

National Aeronautics and
Space Administration



The Annual **State of NASA** **Procurement Report**

FISCAL YEAR 2022 IN REVIEW

On this page and the front cover: NASA's Space Launch System (SLS) rocket with the Orion spacecraft atop launches the Agency's Artemis I flight test, Wednesday, Nov. 16 from Launch Complex 39B at NASA's Kennedy Space Center in Florida.

Cover photo: NASA/Chris Coleman, Kevin Davis.

Inside cover: NASA/Ben Smegelsky



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INTRODUCTION

Welcome

Welcome to the first edition of the Annual State of NASA Procurement Report! Previously, we published two separate reports - The State of NASA Procurement Report, which focused on narrative accomplishments during the calendar year, and the Fiscal Year Annual Procurement Report, which focused on metrics for a given fiscal year. This publication combines them to make it easier for everyone to review OP's overall accomplishments, operations, and performance. We have also made some changes to provide better insight into our operations, such as providing trend analysis on our spend under management from year to year and analyzing our average competition rate. Additionally, we have included a spotlight on our Centers to highlight what we value most—our people.

This year our report highlights the work, milestones, and achievements that have been accomplished by the Office of Procurement (OP) in Fiscal Year (FY) 2022. I'm incredibly proud to be part of the 4,300-member acquisition workforce whose accomplishments provide the cornerstone of NASA's current and future missions.

In FY22, OP commenced a series of transformation initiatives, including the standardization of various policies and tools, the institutionalization of how we manage the OP enterprise, and the development of the procurement workforce. Simultaneously, OP played a significant role in executing NASA's largest budget in history. NASA obligated over \$19.9B and executed over 26,600 contract actions. NASA also achieved \$6.8B in Spend Under Management (SUM) during FY22 and, as compared to FY21, NASA increased its Best-in-Class (BIC) obligations from \$160.3M to \$198.9M, a \$38.6M increase. FY22 financial assistance efforts were outstanding; NASA awarded 2,000 grants/cooperative agreements valued in excess of \$800M in support of numerous missions across all of NASA.

As I reflect on the Office of Procurement's greatest successes from the past fiscal year, I am inspired by the collaboration between our industry partners and our acquisition workforce to successfully execute elements of the Moon to Mars strategy, such as the Artemis I launch, awarding the Mars Ascent Vehicle Integrated System (MAVIS), developing options for the Human Landing System (HLS), and capturing never-before-seen glimpses of merging galaxies via the Webb Telescope.

Our accomplishments also served to advance equity in the procurement process. Over the past year we have exceeded NASA's Small Business goal, championed several new Diversity, Equity, and Inclusion initiatives, and conducted analyses to understand the barriers to doing business with NASA.

Here at the Office of Procurement we are excited about upcoming opportunities to pursue innovation through our NASA Acquisition Innovation Launchpad (NAIL) and using data analytics to improve our processes and business deals. I hope you are as inspired as I am to see what's next in our procurements that will enable human exploration to the Moon and Mars!

Sincerely,



Karla Smith Jackson

Senior Procurement Executive, Deputy Chief Acquisition Officer,
and Assistant Administrator of Procurement





In this view looking up, NASA's crawler-transporter 2 – adorned with an Artemis banner – can be seen bearing the weight of the agency's Artemis I Moon rocket and mobile launcher as it carries the duo to Kennedy Space Center's Launch Complex 39B in Florida on June 6, 2022.

Photographer: NASA/Ben Smegelsky

Acknowledgements

We would like to express our deepest gratitude to the remarkable individuals who have contributed their time, knowledge, and expertise to bring this first edition report to life. This publication stands as a testament to the incredible acquisition accomplishments and contributions that have propelled the Agency's mission forward throughout the fiscal year.

We extend our sincere appreciation to the dedicated team members from each NASA Center who have shared their accomplishments, insights, and innovative best practices, which have undoubtedly enriched both this publication and our collective understanding of the federal government's procurement landscape.

To our editors, proofreaders, and designers who have diligently worked to ensure the report's clarity, accuracy, and visual appeal, we are immensely grateful for your unwavering commitment to excellence.

Furthermore, we would like to acknowledge the leadership and support of our OP colleagues and NASA executives who have guided us in our pursuit of excellence, fostering a culture of collaboration, innovation, and continuous improvement.

Lastly, we express our heartfelt thanks to every member of the enterprise procurement workforce who has played a part in achieving the milestones and successes documented within these pages. Your dedication, hard work, and passion for NASA's mission are truly inspiring.

