

AVIATION WEEK

# Program Excellence Awards 2022

November 2, 2022

The Watergate Hotel • Washington, DC

Nomination Form

## INTELLECTUAL PROPERTY

**(This section must be signed)**

Individuals **outside your company**, including the companies listed above and other third parties, potentially including your competitors and others in your industry, may receive and/or review award submissions. All information submitted should address the program's management, leadership, and processes in a manner that you are comfortable sharing with third parties freely and without restriction, and may not include any classified or proprietary information or materials. Do not include any materials marked Confidential or Proprietary or bearing any similar legend. All responses and other submissions, whether in whole or in part ("Submissions"), shall be deemed not to be confidential, proprietary, and/or nonpublic information of any sort for any purpose.

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Thank you for participating,



Gregory Hamilton  
President  
Aviation Week Network

Acknowledged, agreed, and submitted by



Nominee's Signature

18 May 2022

Date

Nominee's Name (please print): **Rena A. Barrow**

Title (please print): Program Manger, DMSMS

Company (please print): L3Harris

NOMINATION FORM

Name of Program: Diminishing Manufacturing Sources and Material Shortages (DMSMS)

Name of Program Leader: Rena A. Barrow, Program Manager  
Frank R. Johnson, Program Engineer

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Customer Approved

o Date: 6 May 2022

o Customer Contact (name/title/organization/phone): Major Alyson Goolsby/Program Manager/USAF  
645th Aeronautical Systems Group/937-904-8189



Digitally signed by  
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Supplier Approved (if named in this nomination form)

o Date: \_\_\_\_\_

o Supplier Contact (name/title/organization/phone): \_\_\_\_\_

PLEASE REFER TO PROGRAM EXCELLENCE DIRECTIONS  
AS YOU COMPLETE THIS FORM.

## EXECUTIVE SUMMARY: Make the Case for Excellence (Value: 10 pts)

What is the vision for this program/project? What unique characteristics and properties qualify this program for consideration?

(12 pt. Times New Roman) LIMIT YOUR NARRATIVE TO THIS PAGE.

The global supply crisis is illuminating Diminishing Manufacturing Sources and Material Shortages (DMSMS) as never before. Port congestion, delays in order fulfillment and surging demand have resulted in empty car lots, bare shelves and price increases at the check-out and the fuel pump. The pandemic upended the housing market with inventory shortages and prohibitive material costs. “Chip shortage” is part of our everyday lexicon and has disrupted multiple industries. COVID-19 constraints, beginning in 2020, have escalated and significantly impacted the planning, delivery and sustainment of systems. Suppliers halted production or discontinued product lines due to parts unavailability. Additional bad news? Illicit sellers have flooded the market with knockoffs of KN95 masks, car parts and semiconductor chips. Vanishing manufacturers, obsolescence, counterfeit parts, purchase order decommits and no bids are embedded in the fabric of DMSMS, necessitating a strong and agile DMSMS program.

### **Relentless and Inescapable**

DMSMS is the loss, or impending loss, of manufacturers or suppliers of items, raw materials or software. DMSMS is caused when a manufacturer or supplier discontinues production and/or support of needed items. DMSMS is relentless and inescapable. Rewind in time to Spring 2020 as shelter-in-place orders went into effect and telework became the new reality. The L3Harris Senior Leader Communications (SLC) business unit, part of the company’s VIP/SAM Group, faced a rising tide of DMSMS occurrences, which if left unabated, threatened mission readiness. Beset by an absence of defined, cohesive, actionable processes and reliable data to drive decision-making within the existing DMSMS program, customer frustration increased. All the elements of upset were present; 1) thwarted intention, 2) unfulfilled expectation, and 3) ineffective communication, resulting in conflicting information and a seeming lack of clear ownership.

### **Meeting Customer Expectations**

The imperative was clear. Turn vision into reality and manage the challenging, ever-expanding DMSMS landscape while executing strong program management with the focus and intent of exceeding customer expectations. This was realized by combining the talent and strengths of L3Harris company resources and adopting and adapting industry best practices these past 36 months. The team leaned in, learned, grew and tailored a DMSMS infrastructure unique to SLC and its customer needs. The DMSMS Management Plan was written, a case management system was implemented, a record-keeping framework was established and a metrics plan was defined. Through these measures, the program matured into a bespoke, team-centric and data rich environment, driving confident decision-making, mitigating and resolving DMSMS cases.

### **Team Composition**

Program responsibility is rooted in the Sustainment Program Management Office (PMO) as the DMSMS team serves multiple stakeholders and platforms. The team is highly skilled and diverse, composed of program management, engineering, logistics, supply chain and procurement professionals across the enterprise. The start-up, progression and growth of the team has been wholly organic.

In sum, L3Harris is proud to nominate the SLC DMSMS program in the Special Projects category for Aviation Week’s Program Excellence Awards 2022. The team organically leveraged and capitalized L3Harris and industry resources, eliminated the elements of upset and delivered the due diligence, granularity and responsiveness the customer expected through sustainable process improvement.

Do not exceed 10 pages in responding to the following four descriptions; allocate these 10 pages as you deem appropriate, but it is important that you respond to all four sections. DO NOT REMOVE THE GUIDANCE PROVIDED FOR EACH SECTION.

**VALUE CREATION** (Value: 15 pts)

Please respond to the following prompt:

- Clearly define the value of this program/project for the corporation

L3Harris is an agile, global aerospace and defense technology innovator where “Fast. Forward.” is a tagline that denotes our company’s commitment to speed, innovation and flawless execution.

