Diminishing Manufacturing Sources and Material Shortages

What Program Management needs to do and why.

Purpose

The purpose of this course is to

- create awareness
- define a strong DMSMS management process, and
- define DMSMS support metrics.

Introduction

Diminishing Manufacturing Sources and Material Shortages (DMSMS) is the loss, or impending loss, of manufacturers or suppliers of items or raw materials.

DMSMS is driven by market-related factors

- technology phase-out/new technology
- erosion of industry base
- limited access to sources of supply, and
- functional obsolescence

No system or program is immune.

Introduction, continued

Part 1

- Describes the actions that program management should take.
- Advocates a broader interaction with DMSMS management to keep a program out of trouble.
- Encourages program management to assume a more proactive role by
  - establishing strategic direction, and
  - aligning budgets with strategic foundations.

Introduction, continued

Part 2

- Describes potential impacts of poor or reactive DMSMS management.
- Defines the importance of DMSMS management.
- Addresses myths affecting good DMSMS management.

Objectives

Upon completion of this course, you will have an understanding of

- the importance of DMSMS in effective program management
- The importance of DMSMS in effective program management, and
- the steps program managers can perform to ensure successful DMSMS implementation.

Importance of a strong DMSMS Leadership for effective program management

PART 1

DMSMS Program Objectives

In order to assist in developing, fielding, and supporting a sustainable product, a program's DMSMS objectives should cost effectively

- minimize the scope of DMSMS-related out-of-cycle redesigns when they cannot be eliminated
- eliminate DMSMS-related production schedule impacts, and
- eliminate DMSMS-related degradations to readiness.

Elements of Strong DMSMS Management

Five Major Steps of Strong DMSMS Management

Prepare

Establish a DMSMS management program infrastructure

Identify

DMSMS monitoring and surveillance

Assess

DMSMS impact assessment

Analyze

Resolution determination

Implement

Implementation of DMSMS resolutions

Actions Promoting Effective DMSMS Management

- Establish the Strategic Underpinnings for DMSMS Management
- Establish a Strong Foundation for Robust DMSMS Management
- Ensure DMSMS is Fully Funded
- Make DMSMS Management a High Priority in the Program Office and with the Prime Contractor
- Link DMSMS Health Assessments to Product Roadmaps
- Obtain DMSMS Comments on All Designs, Redesigns, and Design Reviews

Establish Strategic Underpinnings for DMSMS Management

Appoint DMSMS management team members—DMT.

Approve DMT decisions that drive a risk-based DMSMS management plan—DMP.

Determine program leadership involvement.

Strategic decisions define management priorities; program leadership should be engaged **before** the DMP is prepared.

Three Strategic Elements

Three major strategic elements driving a risk-based DMSMS Management Plan (DMP):

- DMSMS management objectives
- DMSMS management team (DMT) membership and roles and responsibilities
- DMT operating guidelines

DMSMS Management Objectives

- Eliminate or minimize the scope of DMSMS-related out-of-cycle redesigns.
- Eliminate DMSNS-related degradations to readiness
- Eliminate DMSMS-related production schedule impacts
- Exclude all obsolete or soon-to-be obsolete parts from design.

DMT Roles and Responsibilities

- All stakeholders are DMT members
- Independent SMEs supporting team lead
- Meeting frequency
- Defining roles and relationships among DMT members

DMT Operating Guidelines

- Meetings briefs
- Products and deliverable briefs

Program manager should be accessible to the DMT to

- remove delays and barriers
- make decisions on issues

Key Considerations for Establishing DMT Operating Guidelines

Principal elements of DMSMS management

- Maintain case management data
- Monitor components and assemblies
- Assess the impact of obsolescence issues
- Analyze ways to resolve the obsolescence issues, and
- Oversee the implementation of the resolutions

- Variations in workload are associated with monitoring activities.
- Consider risk in determining what to monitor.

Key Considerations for Establishing DMT Operating Guidelines, Continued

- Two key monitoring decisions
  - Which systems to monitor?
  - Which components and assemblies to monitor?
- Products and deliverables
  - focus on artifacts needed to manage activities.
  - Another deliverable may be periodic assessments of system health.

