment technology while reviewing Joint Capabilities Integration and Development System capability requirements documents in accordance with the Joint Staff, “Manual for the Operation of Joint Capabilities Integration and Development System.”
- c. Supports sustainment technology initiatives across the Military Services where improvements can be realized through cross-Military Services collaboration and could have a direct effect on weapon system readiness and life cycle costs.

SECTION 3: SUSTAINMENT TECHNOLOGY PROCEDURES

3.1. BEST PRACTICES.

The OSD, Military Departments, and Defense Agencies will:

- a. Promote sustainment technology and innovation through senior DoD leadership advocacy and guidance and participation in the executive level committee established by the ASD(S).
- b. Align sustainment technology resources through partnerships with program offices and sustainment technology providers consistent with statutes, regulations, and DoD policies governing the proper use of appropriated funds.
- c. Collaboratively manage the execution of sustainment technology initiatives with program offices, sustainment activities, and supporting industry partners.
- d. Define sustainment technology objectives and identify stakeholders.
- e. Provide metrics to identify successful sustainment technology performance.
- f. Report outcomes of sustainment technology initiatives to include cost savings, cost avoidance, and readiness improvements.
- g. Prioritize sustainment technology efforts based on submitted requirements, materiel availability improvements, and life cycle cost reductions.
- h. Take advantage of cross-service resources by prioritizing sustainment technology efforts that address common weapon system platforms.
- i. Contribute to cross-service sustainment technology information sharing consistent with statutes, regulations, and DoD policies governing the proper use of appropriated funds.
- j. Maintain information regarding sustainment technology applications and development and make this information accessible, as appropriate, and consistent with statutes, regulations, and policies governing information management and security.
- k. Organize and sponsor conferences, forums, and workshops with the DoD, academia, and industry to promote sustainment technology solutions consistent with the Department of Defense Conference Guidance, current version.
- l. Collaborate through working groups focused on specific sustainment technologies to accelerate development and adoption.

3.2. OVERSIGHT AND STRATEGY.

Designated OSD, Military Department, and Defense Agency sustainment technology executives will:

a. Monitor and coordinate sustainment technology development and implementation efforts throughout the DoD on behalf of the OSD or their respective Military Department or Defense Agency.

b. Develop and document on behalf of the OSD, or their respective Military Department or Defense Agency, strategic plans that promote the development and application of sustainment technology for military equipment and infrastructure within their purview.

c. Provide strategic review and advice to the OSD, or the head of their respective Military Department or Defense Agency, as necessary, to address:

(1) The importance of sustainment technology in maintaining the readiness of weapon system platforms.

(2) The development of a coordinated approach to collecting, reviewing, validating, and distributing information on new technology and processes that have successfully improved DoD sustainment operations.

(3) The implementation of a coordinated science and technology program that includes demonstration, validation, and transition of new sustainment technologies into operational systems and infrastructure.

d. Develop and recommend to the OSD, or the head of their respective Military Department or Defense Agency, policy and guidance pertaining to DoD sustainment technology investment, development, assessment, acquisition, and implementation.

e. Ensure that sustainment technology's use is fully considered throughout the entire life cycle of weapon systems and industrial base infrastructure.

f. Advocate for resources necessary to implement sustainment technology strategies and plans.

g. Develop a set of sustainment technology performance measures and milestones that align with materiel readiness improvements and cost reduction goals.

h. Establish and maintain a process to collect information on sustainment technology investments and resultant outcomes from sustainment technology activities, to include materiel availability improvements, cost savings, and cost avoidance.

i. Serve as the OSD, Military Department, or Defense Agency focal point for DoD sustainment technology collaboration.

GLOSSARY

G.1. ACRONYMS.

ACRONYM	MEANING
ASD(S)	Assistant Secretary of Defense for Sustainment
USD(A&S)	Under Secretary of Defense for Acquisition and Sustainment
USD(R&E)	Under Secretary of Defense for Research and Engineering

G.2. DEFINITIONS.

TERM	DEFINITION
common innovative sustainment processes and technologies	New sustainment processes and technologies that support multiple Military Services and/or support weapons platforms or equipment that are used by multiple Military Services.
materiel availability	Measure of the percentage of the total inventory of a system that is operationally capable, based on materiel condition, of performing an assigned mission at a given time. This can be expressed mathematically as: <div style="border: 1px solid black; padding: 10px; margin: 10px 0; width: fit-content; margin-left: 40px;"> $A_o = \frac{\text{\# of Operational End Items}}{\text{Total Population of Active End Items}}$ </div>
sustainment	Translates force provider capability and performance requirements into tailored product support to achieve specified and evolving life cycle product support availability, reliability, and affordability parameters. Spans a system’s entire life cycle from the materiel solution analysis phase to disposal.
sustainment technology	Innovative processes, best practices, and technology that improve the efficiency and effectiveness of sustaining military equipment readiness and industrial base capabilities.

REFERENCES

- DoD Directive 5135.02, “Under Secretary of Defense for Acquisition and Sustainment, (USD(A&S)),” July 15, 2020
- Haines, L. (2001, March-April). Technology Refreshment in DoD, Program Manager, 22-27. DAU Press: Fort Belvoir, VA.¹
- Joint Staff, “Manual for the Operation of Joint Capabilities Integration and Development System,” current edition
- Office of the Deputy Chief Management Office, “DoD Conference Guidance, version 4.0,” June 26, 2016

¹ Available from the Defense Acquisition University at:
https://myclass.dau.edu/bbcswebdav/institution/Courses/Deployed/ISA/ISA301/Student%20Materials/Lesson%2007%20-%20Emerging%20Technology/References/Tech_Refresh-Haines%5B1%5D.pdf