Our corporate capabilities resonate and cascade through segment to every employee up-and-down the reporting chain. The L3Harris culture of cross-collaboration opened the virtual door to the corporate DMSMS team and facilitated the sharing of lessons learned, examination of processes and exponentially raised the success factors for DMSMS practitioners around the world each month. Locally, we participated in regular DMSMS conversations across programs, shared information across platforms, and partnered with disparate parts of the operation to further our common goal of mitigating risk and finding solutions for our customers. Replicating this business success is of great value to L3Harris and will result in increased cost avoidance and cost savings.

- Clearly define the value of this program/project to your customer

DMSMS issues have the potential to negatively affect material readiness, degrade mission capability and even halt systems completely. DMSMS issues can also affect sustainment of systems if repair assets or subcomponents are unavailable or have limited stock. Unchecked DMSMS issues lead to reactive DMSMS management at best. Reactive DMSMS management limits opportunities to resolve issues and typically inflates cost as fewer resolution options are available. End-of-Sale dates may get missed and Life-of-Need buys may be rejected as stock from the original manufacturer, authorized distributor or other trusted sources is depleted. This is especially true in the current parts management climate as many suppliers have abandoned Just-in-Time inventory practices by purchasing safety stock and double-ordering to increase inventory and avoid stock-outs. The latent risk from reactive DMSMS management is the antithesis to supporting our U.S Air Force customer.

The Defense Standardization Program Office’s Standardization Document 22 (SD-22), *A Guidebook of Best Practices for Implementing a Robust DMSMS Management Program* states, “It is unacceptable for a system to be non-mission-capable due to a DMSMS issue. To allow a DMSMS situation to progress to the point of affecting a mission ... is contrary to DoD policy and is an indication of ineffective DMSMS management as well as poor sustainment planning.”

Frankly, the explicit risk to our customer’s no-fail mission caused by DMSMS ineffectiveness is untenable.

To pivot from ineffectiveness and reactionary responses is to pivot towards industry and DoD best practices -- proactive and robust DMSMS management. Proactive DMSMS management is the art and science employed by DMSMS practitioners to identify, resolve and negate impacts to readiness, schedule and cost caused by DMSMS issues. For example, proactive software and license obsolescence management identifies software obsolescence risk, considers information assurance and captures the complexities of software and hardware interdependencies. Schedules remain on track as timely mitigation efforts are implemented. Cost is contained because a wider range of resolution options are available. Proactive DMSMS management is apparent throughout the system life-cycle and found at every milestone from

development-to-tech refresh-to-sunset. Proactive and robust DMSMS management is the exemplar owed to our customer to enable on-time delivery and sustainment of world-class senior leader communications.

➤ Clearly define the value of this program/project to members of your team

Fragments of the DMSMS information puzzle were autonomously managed and misinterpreted. Inaccurate usage data, unsupported failure rates and erroneous depletion forecasts were used as input for life-cycle and sparing decisions. The void created by the absence of DMSMS continuity compromised customer confidence. In turn, the PMO pledged to course correct and reverse the inconsistent customer experiences.

Formation of a DMSMS Management Team (DMT) is step one in executing a program. This, too, was the PMO's first task. The PMO identified an in-house team of subject matter experts and charged them with the responsibility of a proactive and robust DMSMS management program.

The DMT is chartered to perform all DMSMS activities, establish DMSMS processes and write the DMSMS Management Plan (DMP). The DMP establishes the framework and roadmap for the team. It's not a how-to manual but an overview of the program priorities and strategic direction.

- Team Roles and Responsibilities:
  - DMT Lead – Program champion. Empowers the DMT and DMSMS management operations. Secures resources.
  - PMO – Sets strategic vision and focus of efforts. Establishes high standards and performance levels.
    - Budget – Forecasts, funds, contracts or arranges for, schedule, and executes selected resolutions under the direction of the PMO or appropriate program area.
  - Program Manager – Implements DMSMS strategy and management plan. Oversees case management and record-keeping. Institutes capability assessment, reporting, metrics and analysis.
    - Procurement – Alerts team to identified DMSMS issues. Applies contractual knowledge and authority.
    - Material Program Manager (MPM) – Leverages material knowledge for collection and analysis of programmatic and logistics data.
    - SLC Depot – Ensures supply chain integrity and coordinates field supply chain actions.
    - Vendor Interaction for Product Repair (VIPR) – Lead for Original Equipment Manufacturer (OEM) and vendor repair interactions and failure analysis reporting. Aids in assessment efforts through development of data requirements and associated data.
  - Program Engineer – Engineering Lead; coordinates all engineering efforts.
    - Leads the Obsolescence Cross-Platform Working Group.
    - Chairs the Configuration Management/Configuration Control Board.

The DMT serves multiple stakeholders and platforms. Defining roles and responsibilities, empowering team members and establishing the DMP framework led directly to valued win-win partnerships with internal and external customers and amongst peers and colleagues where none had existed. Team members were given the authority, tools and knowledge to research and validate DMSMS issues, pursue mitigation efforts, request funding and resolve cases. Elevating DMSMS issues in customer meetings with regularity and consistency created transparency and sparked collaboration and synergy. Data integrity was achieved and customer expectations were met. Team members earned recognition as trusted DMSMS practitioners.

"The strength of the team is each individual member. The strength of each member is the team."

- Phil Jackson

Chicago Bulls Coach 1989 -1998



- Clearly define the contribution of this program/project to the greater good (society, security, etc.)  
(12 pt. Times Roman)

The no-fail mission of our customer is nothing short of a direct federal response to a national emergency. There can be no dropped calls, no communications outages and no satellite interference. A higher priority doesn't exist. Fully mission capable status is the only acceptable readiness rating. Early identification and verification of DMSMS issues, swift mitigation and minimization of risk all contribute toward mission readiness. Vigilant use of forecasting tools, constant monitoring of critical assets and open communication with suppliers and vendors eliminates reactive DMSMS management.