Together, we have created a report that not only celebrates our achievements but also serves as a beacon of inspiration for future endeavors. It is an honor to share this journey with each one of you, and we look forward to continued growth, success, and innovation in the years to come.

With our warmest regards and deepest gratitude,

The FY2022 State of NASA Annual Procurement Report Team

Overview & Background

Overview

The NASA Office of Procurement oversees the acquisition process to support successful accomplishment of the Agency's current and future missions. It provides policy, oversight, and optimization of procurement resources, and it supports Mission Directorate acquisition strategies to enable more efficient operations for the Agency.

Purpose of the Publication

Overview of the accomplishments and achievements of the NASA Office of Procurement.

Office of Procurement Mission Statement

Acquisition excellence in an evolving environment.

Office of Procurement Vision Statement

Explore and execute innovative, effective, and efficient acquisition business solutions to optimize capabilities and operations that enable NASA's missions.

Background

For the first time, the State of NASA Procurement Report has been combined with the Annual Procurement Report, resulting in the 2022 Annual State of NASA Report. The narratives submitted below are drafted by fiscal year.

The Four Ps

The Office of Procurement continued with the implementation of our transformation efforts approved under the Mission Support Future Architecture Program (MAP) in 2019 by moving forward with the realignment of the organization from a decentralized operating model to an enterprise operating model focusing on four key areas known as the Four Ps:

People (roles and responsibilities), Procure, Process, and Policies.

This strategic approach to operations established a nationalized procurement workforce that will continue to reduce procurement lead times and standardize policies, procedures, processes, and information technology platforms, which will increase productivity and proficiencies and establish a common user experience.

While the Office of Procurement continued to make significant progress with our transformation efforts, the organization pivoted to the next logical step in our transformation efforts—performance reporting. Performance-level reporting is an increasingly important mechanism for monitoring the success of our new service delivery model.

In this vein, the Office of Procurement developed and ultimately received Agency approval of our new Baseline Performance Measures that represented clear, measurable baseline commitments as follows:

- **Return on Investment (ROI):** Show value of Procurement to the Agency through obligations to cost ratio and demonstrate competitive obligation efficiency.
- **Procurement Administrative Lead Time (PALT):** Reduce PALT.
- **Unfinalized Contract Actions (UCAs):** Reduce overage UCAs (>180 days).
- **Contract Closeout:** Reduce backlog Contract Closeout inventory.
- **Category Management:** Increase utilization of Spend Under Management (SUM) and Federal Best-in-Class (BIC) contracts.
- **Customer Satisfaction:** Improve performance based on annual internal customer satisfaction survey and the annual external government-wide Customer Satisfaction Survey.

Procurement Overview

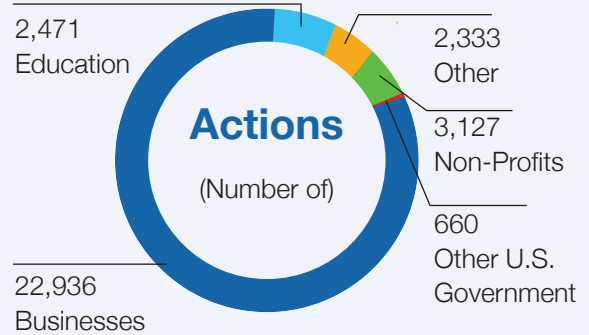
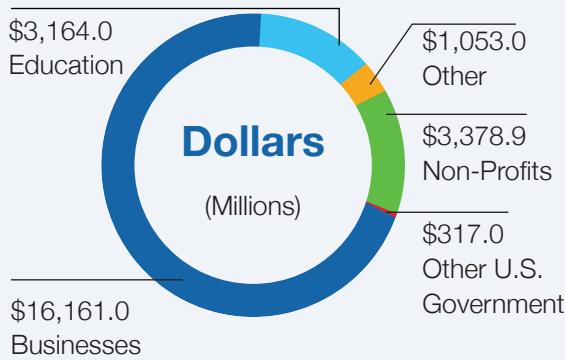
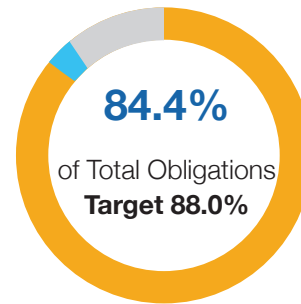
In 2022

- NASA's procurements totaled over **\$19.9 billion**.
- The number of procurement actions totaled over **26,000**.