Establish a Strong Foundation

The elements of a strong foundation for DMSMS management are:

- Data and tools
- Prime contractor/original equipment manufacturer (OEM) support thoroughly codified and incentivized in contract language

- Independent subject matter experts, involved in every aspect of DMSMS management, ensure adequate communication by
  - Providing a second set of eyes
  - Pulling everything together

  Click on these links for more information . . .

- Centralized linkage to DMSMS activities and best practices in other programs

Establish a Strong Foundation—A Second Set of Eyes

The government received a PDN for a card on a system. The prime contractor developing the system had completed design, test and evaluation without knowing about the impending obsolescence.

The production schedule was impacted because no one on the DMT ensured that the government entity that received the PDN forwarded the information to the prime contractor.

Establish a Strong Foundation—Pulling Everything Together

A service had been setting up an organic repair capability for a display system to mitigate obsolescence. Unbeknown to that effort, an OEM effort was underway to change the design configuration of that display, because of issues pertaining to obsolete parts during production. The OEM was focused on the lowest possible, short-term cost resolution from the production perspective, and did not take into account a longer life-cycle cost view. The organic repair effort had therefore expended time and money to develop the capability to repair the old configuration; a wasted effort given the new design configuration. Independent subject matter expert involvement could have ensured adequate communication.

Centralized Linkage to DMSMS Activities and Best Practices in other Programs

A supplier elected not to continue the product line for the production of a display driver. An OEM DMSMS management team recognized that two services had two different programs that use this common part, which was custom, but not that complex. The OEM recognized there was a need to find an alternative resolution in order to be able to continue to have access to these parts to continue to support production and ensure spares for repairs.

The two affected programs and OEM worked together with the integrator of the display system to develop a redesign. The integrator of the display put out a request for procurement with the cheapest option being $1 million for the redesign of a drop in part, as opposed to an $8 million redesign of the entire display (to included more qualification and testing).

Ensure DMSMS is Fully Funded

Adopt a risk-based approach to budget.

Program Office and Contractor Management and Operation:

- Prepare
- Identify
- Assess
- Analyze
- Implement

Ensure DMSMS is Fully Funded,
Continued

Resolutions

- Be prepared to react to end-of-life notices
- Based on forecasts developed from historical data and analysis

Make DMSMS Management a High Priority

Establish a program office champion

- Full time
- Knowledgeable
- Access to prime contractor and government program leadership

Ensure stakeholder involvement in DMSMS management team activities

- Participation by all stakeholders
- Full cooperation
- Open and full communications
- Ensure the team is empowered to make decisions

Link DMSMS Health Assessments to Product Roadmaps

Product roadmap

Planned technology insertion for increasing capability to meet current or future requirements

Technology refreshment

- Periodic replacement of items to mitigate DMSMS issues
- Examples of DMSMS contributions to technology refreshment planning

Combining these processes minimizes out-of-cycle redesign

DMSMS Contribution to Technology Refreshment Planning—Example

One large program simulated 6 year and 10 year technology refreshment scenarios in order to establish and optimize the duration between technology refreshments over a 30 year period. The data showed that 6 year and 10 year technology refreshment methods would cost $440 million and $250 million respectively over 30 years. The $250 million 10 year method cost included the procurement of component life-of-need buys to sustain the system between refreshments. With a DMSMS management plan in place to identify required life-of-need buys, the program opted to save $190 million in long-term sustainment cost and selected the less costly and yet still feasible 10 year cycle.

Product Roadmap and Technology Refreshment Plan—Example

Align life-of-need buys to the roadmap to avoid under- or over-buying obsolete material

Don’t plan on your roadmap based on obsolescence, but drive solutions to your roadmap

Combining product roadmaps with technology refreshment minimizes out-of-cycle redesign.

Obtain DMSMS Comments on All Designs, Redesigns, and Reviews

Begin DMT involvement by the preliminary design review to ensure there are no obsolete or soon to be obsolete parts on the parts list.

Example of avoiding the use of obsolete parts in designs

Review of redesigns is another source of savings.