Reactive DMSMS management forces unplanned and expensive redesigns, production and repair delays, spares shortages and an increased risk of counterfeit parts. The proliferation of counterfeit parts poses one of the greatest performance, reliability and safety risks affecting aviation. Along with the unprecedented global supply chain crisis, with its persistent drought of critical components, the aerospace and defense industry is presented with one of the most extensive supply chain disruptions in history.

A proactive DMSMS program is the recognized industry "best practice" to alleviate these risks, support national defense and protect American interests.

**METRICS** (Value: 15 pts)

Please respond to the following prompt:

- What are your predictive metrics?

Appendix D contained in the DMP, as shown, prescribes the metrics used by the program.

The DMT will routinely record and analyze performance metrics to continuously evaluate the effectiveness of the DMSMS case management program. This will include but is not limited to:

- 1) DMSMS Overview
- 2) Alert Screening Status
  - a) #Reviewed/Unresolved/Closed
  - b) Year-to-Date (YTD) data collected over the Fiscal Year with Fiscal Year End (FYE) reporting
- 3) Caseload statistics
  - a) Current # Open / Closed
  - b) YTD data collected over the Fiscal Year with FYE
- 4) Updated health analysis
  - a) Line replaceable unit (LRU) spares depletion forecast and risk
- 5) Resolution metrics
  - a) Solution target summary
  - b) Time and cost
  - c) YTD data collected over the Fiscal Year with FYE reporting

VIPSAM DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES (DMSMS) MANAGEMENT PLAN

**APPENDIX D METRICS**

The DMT will continuously evaluate the effectiveness of the DMSMS case management program against defined objectives. The DMT will routinely record and analyze performance metrics that document recommended and approved resolutions and monitors implementation. This will include but is not limited to,

**Reporting Areas to PMO**

- DMSMS Overview
- Alert Screening Status
  - # Reviewed / Unresolved / Closed
  - YTD data
- Caseload Statistics
  - Current # Open /Closed
  - YTD data
  - Average time to case decision brief (# days)
- Current Health Analysis
  - LRU and subcomponent depletion forecast and risk
- Resolution Metrics
  - Average time to resolution (# days)
  - YTD data
  - Derived from Business Case Log
- Process Improvement Initiatives
- Data Challenges
- Plans for Next Reporting Period

Metrics should focus on leadership concerns to the greatest extent possible and flex to the battle rhythm set forth by the PMO and customer.

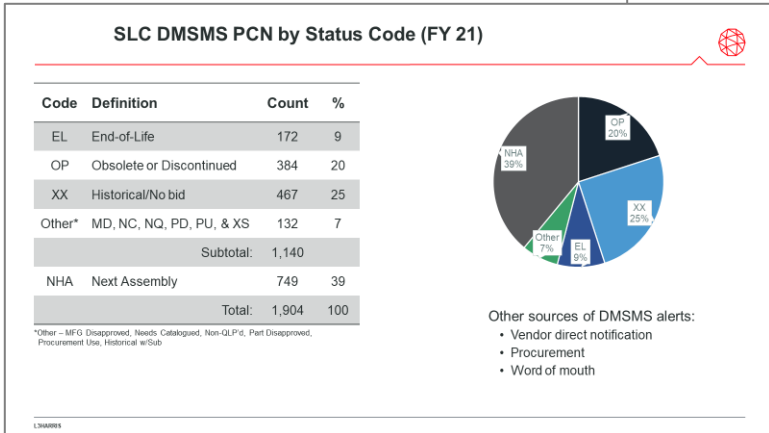
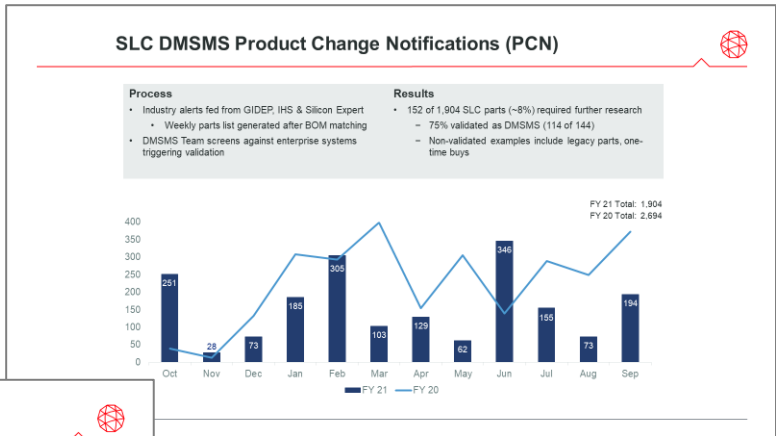
Metrics focus on leadership concerns and flex to the battle rhythm set forth by the PMO and the customer.

➤ How did you perform against these metrics?

Product change notifications (PCN) and other industry alerts for end-of-life and end-of-production announcements are fed from third-party tools GIDEP (Government-Industry Data Exchange Program), IHS Markit Bill of Materials Intelligence (BOM Manager) and Silicon Expert. A weekly parts list is generated from a Bill of Materials match within these tools. The DMT screens these parts against our enterprise systems triggering a validation alert. In Fiscal Year 2019 (FY19), a total of 2,828 PCNs were received, screened, validated and acted upon. In FY20, a total of 2,694 PCNs were received and in FY21, a total of 1,904 alerts were received. The number of alerts received is arbitrary in that there is no appropriate or set amount, standard or formula. It's reliant on the part numbers in each tool matching a manufacturer's PCN which then relate to one of our Bills of Materials (BOM) and triggers a response.