Trends in Awards

Fiscal Year	Procurement Obligations (in millions)
2022	\$19,913.3
2021	\$19,288.6
2020	\$19,679.2
2019	\$19,514.4
2018	\$19,196.7

Spend Under Management



Category	Dollars Obligated	Number of Actions
Large Business	\$12,623,667,207.73	8,875
Small Business	\$3,537,388,360.58	14,061
Education	\$3,164,052,809.33	2,471
Other	\$1,053,072,212.59	2,333
Minority-Owned	\$2,143,839,141.60	5,885
Other U.S. Government	\$317,006,775.83	660
Non-Profit	\$3,378,916,906.29	3,127
AbilityOne	\$21,876,721.92	116

Competition in NASA Awards

A. Competition in Contracting Act

The Competition in Contracting Act (P.L. 98-369), with limited exceptions, requires full and open competition within the Federal Government. Full and open competition means that all responsible sources are permitted to submit sealed bids or competitive proposals on a given procurement.

Contracting without providing for full and open competition is allowable under certain circumstances. Written justification is required to award a procurement on an other than full and open competition basis.

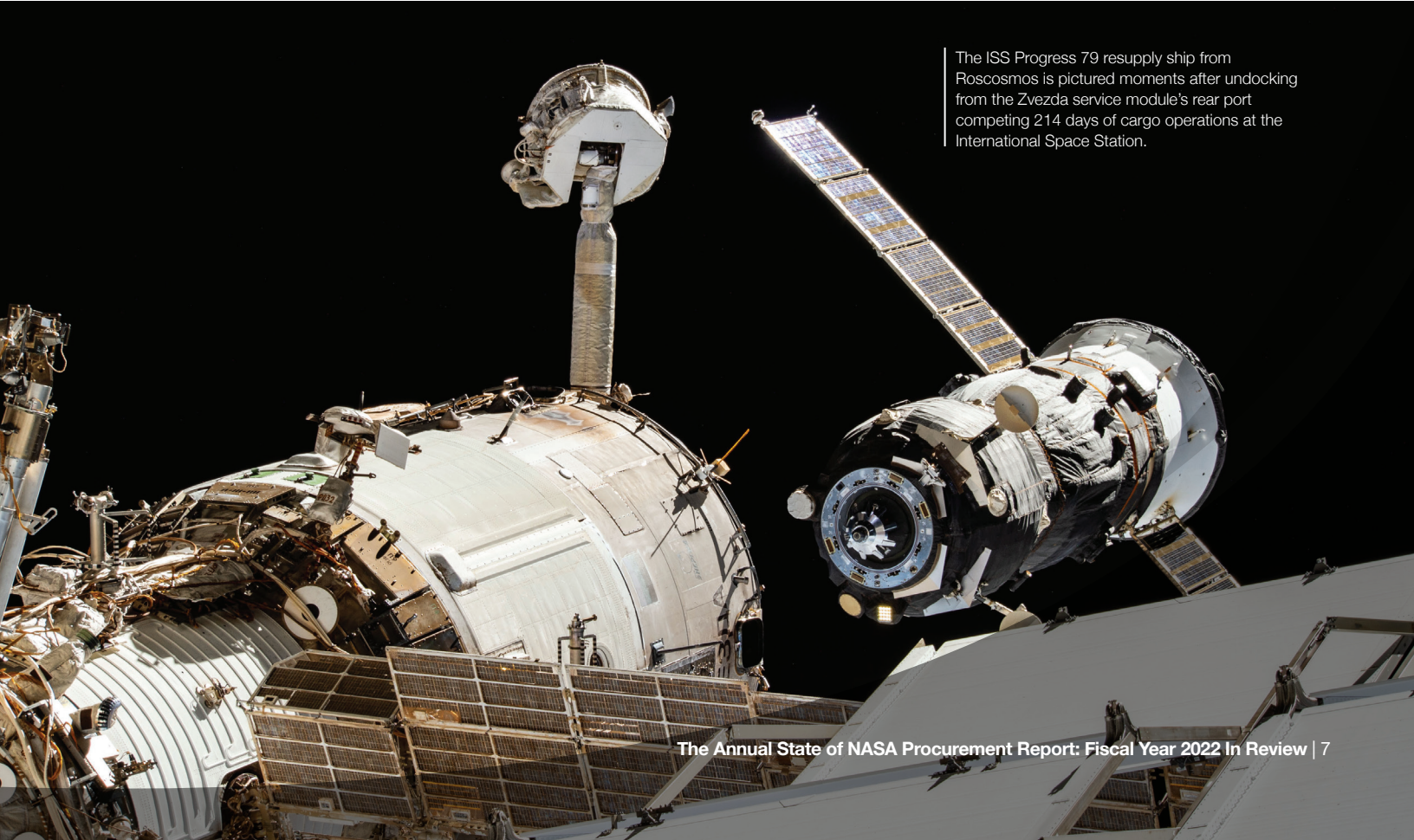
B. Reporting of Competition

NASA developed a competition advocacy program to enhance and promote competition and to eliminate barriers to full and open competition. NASA has appointed an Agency competition advocate to oversee the program, and each NASA Center has a designated competition advocate. Federal agencies are required to prepare and submit an annual report to the agency Senior Procurement Executive and the Chief Acquisition Officer in accordance with agency procedures.

C. Competition During Fiscal Year 2022

Appendix II shows competition in NASA awards to business firms for all fiscal years beginning with 1961.

