

THROUGH THE LOOKING GLASS:

WHY EVM IS AN ESSENTIAL RISK MITIGATION MEASURE FOR DECISION MAKERS AND PROGRAM MANAGERS



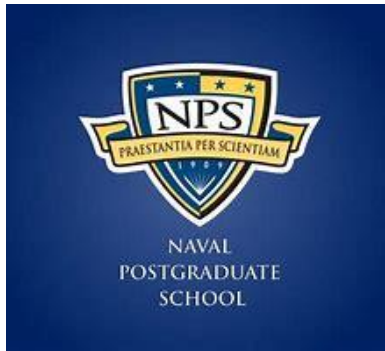
Why is it imperative for program managers and decision makers to use EVM as a risk mitigation measure?

Symantha "Sam" Loflin



Who Am I – So What?

PURPOSE:
PAY IT FORWARD
Help
Encourage
Acknowledge
Lead





EVM - Excellence

Whole-of-Government [NASA] Approach – People, Processes, and Tools

- **Defend and Protect - Sea, Air, and Space**

Legal and regulatory processes

- **Communication**

Stakeholders - Program Management – Functional Specialist – Surveillance

Control cost, schedule visibility and enhance technical readiness

- **Federal Procurement of Made in America by Americans**

Small Businesses Build the Industrial Base and Strengthen National Security



EVM

Low Cost – High Value !