Of the 1,904 FY21 PCNs, approximately 8% required further research. Of those, 75% were validated as DMSMS and resulted in an open case and pursuit of a mitigation solution.

Non-validated alerts are oft related to non-operational legacy parts, one time buys or duplicate notices for items already tracked.



Of the 1,904 FY21 PCNs, 29% were for End-of-Life, obsolete and discontinued parts.

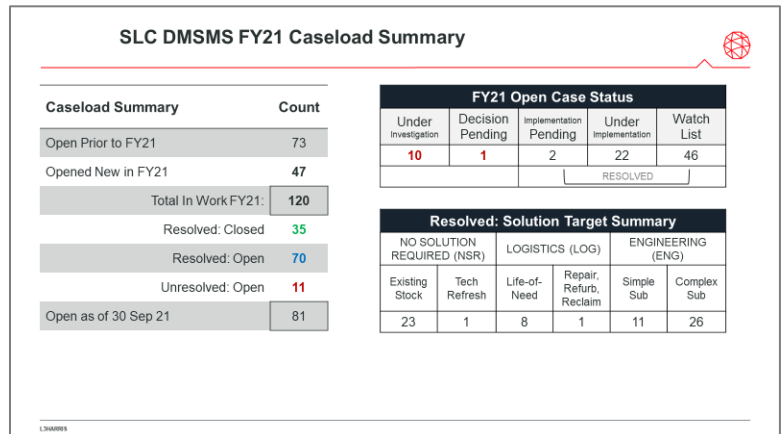
25% were classified as 'historical/no bid' and are discovered through sources outside of the third-party tools such as direct vendor notification, vendor surveys, procurement and word of mouth.

The second element of the metrics plan are caseload statistics. What follows is the summary of FY21 open cases with case status groupings, solution targets and case examples.

**Case Status Categorical Values:**

**OPEN:**

- Under Investigation
- Decision Pending
- Implementation Pending
- Under Implementation
- Watch List



### Case Status Examples

- Example: 4 OPEN cases with 7 Problem Parts; Case Status: Unresolved, Under Investigation

Short Title	PN Item Category	Part Number	Requirements			Spares		Risk	
			A/C 1	A/C 2	Total Available Spares	%Avail	Depletion Forecast		
OS Interface	1. Problem PN	ENG24-0000-1	1	1	2	100%	2025		
DLC-800	1. Problem PN	622-8997-520	3	3	11	157%	2020		
Fiber Optic Ethernet Switch	Multiple Subcomponent Obsolescence	1. Problem PN	AT-DC2552/S13	0	0	13	130%	N/A	
			AT-F4006	0	0	13	130%	N/A	
			AT-FL-DC25-61	0	0	0	0%	N/A	
			AT-FWR06-10	0	0	16	160%	N/A	
	2. Affected LRU	ESW152-0000-1	6	6	5	21%	2026		
		ESW152-0000-3	2	2	3	27%	2020		
RFU-900	1. Problem PN	622-8949-100	3	3	8	114%	2026		

- Spares depletion projections monitored for all OPEN & resolved items including Watch List
- Spares depletion based on best model
- End-of-Production, End-of-Repair, BER, annual usage, & other risks, i.e. software assurance
- Risk: Item criticality, supply chain vulnerability, tech roadmap

### Part Number Categorical Values:

Problem Part = DMSMS part

Affected LRU = the LRU containing the obsolete subcomponents (this example demonstrates multiple subcomponent obsolescence)

Total system requirements are validated and percentage of stock availability and depletion forecast are calculated

Calculating cost avoidance to measure program efficacy is widely accepted to demonstrate return on investment. When actual costs are unknown or incalculable, the DoD DMSMS Metrics Worksheet is used. Solution target cost increases as level of effort and difficulty of sustainment increases:

- Cost reporting best practice; Refer to SD-22
- Fiscal Year End (FYE) selected to be used for calculation to align with DoD
- Workbook template obtained from Defense Acquisition University's DMSMS Knowledge Portal
  - [https://www.dau.edu/tools/t/DMSMS-Knowledge-Sharing-Portal-\(DKSP\)](https://www.dau.edu/tools/t/DMSMS-Knowledge-Sharing-Portal-(DKSP))
- Reports on 'Closed' cases only
  - No solution required cost and cost avoidance \$0.00

SOLUTION	COST (\$)	Next Higher Viable Resolution Cost								
		Approved Part	Life-of-Need Buy	Simple Substitute	Complex Substitute	Extension of Production or Support	Repair, Refurbishment, or Reclamation	Development of a New Item or Source	Redesign - NHA	Redesign - Complex/System Replacement
Approved Part	\$1,075	\$ 1,075	\$ 5,476	\$ 13,160	\$ 26,584	\$ 26,649	\$ 62,287	\$ 685,685	\$ 1,143,337	\$ 10,763,173
Life-of-Need Buy	\$5,476	\$4,401	\$12,085	\$25,599	\$25,574	\$61,712	\$684,610	\$1,142,262	\$10,762,403	
Simple Substitute	\$13,160	\$7,684	\$21,108	\$21,173	\$13,489	\$49,627	\$672,525	\$1,130,177	\$10,750,018	
Complex Substitute	\$26,584			\$13,424	\$13,489	\$36,203	\$659,101	\$1,116,753	\$10,736,594	
Extension of Production or Support	\$26,649					\$36,138	\$659,036	\$1,116,688	\$10,736,529	
Repair, Refurbishment, or Reclamation	\$62,287						\$622,898	\$1,080,550	\$10,700,391	
Development of a New Item or Source	\$685,685							\$457,652	\$10,077,493	
Redesign - NHA	\$1,143,337								\$9,619,841	
Redesign - Complex/System Replacement	\$10,763,178									