Completed Actions	19,007
% Completed Actions	71.3%
Completed Dollars	\$13,535,912,425.51
% Completed Dollars	67.6%
Not Completed Actions	7,648
% Not Completed Actions	28.7%
Not Completed Dollars	\$6,477,371,900.27
% Not Completed Dollars	32.4%



The ISS Progress 79 resupply ship from Roscosmos is pictured moments after undocking from the Zvezda service module's rear port competing 214 days of cargo operations at the International Space Station.

INTRODUCTION

Trends

Competition Trends

NASA's number of competed actions and competed dollars, against total actions and total dollars awarded in a fiscal year, overall have slowly increased since 2019 in all but one year. Competed actions from 2019 to 2022 have increased from 17,385 (68.54%) to 19,007 (71.3%) and competed dollars also increased from \$11.97B (65.88%) to \$13.53B (67.6%). Over the last 5 years, NASA's competed actions average 18,325 (69.31%) and competed dollars average \$12.8B (67.95%).

Year	Competed Actions	% Competed Actions*	Trend	Competed Dollars	% Competed Dollars*	Trend
2018	20,735	68.98%	↓	\$12,155,347,113.31	67.36%	↓
2019	17,385	68.54%	↓	\$11,973,329,381.05	65.88%	↓
2020	17,724	70.19%	↑	\$13,120,524,575.37	69.01%	↑
2021	17,455	69.52%	↓	\$13,410,481,615.57	69.54%	↑
2022	19,007	71.3%	↑	\$13,535,912,425.51	67.6%	↓
AVG	18,325	69.31%		\$12,839,119,022.16	67.95%	

*as compared to total actions/dollars in FY




Image taken by the James Webb Telescope of the Carina Nebula. This was one of the first images taken by the telescope that was released to the public in 2022.

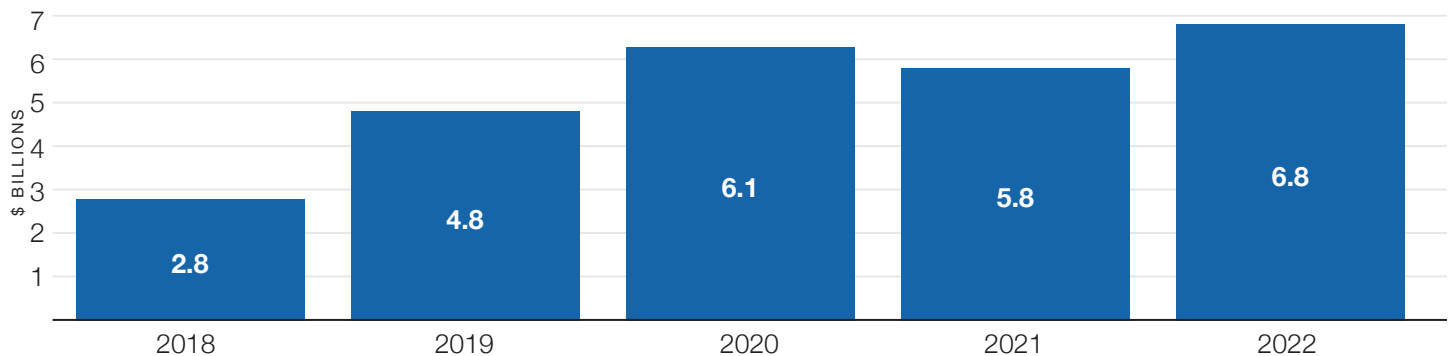
Credit: NASA, ESA, CSA, STScI, Megan Reiter (Rice University), with image processing by Joseph DePasquale (STScI), Anton M. Koekemoer (STScI)