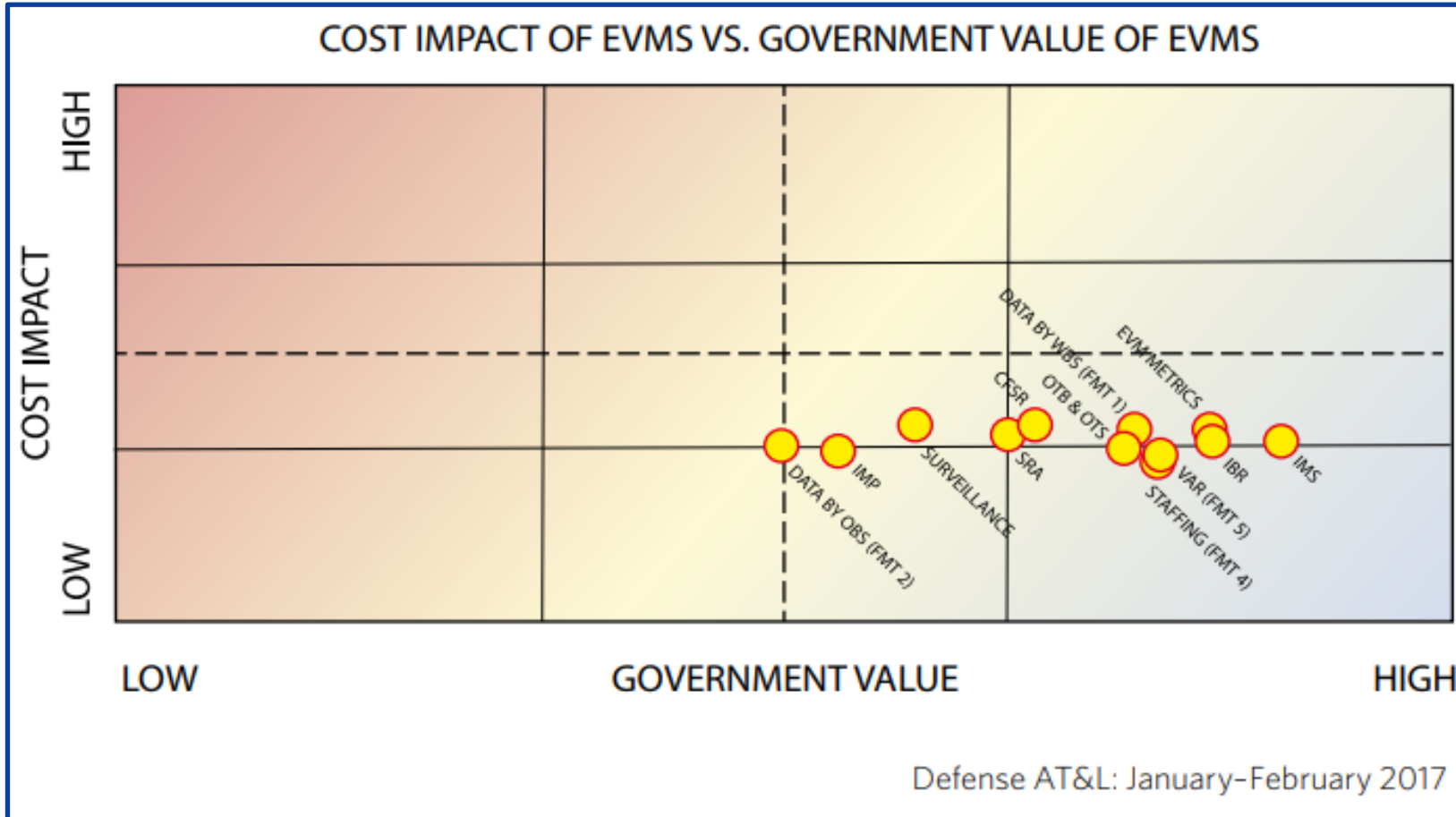
The Joint Space Cost Council

Better EVMS Implementation Study

**EVM
NEWS
FLASH**

**LOW
COST**

**HIGH
VALUE**



Cost Impact of EVMS VS. Government Value of EVM (2017)

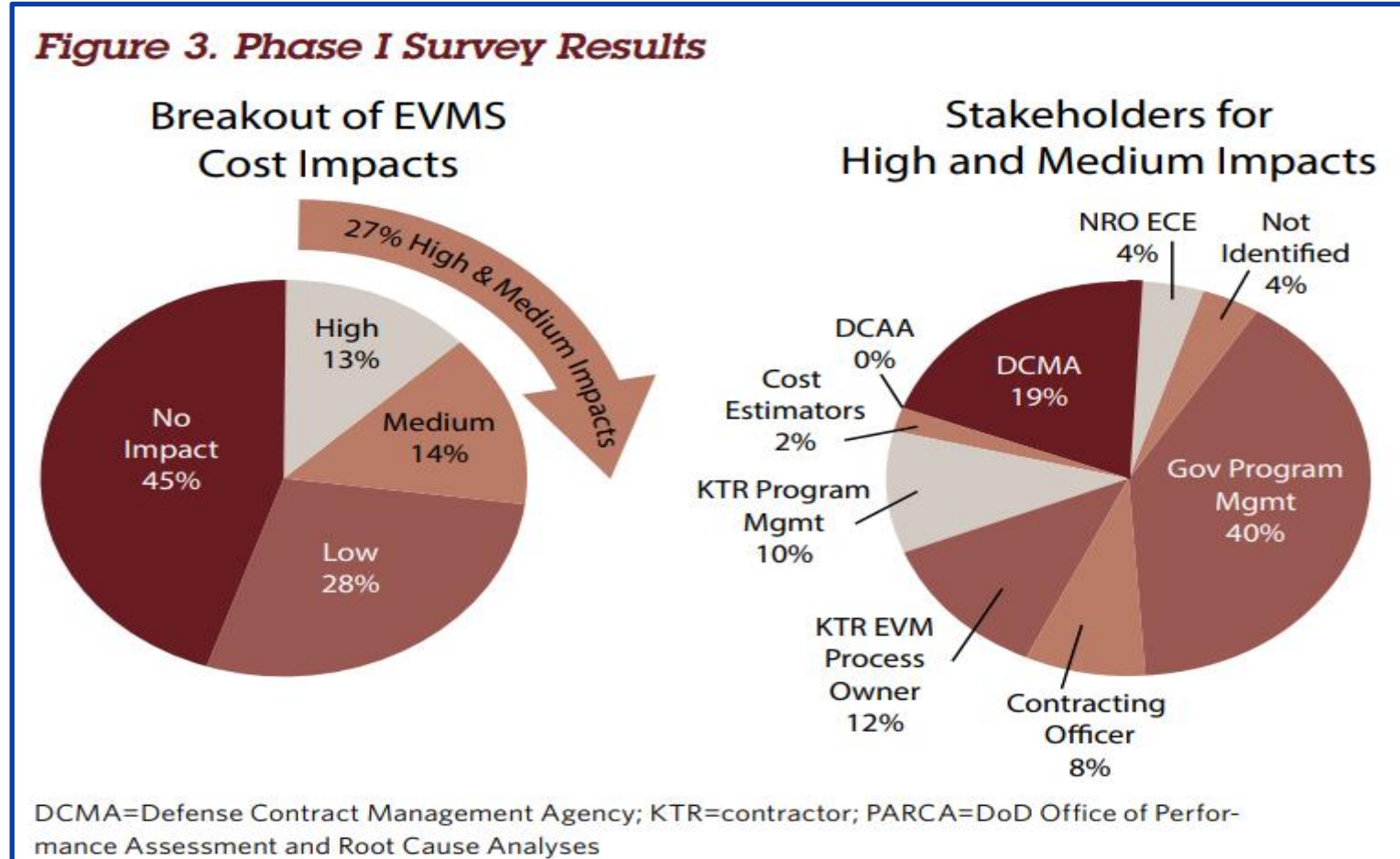




The Joint Space Cost Council

Better EVMS Implementation Study

Who is behind the EVM Cost?