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FY21 DMSMS METRICS WORKSHEET		
Revision	Rev. Date	Description
Revision NR	10/13/2016	Initial release
Revision A	9/30/2017	Updates to cost tables to accommodate FY18 inflation factors and reporting year
Revision B	10/30/2019	Updates to cost tables to accommodate FY19 inflation factors and reporting year
Revision C	8/22/2019	Updates to cost tables to accommodate FY20 inflation factors and reporting year
Revision D	10/7/2020	Updates to cost tables to accommodate FY21 inflation factors and reporting year

*Distribution Statement A: Approved for Public Release; Distribution is unlimited. NUWC Keyport #16-054.*

FY21 DMSMS Metrics Reporting Spreadsheet				
Program Management Office: SLC				
Platform/Program/System reporting on: VPISAM Group				
DMSMS Point of Contact Name: PM: Rena A. Barrow, PE: Frank R. Johnson				
DMSMS Point of Contact e-mail: rena.a.barrow@L3Harris.com; frank.r.johnson@L3Harris.com				
DMSMS Point of Contact Phone Number: Barrow cell (903) 413-5278, Johnson cell (903) 413-4937				
How many DMSMS cases were Open prior to this FY (carried over from previous year)?	Prior Open (qty.)	73		
How many NEW DMSMS cases were Opened this FY?	New Cases (qty.)	47		
How many TOTAL DMSMS cases were in work this FY? (Note: will auto sum the 2 rows above)	Total In Work (qty.)	120		
Of those Open, how many did you Resolve** this FY?	Total Resolved (qty.)	70		
Of those Open, how many did you completely Close*** this FY? (Note: this total will auto populate from the Closed data submitted below.)	Total Closed (qty.)	35		
Provide breakdown of Closed mitigation resolution selections, as well as the associated costs and cost avoidance totals below. (Dollar values should be in whole dollars)				
Mitigation Resolution (see the Definitions Tab)	Closed Resolutions Totals per Category	Closed Cost Totals for "Resolutions"	Closed Cost Totals for "Next Higher Viable Resolution"	Cost Avoidance Totals
No Solution Required	18	\$0		
Approved Part	0	\$0		\$0
Life of Need Buy	0	\$0		\$0
Simple Substitute	4	\$52,640	\$53,696	\$1,056
Complex Substitute	12	\$319,008	\$7,905,212	\$7,590,204
Incentivization - Extension of Production or Support	1	\$26,649	\$659,036	\$632,387
Repair, Refurbishment, or Reclamation	0	\$0		\$0
Development of a New Item or Source	0	\$0		\$0
Redesign - NHA	0	\$0		\$0
Redesign - Complex/System Replacement	0	\$0		\$0
<b>Totals</b>	<b>35</b>	<b>\$398,297</b>	<b>\$8,621,944</b>	<b>\$8,223,647</b>
Total Cost Avoidance Since DMSMS Program Inception:		Starting CY 2020	Cost Avoidance	
		\$9,489,343	\$8,223,647	



SLC Total Cost Avoidance Since DMSM Program Inception \$9,489,343



➤ How do your predictive metrics drive action toward program excellence? Please provide examples.  
(12 pt. Times Roman)

Predictive metrics define the criticality used in red/yellow/green stoplight charts to inform the customer and the affected platform(s) of immediate and pending needs as well as identifying long-term items already earmarked for tech refreshment or removal. The raw data available in the case management system with its multi-categorical values and numerous data points can be transformed into actionable information for the team to use to identify mitigation options and for the customer to make data-driven funding decisions.

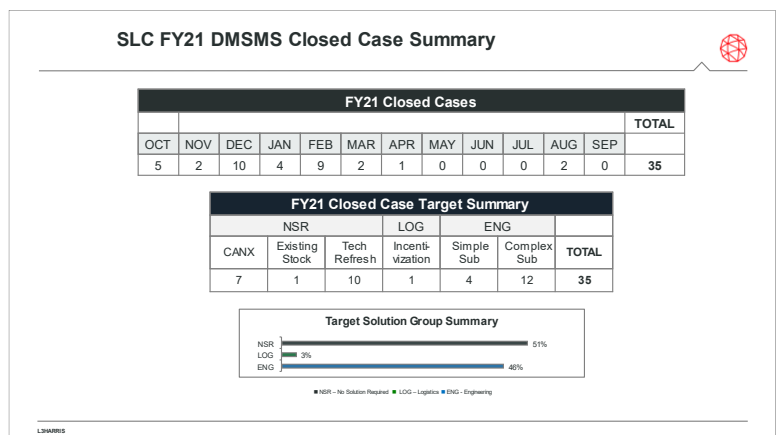
A switch used on the aircraft and in the Systems Integration Lab was purported to be end-of-life. Upon reaching out to the vendor, it was discovered that the 3-year support contract was end-of-sale but the one-year support contract remained available indefinitely. The DMSMS team identified the expiration date for each LRU in-stock and in-use and those nearing expiration were put on contract for renewal while the others will be renewed as required. These actions avoided costly catch-up fees had they expired.

A cross-platform ethernet switch contains multi-subcomponent obsolescence. The subcomponents were available from several approved sources but the accompanying perpetual license was end-of-sale and stock depleted. The mitigation approach was two-fold. First, the subcomponents were approved for purchase to sustain repairs and second, engineering was tasked to complete a trade study to recommend a form, fit, function (FFF) replacement. In this instance, we're able to extend the life of the ethernet switch given the necessary time required to locate and test a replacement. The existing switch with its perpetual license can remain in-use until scheduled for removal.