Examples of how redesign costs were reduced

Program leadership should ensure DMT input is not overlooked: it often will reduce some short term costs and avoid some long term costs

Avoiding the Use of Obsolete Parts in Designs—Example

An independent SME received a list of 323 electronic parts that could potentially be used in the design of the second version of a module on a system. The SME reviewed the parts list, focusing on those parts with a greater likelihood for obsolescence Each component was researched to determine its life cycle and projected obsolescence. This effort indicated that—

- 80 components were obsolete or being phased out
- 31 components were in a “declining” phase of the life cycle (within 2 years of losing manufacturers support)
- 22 components were “mature” (3-6 years of manufacturers support remaining)
- 190 components were at the “growth” phase and supportable (7 or more years remaining).

This data enabled the program to ensure that obsolescence was not designed into the redesign of the module of the system.

How Redesign Costs Were Reduced—Example

Due to existing obsolescence on a platform control system, another program was faced with a $150 million redesign bill from its prime contractor. An independent DMSMS subject matter expert (SME), working with the program and other relevant stakeholders, performed a parallel obsolescence analysis of the platform's control system. Based upon this analysis, the DMSMS SME recommended that only $5 million in resolutions were needed. The prime further requested an additional $65 million (for a total of $70 million) to address the agreed upon obsolescence issues, and to implement modernization and low maintenance modifications. So for an upfront investment of $42,000 for the analysis, the program was able to avert a more comprehensive redesign of the control system and avoid $80 million in costs.

The Importance of a Proactive DMSMS Management Program

PART 2

DMSMS is Important

1. DMSMS issues are inevitable.

2. Being vigilant and proactive avoids falling victim to DMSMS myths.

3. DMSMS issues can impact cost, schedule, and mission performance through degraded operational availability.

4. Efforts to resolve DMSMS issues provide an opportunity for product improvement.

PMs need to protect their program.

DMSMS Issues are Inevitable

Development and production of DOD systems spans many years.

Fielded systems can endure for decades.

Short life-cycle parts of a long-enduring DOD system, guarantees obsolescence.

Environmental or regulatory restrictions can happen at any time.

Being Proactive Avoids Myth Pitfalls

Doing nothing is not an option.

There are six myths that pertain to DMSMS.

Myth 1

My system is not in sustainment yet, so obsolescence issues don't exist.

DMSMS management during early phases serves multiple purposes. It can

- recommend against obsolete or anticipated obsolete parts
- place the program in a better position to oversee identification and resolution of DMSMS issues when they arise, and
- prevent or postpone the need for redesigns once the program enters sustainment.

Click here for a more detailed example

Myth 1 Example

An end of life notice was received for a processor used in the design of a system on a DOD platform. Finding out about this during design, the prime contractor (PC) responsible for design and production purchased enough of the processors to support design and Low Rate Initial Production (LRIP), which was the period of performance for that prime's contract.

Roughly four years later, as the program began to plan for a Full Rate Production (FRP) contract, the PC informed the program that a Class I redesign of two circuit cards was needed, due to this obsolete processor, and that such a redesign would also require qualification and testing in the DOD platform. This redesign was not something previously planned by the program and was not in sync with the program's modernization strategy for that system. Nevertheless, FRP would be delayed until a resolution could be put in place.

With the processor already obsolete for four years, the program had limited options—only an approximately $6 million redesign effort remained.

Myth 2

A design's use of COTS assemblies provides built-in obsolescence immunity.

Replacement of obsolete COTS assemblies cost the program because

- COTS assemblies have short life cycles, and
- next generation COTS assemblies may not be backwards compatible.

Explicit advanced planning can help mitigate these problems.

Click here for a more detailed example

Myth 2 Example

One DOD program had a subsystem design based on commercial computer hardware and operating systems. When the LRIP contract for that program was about to be awarded, the prime contractor submitted a redesign proposal that would need to be completed prior to LRIP in order to address obsolete hardware.

The hardware changes would drive changes in the operating system, which then required the entire system to be retested and re-qualified, for an estimate totaling approximately $15 million and a postponement of about a year until the LRIP contract could even be awarded.

Myth 3

DMSMS is just another drain on a program's budget.

Strong DMSMS management proactively monitors for obsolesce, and analyze resolutions; increasing response time and reducing production delays and system downtimes.

Funding DMSMS resolutions is an ongoing program activity.

It always happens and funds must be programmed and budgeted for it.

Click here for a more detailed example

Myth 3 Example

An investment of $250,000 by one large DOD program has yielded $3 million in cost savings.