EVMS Cost Impact VS. Stakeholders Value of EVM (2017)



EVM - NASA

So What ?



EVM - Excellence through Knowledge

The Right Stuff

People, Processes, Tools

Risk Mitigation Tools - Return on Investment

Effective Stewards of Taxpayers' Money – **Your Money**

NASA Acquisition Priority – NASA Strategic Plan

National Security Strategy



NASA – 2019 Economic Impact \$64.3 Billion



NASA Strengthens the **Economy**



NASA Improves **Life**

NASA Fosters American **Innovation**

NASA Builds **Bridges**



More nations are active in space than ever before, and international partnerships are key to humanity's continued achievements in space.

For more than 20 years, humans have continuously lived and worked 250 miles above Earth aboard the space station. It is the largest peacetime, multinational effort in history, representing 15 nations and five space agencies.

As NASA returns to the Moon with our partners, the Artemis Accords serve as a set of guiding principles for international cooperation in the next phase of human space exploration.

NASA Inspires



NASA missions capture people's attention around the world and inspire future generations to explore, learn, and build a better future.

NASA engages with students and educators to make STEM approachable and excite interest in technical careers. NASA internships offer meaningful, hands-on projects to enhance the skill, diversity, and size of the future STEM workforce.

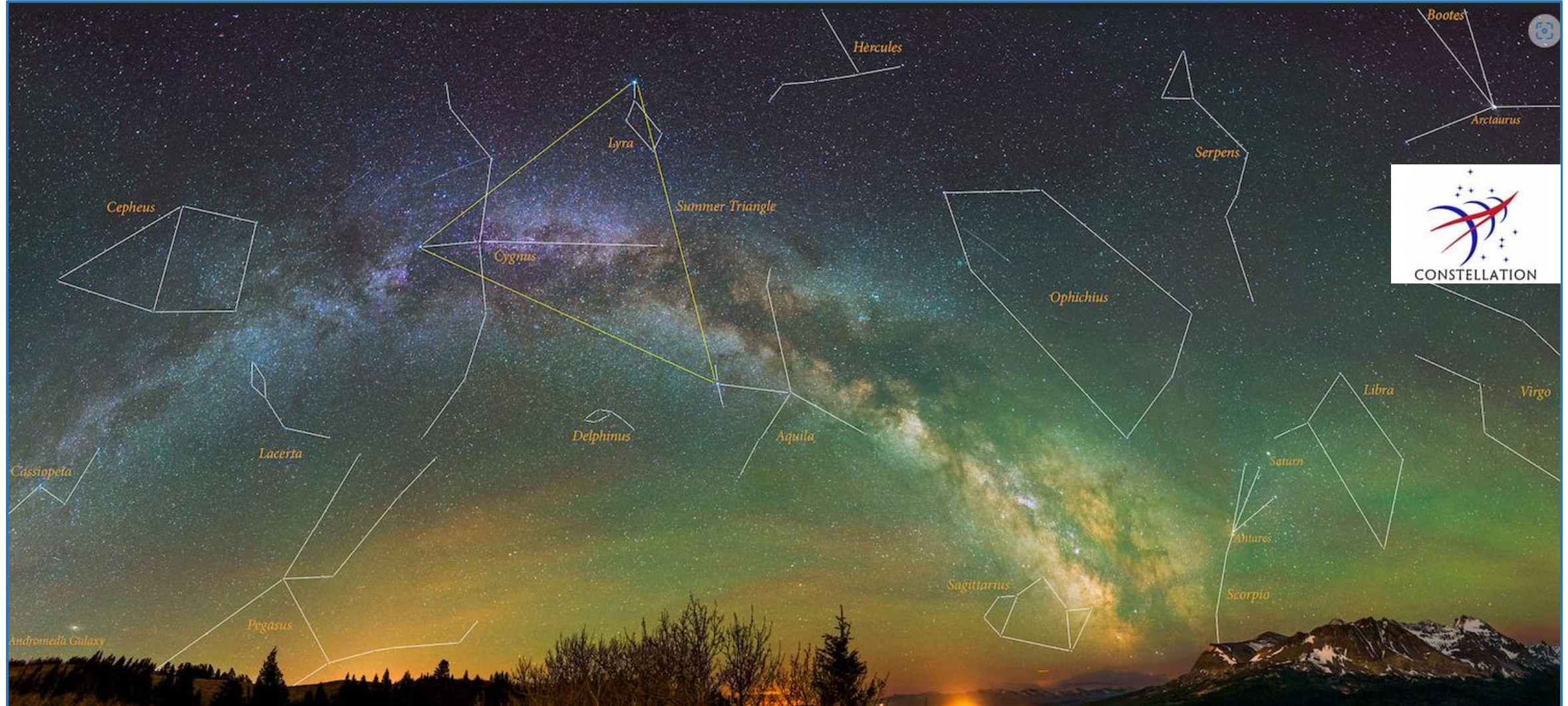


Large technologies to help maintain America's competitive advantage. Thanks to NASA include commercial supersonic air travel, electric-powered aircraft, and advances in air mobility.

NASA supports small businesses research new ideas and develop innovative aeronautics, human space, and space technology solutions. Our partnerships fuel growth in industries that include artificial intelligence and advanced manufacturing.



EVM - Constellation Program - Cancelled 2010





EVM - NASA

Strategic Plan

2022



EVM –Evidence-Based Policymaking Act 2018

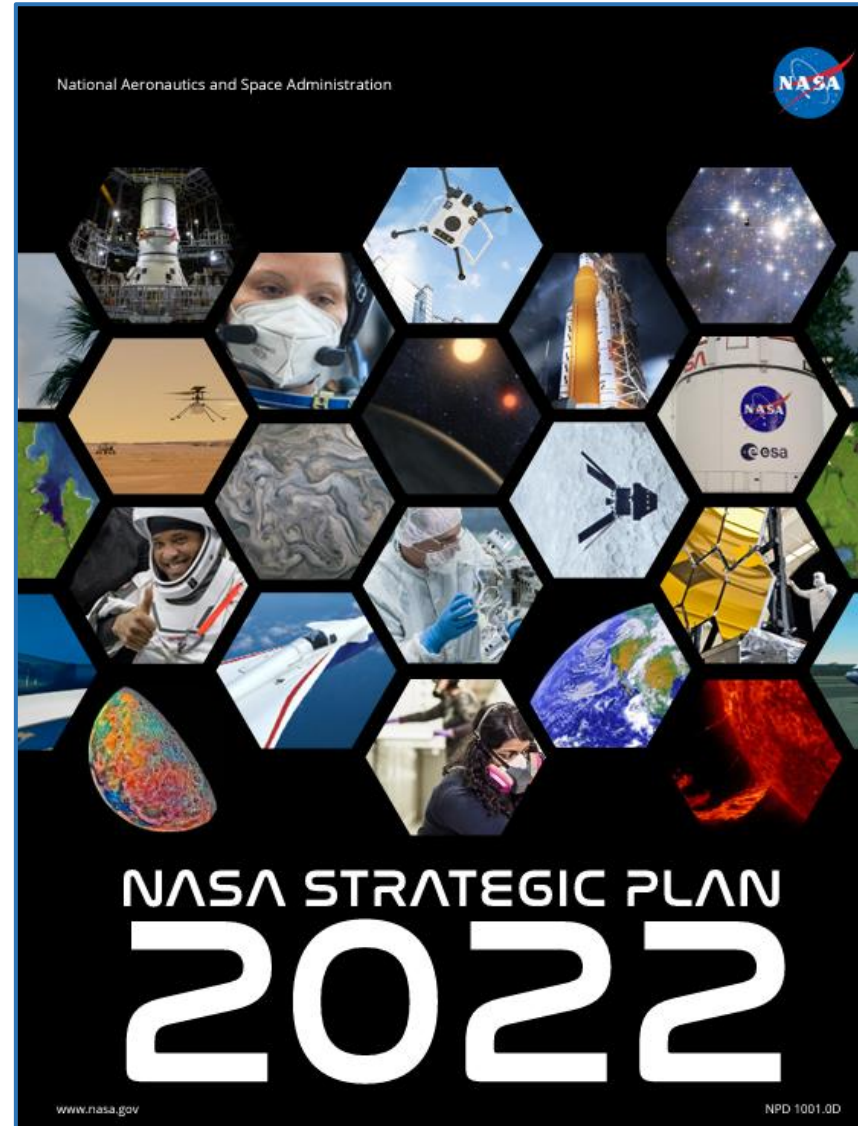
STRATEGIC GOAL 1

STRATEGIC GOAL 2

STRATEGIC GOAL 3

STRATEGIC GOAL 4

*Builds the U.S. Industrial Base
Strengthens National Security
Economic Prosperity
Global Competitiveness*