Predictive metrics are also used to look back. Prior year data contains key information about trends, earlier decisions, and provides a baseline to assess the health of the current program. Where have we been? Where do we want to go? How do we get there?

A look at FY21 closed cases reveals a large amount of activity from Dec – Jan. This was while an aircraft was inducted for depot maintenance and underwent scheduled upgrades. Cases are closed when the DMSMS item is removed from the system or engineering has been updated.

Predictive metrics can also be used to set goals for the upcoming year or to examine process. 20% of FY21 closures were marked as 'Canceled.' It doesn't necessarily signal trouble but it is an indicator that shouldn't be ignored. In this case, the cancelations are due to eliminating duplication while the team was making improvements to the case management system and record keeping.



PN ItemCategory		1. Problem Part			
Sys Code		(All)			
Count of AR Stop Date		AR Stop Date			
Solution Group	Solution TARGET	2020	2021	Grand Total	
NSR	Canceled	14%	6%	20%	
	Existing Stock	0%	3%	3%	
	Tech Refresh	17%	11%	29%	
<b>NSR Total</b>		<b>31%</b>	<b>20%</b>	<b>51%</b>	
LOG	Incentivization	3%	0%	3%	
<b>LOG Total</b>		<b>3%</b>	<b>0%</b>	<b>3%</b>	
ENG	Complex Substitute	9%	26%	34%	
	Simple Substitute	6%	6%	11%	
<b>ENG Total</b>		<b>14%</b>	<b>31%</b>	<b>46%</b>	
<b>Grand Total</b>		<b>49%</b>	<b>51%</b>	<b>100%</b>	

DEALING WITH PROGRAM COMPLEXITY (VOLATILITY, UNCERTAINTY, COMPLEXITY, AMBIGUITY, OR VUCA) (Value: 25 pts)

Please respond to the following prompts:

➤ 10 pts: Describe areas of VUCA faced by your program and why.

The DMT members and the DMSMS program faced numerous challenges. The volatility and uncertainty created by the pandemic tops the list. The pandemic’s impact on the global economy and supply and distribution channels affected everyone. Countries in lockdown restricted port movement and enacted trade and border control measures. Shipping lanes came to a standstill. Suppliers and vendors shut down. Inventory management was turned inside out. Our obligations didn’t lessen amidst this chaos and uncertainty. In fact, the opposite is true. Our responsibilities to national leaders were as important as ever.

The use of Commercial-Off-the-Shelf (COTS) equipment and software adds volatility and complexity to our parts management and DMSMS processes. Whereby we are not the driving force behind these products we are subjected to inevitable product changes while our design/system constraints are held constant.

In addition to COTS, we have specialty items (e.g., monitors) whose product life cycle is not complimented by commercial demands to ensure continued availability. This is compounded by the typically accepted aerospace practice of point design installations which limit a plug-and-play approach for substitute LRUs that do not conform to the Form, Fit, Function provisions already in-place on the aircraft/platforms.

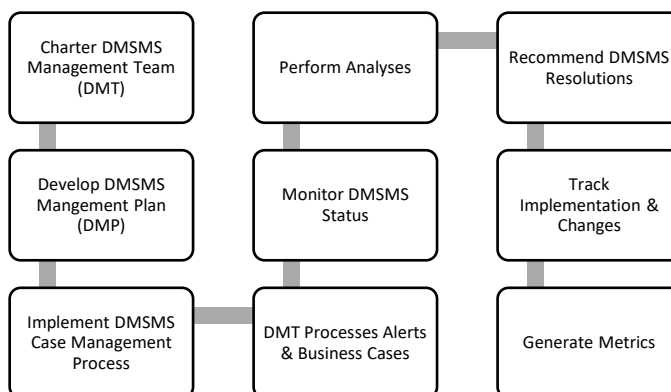
A case in point is the abrupt discontinuance of subcomponent LCDs contained within our ruggedized displays. Brought about by supply chain disruption, we were unable to pursue a life-of-need buy. The manufacturer, needing to move to the next generation product also discontinued the 46” size display no longer in use ‘by industry.’ The industries driving product demand are medical and gaming, not aviation.

Beyond these VUCA elements were the inherent challenges the newly formed team faced, a) navigating a virtual workspace, b) cleansing dirty data, c) making sense of haphazard records, d) developing processes and metrics, e) conquering task ambiguity, and f) forging talent and resources for success.

➤ 15 pts: Explain how your team responded to these challenges.

(12 pt. Times Roman)

As shelter-in-place orders began to lift and return-to-work safety protocols were shaping the new normal, exacerbation of the supply chain continued. Imbalances between supply and demand along with inflation and inventory shortages cast a long shadow on early recovery plans. There was no lessening of DMSMS issues landing on our doorstep and no opportunity to let off the gas in continuing the work we’d started. The DMSMS management process is:



In response to the issues related to COTS and specialty items, the DMT has become empowered to influence the typical Quick Response Capability model which has served our modernization efforts in the short term but is inadequate for long term system support. Adaptation of SD-22 represents a paradigm shift but it's essential for long term sustainment and robust management. In addition, we are recommending that vendors/OEMs provide easier access to their respective products planned End-of-Life/ End-of-Sales. In response, the vendors/OEMs have updated their product websites to contain product life cycle plan/announcements.