A program's funding of DMSMS management can and will often pay for itself many times over, as for example when sources for parts can be located and costly redesigns avoided.

Myth 4

My program has a performance-based acquisition strategy, so the prime handles obsolescence.

The program needs to be aware of the impact of obsolescence beyond the current contract period of performance and take a longer term view with regard to resolving obsolescence for the program in its product support strategy.

Myth 5

Performance based logistics (PBL) contracts with industry solve *all* obsolescence issues.

- The PBL provider will only address obsolescence issues if the government includes it in the contract
  - The PBL contract may only include specific subsystems
  - The PBL provider will only address redesign or high dollar issues if called out specifically in the contract
  - The PBL contract may exclude items in production
- The PBL provider will only address obsolescence for the contract's period of performance

Click here for a specific example

Myth 5 Example

A program was just about to execute its third PBL contract with the same prime. At this point in time, there were several subsystems that would remain strictly in sustainment, whereas some other subsystems were planned to be replaced through block modernization for that system. The prime performed the necessary life-of-need buys of parts during the second PBL contract to cover the needs of both that contract and a prospective third contract.

During negotiations for the third contract, the prime disagreed with contract language stipulating that it would be responsible for any redesigns, because the price to balance out the risk being assumed was more than the government could afford. During this time of contract uncertainty a box, which was purely in sustainment and not scheduled to be replaced through modernization, was discovered to have two obsolete parts. In addition to the box no longer being in production, the prime's supplier of the box had indicated that it no longer wished to repair these boxes.

The program was therefore faced with a situation where there was not only no stock of the obsolete parts, but no source for the repair of these parts.

To resolve this, the prime was finally able to convince the original component manufacturer to restart the line to produce one more run of the parts, but this came at a cost and schedule penalty of approximately $1.5 million and six months, respectively.

Myth 6

My program has hired independent DMSMS subject matter experts, so they handle everything, including resolutions.

Need clearly established roles and responsibilities of the numerous stakeholders .

Only with all stakeholders working together in their appropriate roles, can a program optimally develop and implement resolutions for its obsolescence issues.

Reactive Management has Negative Impacts

Bad things happen if you wait until it's too late.

Only limited resolution options will be feasible.

Reactive DMSMS management will negatively impact

- Cost
- Production schedule
- Sustainment
- Mission performance

Click on each topic if you want to learn more . ..

Cost Impacts

Program heroics to address pop-up obsolescence issues is costly.

Extraordinary repair procedures requires program resources with limited sustainability.

Elaborate procedures closely monitor obsolescence issues also requires program resources in personnel.

Ignoring DMSMS problems because of other management priorities can also lead to cost increases.

Example of

- decision to defer
- failing to implement
- misplaced priorities

Click on each topic to see examples . ..

Cost Impact Example—Decision to Defer

A program was informed by the original equipment manufacturer (OEM) that a part in its system was being discontinued. The program assumed that this would be a problem easily resolved and did not act immediately to this discontinuation notification. Once the program decided to investigate the problem further, it was discovered that there were only 125 of the parts available and no alternatives existed.

Left with few options, the program had to pay $220,000 in non-recurring engineering to recreate the production line to produce an additional 3000 parts. In addition, the program also paid a premium price of $300 per part on what was originally a $195 part. By assuming a reactive approach to addressing this DMSMS issue, the program had to pay over $500,000 more than if it had chosen to act in a timelier manner upon the notification of this part's discontinuation.

Cost Impact Example—Failing to Implement

Maintenance personnel for an assembly in a system identified that a particular component was obsolete. The obsolete component was researched at that time and enough stock was found through an authorized franchise distributor to support the forecasted maintenance need. Information supporting the recommendation to purchase the required quantity of the component was passed along to program management. After several of delays it was discovered that the authorized franchise distributer had run out of stock; however, a trusted broker market distributer did still have authentic components available. Despite the impact of the previous delay, several additional months passed with no components being procured and eventually the trusted broker market distributer also ran out of stock. When the program was finally able to act, the only option was an untrusted overseas distributor. When the stock was received, the components were inspected and found to be counterfeit. The only option then remaining in order be able to support maintainability was to pursue a more costly engineering resolution, but there was limited time remaining to develop, implement, and test an engineering change.