Expand Human Knowledge

**Extend Human Presence
Moon-Mars-Beyond**

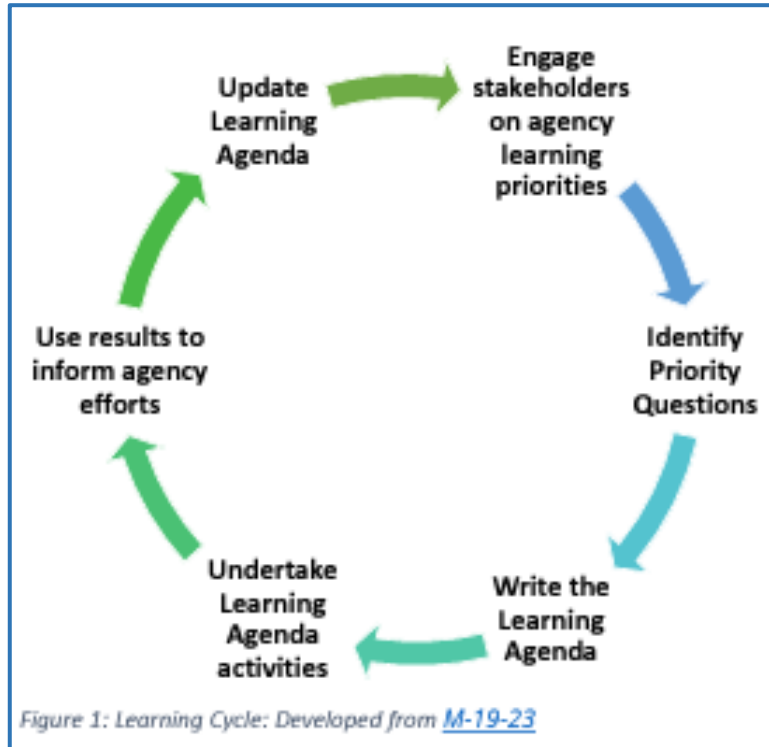
**Economic Growth
Drive Innovation**

**Enhance Capabilities
Drive Mission Success**



EVM - *Evidence Act* - Learning Agenda

Learning Cycle



Strategic Goals and Objectives

Theme	Goal	Statement
Discover	Expand human knowledge through new scientific discoveries	1.1 Understand the Earth system and its climate
		1.2 Understand the sun, solar system, and universe
		1.3 Ensure NASA's science data are accessible to all and produce practical benefits to society
Explore	Extend human presence to the Moon and on towards Mars for sustainable long-term exploration, development, and utilization	2.1 Explore the surface of the moon and deep space
		2.2 Develop a space economy enabled by a commercial market
		2.3 Develop capabilities and perform research to safeguard explorers
		2.4 Enhance space access and services
Innovate	Catalyze economic growth and drive innovation to address national challenges	3.1 Innovate and advance transformational space technologies
		3.2 Drive efficient and sustainable aviation
Advance	Enhance capabilities and operations to accelerate current and future mission success	4.1 Attract and develop a talented and diverse workforce
		4.2 Transform mission support capabilities for the next era of aerospace
		4.3 Build the next generation of explorers

Table 4: NASA's Strategic Goals and Objectives



What do all **NASA** projects have in common?

Their success depends on teams of skilled professionals working together [communicating] to solve problems and deliver results.



Credit: NASA

*Apollo13 flight directors (from left to right):
Gerald D. Griffin, Eugene F. Kranz, and Glynn S. Lunney*

NASA **APPEL** KNOWLEDGE SERVICES INSIGHT PODCAST EXPLORE

Supporting Effective Teamwork at NASA



Recommendations

Whole-of-Government - [NASA] Approach

EVM - People, Processes, and Tools

- **Defend and Protect - Sea, Air, and Space**
- **Communication**
- **Federal Procurement of Made in America by Americans**