Category Management Trends

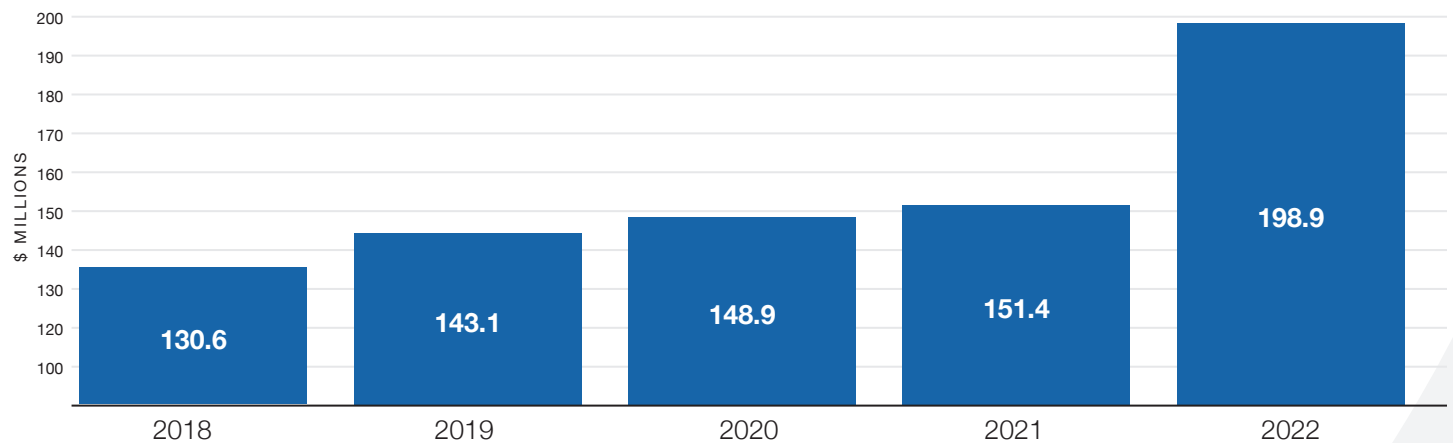
In Fiscal Year 2022 (FY22), NASA obligated \$8B in government-wide common spend categories. Of that \$8B, NASA's SUM was \$6.8B (84.4%) as compared to \$5.8B (75.4%) in FY21. This reflects an increase of \$1B in managed spend. As compared to FY21, NASA increased its BIC obligations by \$47.5M in FY22, which resulted in achievement of 2.5% BIC. NASA trained 321 individuals in category management practices, which exceeded the target set by OMB/OFPP by 18.5%.

To learn more please refer to the Category Management section on page 36.

Spend Under Management (SUM)



Best in Class Obligations (BIC)



¹ Spend Under Management (SUM) is the percentage of an agency's spending obligated on agency-wide (Tier 1), multi-agency (Tier 2) or BIC (Tier 3) contracts; or contracts awarded to socioeconomically disadvantaged small businesses (Tier 2-SB).