This could have been avoided, if the program had acted more promptly upon the initial notification of the DMSMS issue.

Cost Impact Example—Misplaced Priorities

Several years prior to 2011, the OEM for a program identified component obsolescence issues pertaining to three boards within a box and a module of a system. The parts with obsolescence issues were critical to the system. The obsolescence had not been addressed previously because more immediate program interests and priorities, focused on OT&E took priority.

When the program was in the OT&E phase and ready to begin LRIP, the previously identified obsolescence issues were projected to impact production within 3 years. The OEM proposed a resolution with a price of $11.6 million. Working with the OEM, the program was able to isolate the immediate obsolescence issues to five components. For four of the components a complex substitute was possible, but the form, fit, function components still required testing and approval. The fifth component required a more extensive redesign. This resulted in a revised OEM proposal of $6.6 million to resolve the obsolescence associated with the five components.

If the program had acted to resolve obsolescence when it was initially identified, life-of-need buys for the five components covering the quantities necessary for six future lots, could have been purchased for $518,000.

Production Schedule Impacts

A program is managed to a schedule and milestones.

With reactive DMSMS management, redesign is usually necessary to enable production.

Last minute redesign effort impacts cost and schedule.

Example of

- ineffective monitoring
- ignoring warnings

Click on each topic to see examples . ..

Production Schedule Impact Example—Ineffective Monitoring

A system was about to enter another manufacturing cycle to support the next phase of a multi-year production contract. When the OEM went to contract with a sub-contractor for the next lot of media convertors for that system, it was determined that the media converters couldn't be manufactured due to obsolescence. Because there was no form, fit, function alternate, the program was forced to redesign and transition to a new configuration.

The new configuration required requalification and was replaced by attrition. This redesign effort stalled production for 3-4 months, which delayed the overall schedule for the program a corresponding amount. The entire obsolescence resolution effort cost $800,000 to $1,000,000.

Production Schedule Example—Ignoring Warnings

Throughout the production contract for a program, product discontinuance notifications (PDNs) were issued for several parts. The program took no action on the obsolescence, knowing that part procurement had already taken place for the current production contract. Unfortunately, no action was taken to address the known obsolescence for the follow-on contract.

The bid for the next production contract included $125 million for redesign costs to address the previously identified obsolescence which resulted in a delay in the award of the new contract because of extensive contract negotiations and the need for DOD to identify a source for the additional funding requirement.

The program also then faced the need to maintain two design configurations, because of the required changes to the baseline design for the follow-on production contract.

Sustainment Impacts

DMSMS management should begin **before** the Preliminary Design Review (PDR).

Involving DMSMS management during the design phase benefits by

- driving down cost during design/production, and
- avoiding redesigns during sustainment.

Example of something going wrong

Click on the example to learn more . ..

Sustainment Impact Example—Something Going Wrong

While conducting proactive monitoring of COTS parts in a military system, it was discovered that a circuit card was being discontinued. Further investigation revealed that this card was a commercial product prototyping board that was never intended for production use.

Early investigation of parts proposed for use in production designs would likely have revealed the misuse of this product and resulted in the use of a product with a longer planned life cycle.

A review of parts during the design phase would likely have resulted in discovering the (mis)use of this prototyping board.

Mission Performance Impacts Related to Operational Availability

Cannibalization is temporary solution that masks operational readiness.

Waivers are risky if substitute parts lack required performance characteristics.

Example

Click on the example to learn more . ..

Mission Performance Impact—Example

During the production contract for one air platform, an obsolescence issue was identified pertaining to a display line replaceable unit (LRU). The program decided to not allow this obsolete LRU to shutdown the entire production line. Instead, production of the air platform continued and these platforms were delivered to the field with the plan to install the LRU once available.

Unfortunately, the absence of this LRU made the air platform mission incapable and the result, at least for a time, was the non-availability of mission capable systems to support training and unit activations to theater.

Strong DMSMS Management Minimizes the Negative Impact

A more proactive DMSMS management approach ensures that

Click on this statement to see an example . ..

- more resolution options are available
- there is more time to consider available resolution options, which allows for many benefits, and
- the optimal resolution for the program can be selected.