Small Businesses Build the Industrial Base and

Strengthen National Security

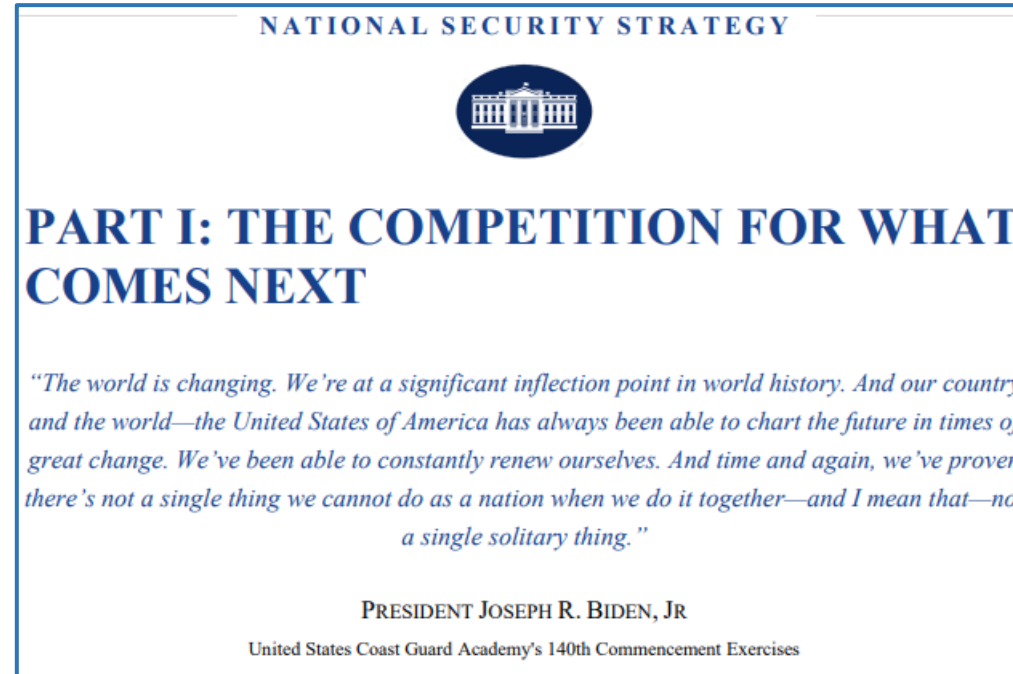


EVM - *Right Stuff*

3 Recommendations



[Future of Work \(nasa.gov\)](https://www.nasa.gov)





1. Continuous Experiential Learning

Require and provide continuous learning to all stakeholders (government and contractor).

Research shows that subject matter knowledge increases the likelihood of successful problem resolutions.

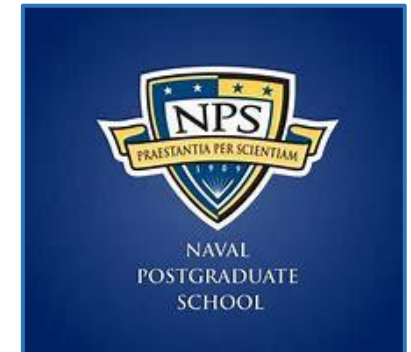
“...**experiential learning** offers a way to ensure we are imparting not just rote learning and certifications, but providing our people the knowledge, skills, and experience to effectively control the efforts we charge them to lead...” Pickar (2020).



[DAU Home](#)



[APPEL Knowledge Services | NASA](#)



[Certificate Programs - Electrical and Computer Engineering - Naval Postgraduate School \(nps.edu\)](#)



2. EVM Surveillance

Build the Defense Industrial Base

Strengthen National Security

Promote regular and reoccurring EVMS surveillance throughout the project's lifecycle, reveals whether the internal controls and business management practices comply to the 32 guidelines.

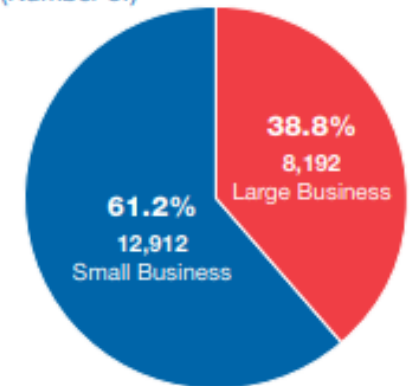


NASA. [Fiscal Year 2021 Annual Procurement Report \(nasa.gov\)](https://www.nasa.gov)

Total Small Business

During fiscal year 2021, NASA awards to small business firms totaled \$3,401 million (below). The number of actions going to small business represents 61.2 percent of all business actions and 21.4 percent of all business dollars.

Actions
(Number of)



Adapted from NASA. [Fiscal Year 2021 Annual Procurement Report \(nasa.gov\)](https://www.nasa.gov)



NASA - \$354M- Small Business Contract, ASRC

Nov 25, 2019
CONTRACT RELEASE C19-028

NASA Awards Program Analysis and Control V Contract



NASA has awarded an 8(a) small business set-aside contract to ASRC Federal Systems Solutions, LLC, in Beltsville, Maryland, for services that support planning and managing of NASA missions, projects, and programs.