In typical DMSMS fashion, the discontinued 46" display will not be easily or quickly mitigated. Current commercially available display sizes are either 43" or 49". This situation creates a Fit issue requiring a trade study between developing a new, custom display versus extensive monument modification to accommodate either of the commercial options. Cost, Schedule and Risk are trade study parameters as we try to fit within the airborne platform's planned maintenance/upgrade schedule. Furthermore, our Engineering Obsolescence Working Group (ENG OBS WG) is focused on a common solution across multi-platforms for interchangeability and future cost savings. This constitutes the majority of the long-term solution effort while the near-term solution is to rely on existing stock and monitor failures.

Human factors were, and continue to be, critically important for mission accomplishment and the safety and security of our people. After spending a substantial part of our life at work; spending more time with colleagues than with family members, we were thrust into telework. It was difficult early on to ensure the team had adequate resources and technology access. As we worked to overcome telework challenges, the team banded together to dig in and expand core competencies.

Achievements in the first 18 months were many:

- Linked into L3Harris corporate DMSMS team
- Leveraged segment DMSMS resources
- Developed metrics package
- Conducted capability-level assessment
- Attended industry webinars and training
- Adopted case management approach
  - Further created categorical values for tracking, reporting and data collection
  - Created a case worksheet to document DMSMS issues, validate and cleanse data, verify system requirements and establish recordkeeping

Achievements in the last 18 months include:

- Stand-up of the Engineering Obsolescence Working Group (ENG Obs WG)
- Weekly platform updates, weekly sustainment updates, and weekly cross-platform engineering updates
- DMSMS topic inclusion in quarterly Program Management Reviews
- Continued refinement of processes by the team
- Increased forecasting/BOM cleansing for use in third-party tools

The stand-up of the ENG Obs WG opens up new mitigation possibilities as the entire engineer cadre are coming to the table, meeting bi-weekly to update status and solutions

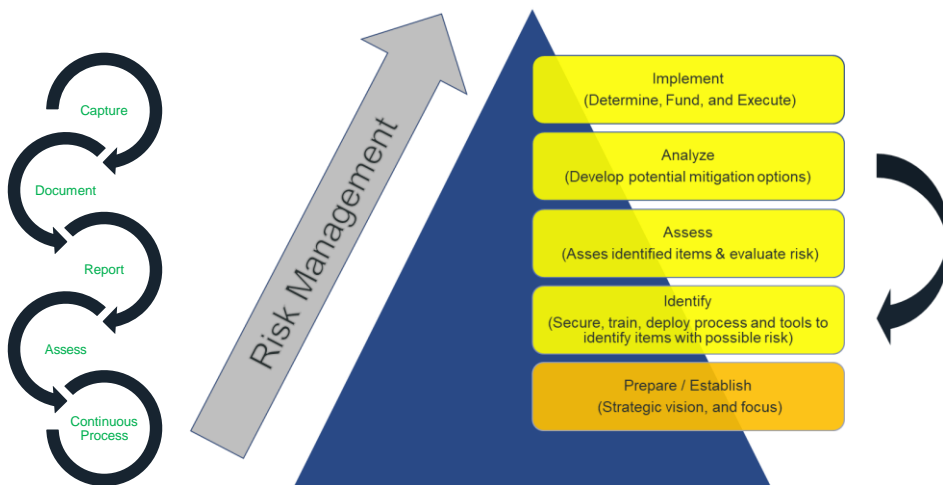
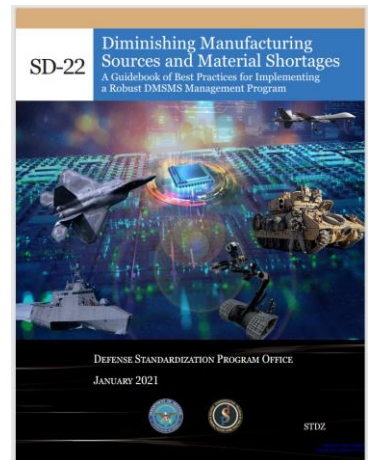
**ORGANIZATIONAL BEST PRACTICES AND TEAM LEADERSHIP (Value: 35 pts)**

Please respond to the following prompts

➤ 15 pts: Describe the innovative tools and systems used by your team

The DMSMS management system and model we chose is founded on best practices contained in SD-22. Our system also aligns with DoD Instruction 4245.15. We chose this as the best approach to support our USAF customer.

The system is cyclic and provides the framework for the team to mature. Process management starts at the bottom and progresses to the top of the pyramid. At any point, the steps may be skipped or revisited depending on the nature of the DMSMS issue and current mitigation. Risk management is always a consideration as is continuous improvement.



We use an amalgamation of existing tools; Teamcenter, a Product Life Management tool used by engineering, Doclinks to create comprehensive drawing trees for each tail number, the Action Request Database to assign a unique case number to each DMSMS issue, and Excel for data analysis. Within each team member’s discipline, a variety of enterprise systems are used. These include systems for configuration management, inventory management, and Enterprise Resource Planning. Cross pollination of core competencies is essential as the skills required to be a DMSMS practitioner overlap functional areas.

The case management worksheet is used to document and collect initial case data. After DMSMS case status has been determined, the worksheet remains on file for historical purposes.