Minimize Negative Impact—Example

Due to demand uncertainty, a vendor published a PDN to announce the plan to discontinue production of an expensive processor board.

The program was able to coordinate with other customers of that board to identify the combined demand for that board.

This demand data was then used to meet with the manufacturer and successfully negotiate the extension of the end of production date for that board.

Strong DMSMS Management

A strong DMSMS management approach helps to:

- Avoid redesigns
- Reduce redesign scope
- Avoid issues associated with gray market purchases
- Mitigate production disruptions
- Improve readiness

Click on each statement to see examples . ..

Strong DMSMS Management Example—Avoid Redesigns

A program was faced with a manufacturer that was discontinuing its current console system and recommending that customers migrate to the next generation system. The DMT for that program was able to negotiate with the manufacturer for one last production run and the extension of the support contract for its fielded systems, even though the contractor no longer wanted to sell the systems.

The program was able to avoid the development and maintenance of additional design configurations. Furthermore, the program was able to plan and POM for the funds required to implement a technology refresh at a much later date based on the extension of the support contract.

Strong DMSMS Management Example—Reduce Redesign Scope

A Crash Survivable Memory Unit (CSMU) redesign was requested because eleven obsolete parts on the CSMU were identified. The parts list was provided to independent SMEs on the DMT for evaluation of solution options. The DMT found adequate sources of supply for 9 of 11 of the parts. For the remaining two parts, suitable substitutes were selected. The result was the $3.8 million redesign of the CSMU was avoided and production was adequately supported, to include no impact on production schedules.

The goal of a strong DMSMS management is to identify potential obsolescence **before** it occurs. This allows a program more time to resolve the problem.

Avoid Issues—Gray Market Purchases Example

A program manager needed obsolete accelerometers. The parts were available from a trusted supplier; however, verifiable certificates of conformance from the original manufacturers were not available. Fortunately, the program had previously documented a process for this type of situation in its DMSMS plan and the proper measures were taken in order to verify that the parts were not counterfeit and did not have latent defects due to previous use or mishandling.

As a result, the program manager was able to

1) procure and test the accelerometers; and
2) Avoid either developing a new source or redesigning the accelerometers.

Strong DMSMS Management Example—Mitigate Production Disruptions

One program manager was able to identify, monitor, and successfully address obsolescence risk associated with three critical parts on two circuit cards of its system. The life cycle of these three parts was projected to end two years prior to a scheduled redesign of the system.

The program planned and budgeted for a life-of-need buy should an end of life notice be issued for any of the critical parts in question. An end of life notice was issued for two of the three parts. The program purchased enough stock of the parts to meet the production and follow-on sustainment requirements until the planned redesign was complete.

For a few thousand dollars to purchase and stockpile the necessary parts, the program estimates that it was able to avoid an unplanned, interim redesign that would have impacted the production schedule and added approximately $4 million in redesign cost.

Strong DMSMS Management Example—Improve Readiness

As a platform was nearly ready for deployment, the program discovered a lack of supply for a mission critical, hardened laptop, due to obsolescence. Wanting to maintain the mission capability of the platform for the upcoming deployment, the program queried other programs to determine whether there were other users of this hardened laptop. One other program was found to have excess stock of these hardened laptops. The necessary assets were able to be transferred in order to avoid major delays in mission deployment.

If the information pertaining to common users had not been available, the deployment would have been delayed, while a new laptop was developed and tested.

Product Improvement as a Potential By-product

While not their primary purpose, planned redesigns to resolve DMSMS can result in product improvement.

Click on this statement to see example . ..

- Opportunity to upgrade to better, faster, and cheaper parts
- Reduction in the number of parts
- Reduction in power usage
- Improved reliability, logistics footprint, and sustainability
- Reduction in transportation, labor, and spare part costs
- Opportunity to develop improved supply chain relationships

Product Improvement as a Potential By-product—Example

One program's platform was having obsolescence issues concerning its heads-up display system. Concurrent with these obsolescence issues, repairs of this system were becoming increasingly expensive.

The program's redesign was able to address the identified obsolescence, as well as increase the mean time between repairs from 300 hours to 1000 hours; therefore reducing average annual future support costs by an estimated $42 million.

For More Information . . .