The Program Analysis and Control (PAAC) V contract is a cost-plus-fixed-fee, indefinite-delivery/indefinite-quantity contract with a minimum ordering value of \$1 million and maximum of \$354 million. The contract ordering period is five years, to commence on or about Jan. 1, 2020.

NASA - \$462.5M- Small Business Contract, MTS

May 12, 2021
CONTRACT RELEASE C21-011

NASA Selects Consolidated Program Support Services Program, Planning, and Control Contractor



NASA has selected Manufacturing Technical Solutions Inc. of Huntsville, Alabama, to provide the Consolidated Program Support Services (CPSS) Program, Planning, and Control (PP&C) at the agency's Marshall Space Flight Center in Huntsville and Johnson Space Center in Houston, with the potential to provide these services to other NASA centers.



NASA's EVM Analytics Tool

2012



 **Optimize Monthly Business Rhythm**

 **Simple to Deploy and Maintain**
Empower is a server-based application installed behind a firewall

 **Anticipate Customer Audits and their Focus**

 **Modern Design**

 **Holistic View of Program Performance Data**

 **Actionable Insight**



Austal

Betchel

Blue Halo

Blue Origin

Brookhaven National
Laboratory

Cobham

Consolidated Nuclear
Security/Y12 National
Security Complex

Jacobs

*John Hopkins Applied
Physics Laboratory*

L3Harris

*Lawrence Livermore
National Laboratory*

Lockheed Martin
Aeronautics

Lockheed Martin Space

Los Alamos National
Laboratory

National Nuclear Security
Administration

*National Reconnaissance
Office*

National Security Agency
NAVAIR

Northrop Grumman
Orbital/ATK

ORCC Oak Ridge
Pratt & Whitney

Progeny Systems²¹



3. Knowledge Sharing Consortium

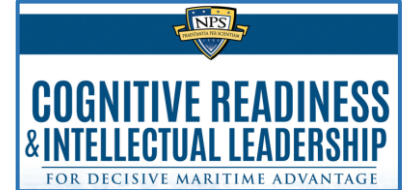
Implement a **federal government consortium** between all stakeholders from **Federal Agency's, Services, and Industry**, as this will provide effective and efficient cross functional lessons learned **Knowledge Sharing**.



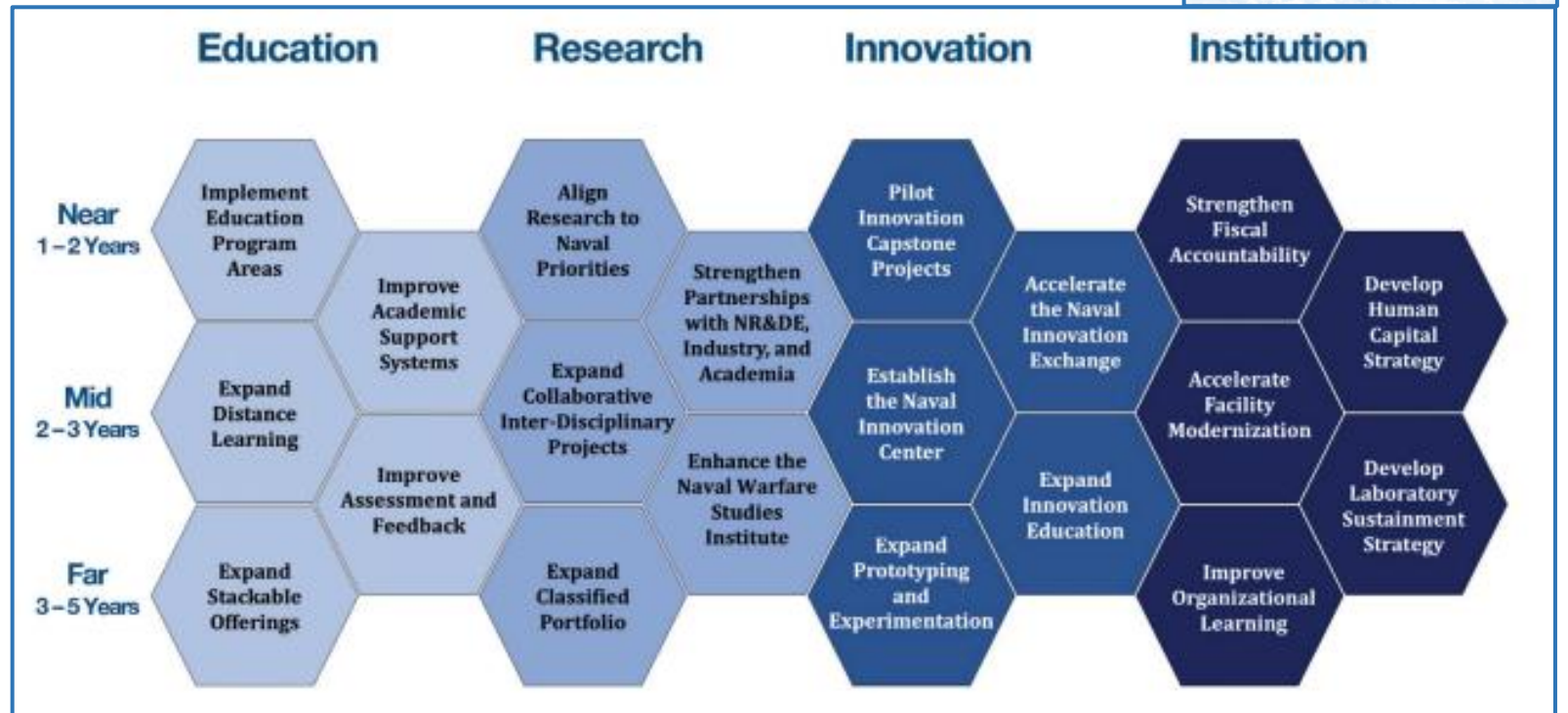
Diminishing Manufacturing Sources and Material Shortages (DMSMS) Knowledge Sharing Portal (DKSP)!