DMSMS CASE WORKSHEET		ALERT SOURCE DATE:	
		CONFIRMED BY:	ALERT NUMBER:
<b>1. PART IDENTIFICATION DATA</b>		LRU:	<input type="checkbox"/>
		SUBCOMPONENT HW:	<input type="checkbox"/>
		SUBCOMPONENT SW:	<input type="checkbox"/>
MANUFACTURER NAME, VENDOR CODE, ADDRESS, TELEPHONE, AND POC:			
MFG P/N:	LSH P/N:	SAP P/N:	
EREC:	COST:	DESCRIPTION:	
SHELF-LIFE:	ISAG:	END ITEM OR SYSTEM:	
BSI NOTES:			
<b>2. PRELIMINARY RESEARCH &amp; DATA CLEANSE</b>			
2a. BSI			
DP1	SVC HA	DEPOT	FIELD
		LOAN	BPB
		POS	PRSK
			EAL
BER	UNVC HA	BER	ZDPM
		DUT VR	UNVC HA
			DPM
SVC DEPOT		UNVC DEPOT	SVC FIELD
			UNSV FIELD
NOTES:			
2b. SAP			
PROJECT: ON HAND		PROJECT: PLANNED ORDER	
NOTES:			
<b>2c. RSPF AIRCRAFT REQUIREMENTS</b>			
A/C 1	A/C 2	A/C 3	A/C 4
<b>2d. SIL CONFIG STATION REQUIREMENTS</b>			
SIL 1	SIL 2	SIL 3	SIL 4
SIL 5	SIL 6	SIL 7	SIL 8
<b>2e. BOM REVIEW/ENGINEERING NOTES</b>			

<b>3. ALERT STATUS:</b>	
ALERT UNRESOLVED <input type="checkbox"/> Dms	ALERT CLOSED <input type="checkbox"/> Dms
NOTES:	
<b>4. LIFE CYCLE DATA</b>	
ENGINEERING INPUT:	
LIFE CYCLE PHASE: PRODUCTION OR DESIGN?	
PLANNED TECH REFRESH:	
PLANNED END OF SYSTEM LIFE:	
SPARE CALCULATIONS:	
ANNUAL FAILURE RATE (RAF)?	
REF RATE:	
ANNUAL USAGE FOR CONSUMABLES:	
PROJECTED DEPLETION DATE:	
<b>5. RISK ANALYSIS</b>	
ITEM CRITICALITY?	
SUPPLY CHAIN VULNERABILITY?	
MFG END OF PRODUCTION DATE:	
MFG END OF REPAIR DATE:	
TIME TO IMPLEMENT A RESOLUTION?	
<b>6. DMSMS BUSINESS CASE DETERMINATION</b>	
<input type="checkbox"/> PART IS NOT DMSMS	<input type="checkbox"/> PART IS NOT DMSMS BUT ADDITIONAL PROGRAM IMPACT DISCOVERED
<input type="checkbox"/> PART IS DMSMS	<input type="checkbox"/> PART IS DMSMS
AVAILABILITY INFORMATION AS DESCRIBED:	ACTION ITEMS AS DESCRIBED: ASSIGN AR AR#
DATE:	DATE:
DATE:	DATE:
<b>7. LIST OF ATTACHMENTS (AS REQUIRED)</b>	
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
<b>8. BUSINESS CASE STATUS:</b>	
OPEN: NO ACTION REQUIRED <input type="checkbox"/> Dms	CLOSED: NO ACTION REQUIRED <input type="checkbox"/> Dms
OPEN: DECISION PENDING <input type="checkbox"/> Dms	CLOSED: CANCELLED <input type="checkbox"/> Dms
OPEN: SUPPLEMENTATION PENDING <input type="checkbox"/> Dms	CLOSED: RESOLVED <input type="checkbox"/> Dms
OPEN: UNDER SUPPLEMENTATION <input type="checkbox"/> Dms	
OPEN: WAITER LIST <input type="checkbox"/> Dms	

➤ 10 pts: Define how you developed, led and managed people

Communication, honesty and transparency are the cornerstones of our success.

Team communication began with weekly Skype meetings until team members were comfortable with assigned roles and responsibilities. Meeting frequency changed to monthly as confidence grew and more recently it changed to quarterly. Action item worksheets are distributed as required for status updates. A DMSMS email distribution group was created so anyone within SLC, general procurement or the customer team could communicate DMSMS information to the team.

Weekly program briefings and weekly cross-platform briefings are attended by the customer and higher headquarters personnel. All briefings are attended by each platform's program management, engineering, configuration management, and material management members. Current DMSMS open case status and updates are briefed to ensure team concurrence with current case status. Queries or conflicts are identified as action items and assigned to the appropriate individual. An added benefit to the frequency of the updates has been the adoption of the DMSMS vocabulary. Our constant DMSMS focus means we're all speaking the same language and considering DMSMS at all stages of our life-cycle management.

DMSMS has been described as "Nothing but problems!" Often greeted with trepidation, delivering bad news is hard. However, we can't stand shoulder-to-shoulder with our internal and external customers unless we're truthful about our challenges. For all of our achievements, we're not where we want to be, but we're better than when we started, and we have a vision and focus to move forward to get there. This is how we achieve transparency.

Current challenges include the persistent battle of proactive vs. reactive management and ensuring we're able to follow the path from an OEM Product Change Notification to our BOMs due to part number configuration in our documentation and enterprise systems, i.e. L3Harris-unique part number.

➤ 10 pts: How did you leverage skills and technologies of your suppliers?  
(12 pt. Times Roman)

Upfront communication and engagement with suppliers at the management level and lower levels is key. This is a shared responsibility between L3Harris and suppliers where "your problem is my problem, also." Suppliers provide emerging technology refresh and recommendations for obsolescence replacement within their respective product line.

### **Conclusion**

Coupling L3Harris talent and resources with industry best practices and incorporating customer expectations has resulted in a tailored, robust and proactive DMSMS management program.

The SLC DMSMS program has proven to be an agile and responsive system capable of navigating the current global supply crisis and will enhance future efforts.

With many industries upended in the pandemic, the SLC DMSMS Management Team has held steady, leaned in, and increased customer confidence.

"Obsolescence is the key to innovation."  
- Homaro Cantu