DOD Manual 4140.01 Volume 3, DOD Supply Chain Materiel Management Procedures: Materiel Sourcing
http://www.dtic.mil/whs/directives/corres/pdf/414001m/414001m_vol03.pdf

Defense Acquisition Guidebook
https://acc.dau.mil/docs/dag_pdf/dag_ch4.pdf

SD-22, Diminishing Manufacturing Sources and Materiel Shortages (DMSMS) Guidebook

DMSMS Knowledge Sharing Portal
http://www.dmsms.org

Defense Standardization Program Office, DMSMS Program
http://www.dsp.dla.mil/APP_UIL/displayPage.aspx?action=content&accounttype=displayHTML&contentid=56

Acronyms and Abbreviations

ACAT	Acquisition Category
ACC	Acquisition Community Connection
AME	Advanced Microcircuit Emulation (program)
AoA	analysis of alternatives
ARCI	Accountable/Responsible/Consulted/Informed
AS	Acquisition Strategy
ASIC	application-specific integrated circuit
ASR	Alternative Systems Review
AvCIP	Aviation Component Improvement Program
BCA	business case analysis
BOM	bill of materials
CCB	configuration control board
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CM	configuration management

CoP	community of practice
COTS	commercial off-the-shelf
DAC	Defense Acquisition Challenge
DAG	Defense Acquisition Guidebook
DAU	Defense Acquisition University
DAWIA	Defense Acquisition Workforce Improvement Act
DKSP	DMSMS Knowledge Sharing Portal
DLA	Defense Logistics Agency
DMP	DMSMS management plan
DMSMS	Diminishing Manufacturing Sources and Material Shortages
DMT	DMSMS management team
DOD	Department of Defense
DODD	DOD Directive
DTM	Directive Type Memorandum
ECP	engineering change proposal

EOL end of life
ESD electrostatic discharge
F3 form/fit/function
FCT Foreign Comparative Testing (program)
FMS foreign military sales
FOC Full Operational Capability
FRP full rate production
GAO Government Accountability Office
GEIA Government Electronics and Information Technology Association
GEM Generalized Emulation of Microcircuits (program)
GFE government-furnished equipment
GIDEP Government-Industry Data Exchange Program
ICA Industrial Capability Assessment
IDEA Independent Distributors of Electronics Association

IMM integrated materiel manager
IOC Initial Operational Capability
IPT Integrated Product Team
LA logistics assessment
LCL life-cycle logistics
LCSP Life-Cycle Sustainment Plan
LECP logistics engineering change proposal
LRFS Logistics Requirements and Funding Summary
LRIP Low Rate Initial Production
LRU line replaceable unit
ManTech Manufacturing Technology (program)
MILSPEC Military Specification
MS Milestone
NAVAIR Naval Air Systems Command
NHA next higher assembly
NPV net present value

NTE	not to exceed
O&S	operating and support
OCM	original component manufacturer
OEM	original equipment manufacturer
OSCR	Operating and Support Cost Reduction (program)
OSD	Office of the Secretary of Defense
Pb	lead
PBL	performance-based logistics
PDN	product discontinuance notice
PDR	Preliminary Design Review
PERM	Pb-Free Electronics Risk Management
PM	program manager or program management
PO	project officer
POM	
PQM	production, quality, and manufacturing
PRR	Production Readiness Review

PSE	program systems engineering
PSM	product support manager
PSP	Product Support Plan
QA	quality assurance
QML	Qualified Manufacturers List
QMS	quality management system
QPL	Qualified Products List
R&D	research and development
RDT&E	research, development, test and evaluation
RoHS	Reduction of Hazardous Substances
ROI	return on investment
ROM	rough order of magnitude
SCD	Source Control Document
SE	systems engineering
SFR	System Functional Review

SME	subject matter expert
Sn	tin
SOO	statement of objectives
SOW	statement of work
SPRDE	systems planning, research, development, and engineering
SRA	shop replaceable assembly
SRR	Systems Requirements Review
SRU	shop replaceable unit
STM	science and technology management
T&E	test and evaluation.
TDP	technical data package
TDS	Technology Development Strategy
U.S.C.	United States Code
VE	value engineering

VECP	value engineering change proposal
VEI	value engineering incentive
WCF	working capital fund
WRA	weapon replaceable assembly