[Pages - Welcome to the DMSMS Knowledge Sharing Community Homepage! \(dau.edu\)](https://dau.edu)



STRATEGIC FRAMEWORK OBJECTIVES



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AND PROGRAM MANAGERS**



Questions

Why is it imperative for program managers and decision makers to use EVM as a risk mitigation measure?

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M.S. Program Management, Naval Postgraduate School, 2020
MTS, a subsidiary of Aeyon



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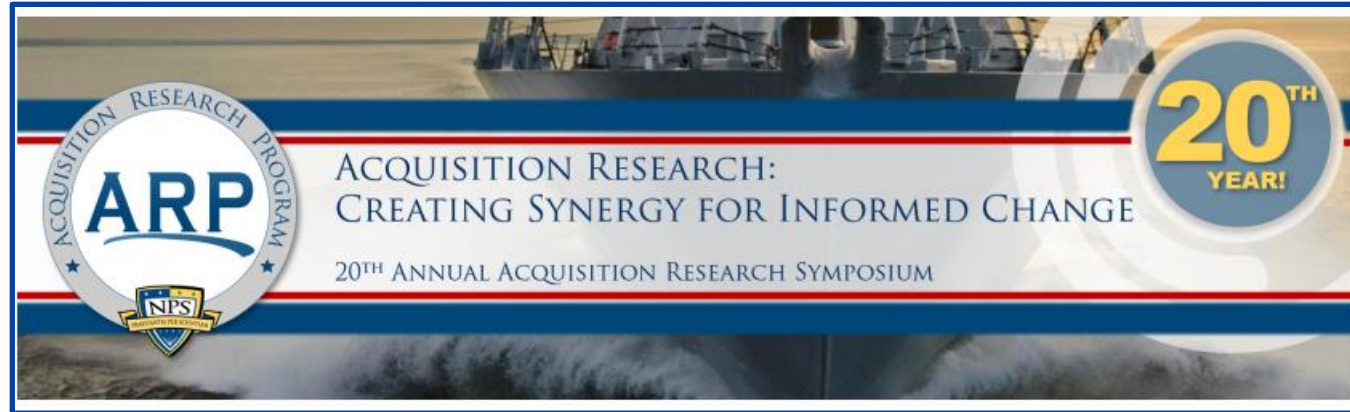
Biden-Harris Administration's National Security Strategy

“By enhancing our industrial capacity, investing in our people, and strengthening our democracy, we will have strengthened the foundation of our economy, bolstered our national resilience, enhanced our credibility on the world stage, and ensured our competitive advantages.”

Biden-Harris Administration's National Security Strategy, October 2022. [Biden-Harris Administration's National Security Strategy.pdf \(whitehouse.gov\)](#)



NPS 20th Annual Acquisition Research Symposium



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2023 NASA Cost
chedule Symposiu

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