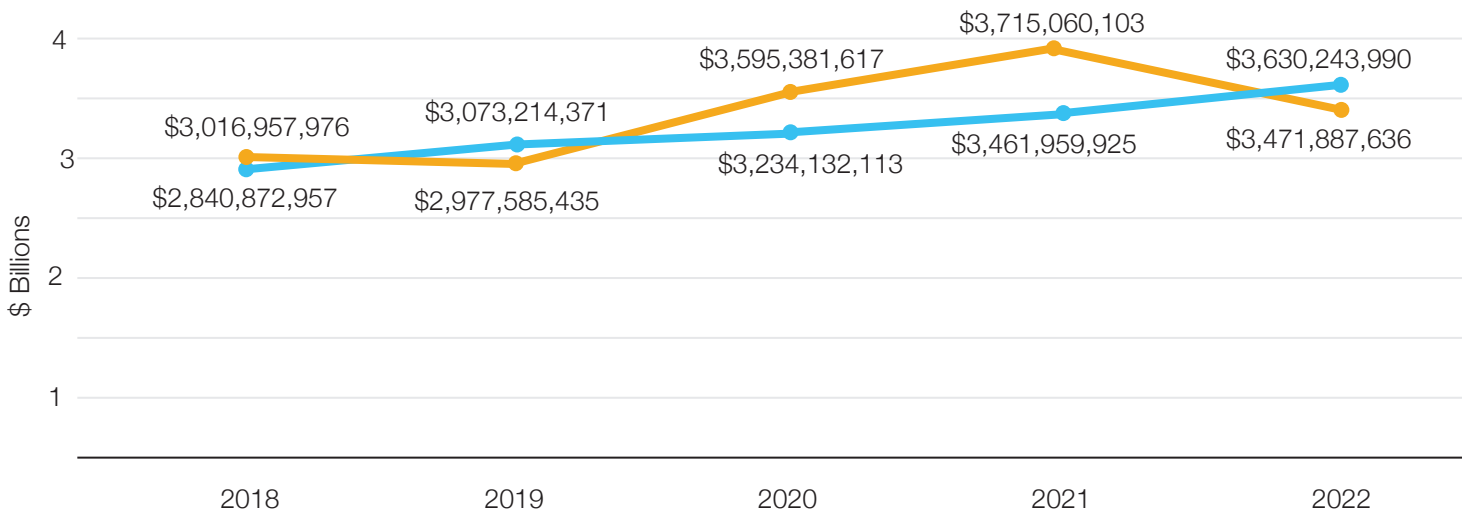
² Best-in-Class (BIC) refers to tier 3 contracts available for use government-wide that have been vetted by solution owners, agency users, and subject matter experts resulting in a designation as BIC by OMB.

³ Category Management is the business practice of buying common goods and services as an enterprise to eliminate redundancies, increase efficiency, and deliver more value and savings from the government's acquisition programs.

⁴ The Office of Management and Budget (OMB) sets annual, agency-specific goals for the Category Management Key Performance Indicators (KPIs) as required to achieve the government-wide KPI goals set by the president's management agenda. The primary KPIs are Spend Under Management (SUM) and Best-in-Class (BIC) and Training.

INTRODUCTION

NASA Prime and Subcontracting Dollars Trends*



*FY22 subcontracting is not yet available.

	FY2018 \$B	FY2019 \$B	FY2020 \$B	FY2021 \$B	FY2022 \$B	Δ FY18 - FY22 %	Δ FY18 - FY22 \$	Δ FY21 - FY22 %	Δ FY21 - FY22 \$
Prime	\$2.8	\$3.0	\$3.2	\$3.4	\$3.6	27.8%	\$789.3M	4.9%	\$168.2M
Subcontracting	\$3.0	\$2.9	\$3.5	\$3.7	\$3.4	15.1%	\$454.9M	-6.5%	-\$243.1M
Total SB	\$5.8	\$6.0	\$6.8	\$7.1	\$7.1	21.2%	\$1.2B	-1.0%	-\$74.8M
NASA Total Spend (obligations)	\$17.0	\$17.6	\$18.4	\$19.0	\$19.7	15.6%	\$2.6B		

Small Business Trends

NASA's total dollars awarded to small business prime contractors and small business subcontractors have increased since fiscal year 2018. In 2018 NASA small business prime dollars (contract awarded directly to a small business) was \$2.8B and small business subcontractor dollars were \$3.0B. Between 2018 and 2022, small business prime dollars increased \$789M (27.8%) and small business subcontracting dollars increased \$454M (15.1%). Since 2018 NASA total dollars awarded to small businesses (prime and subcontractor) have increased by more than \$1.24B (15.6%).

These noteworthy increases in small business dollar (prime & subcontractor) were achieved even though NASA's total spend only increased by 11.7% (2018 -2021) and 15.64% (2018-2022). NASA's successes are largely attributable to its robust engagement with industry (large and small businesses). Such engagement fosters networking and relationship-building between primes and potential subcontractors. The Small Business Industry Awards program and NASA's Mentor-Protégé Program are examples of how NASA encourages large prime contractors to increase their small business subcontracting partnerships. The above factors along with NASA's achievements within each of the five small business category and overall program implementation have contributed to the Small Business Administration (SBA) recognizing NASA's Small Business Program as an A continually since 2017.

Small Business Participation

Total Small Business

During FY22, NASA's awards to small business firms exceeded \$3.5B (below). The number of actions going to small business represents 17.8% of all business actions.

Small Business Programs and Categories

(1) Small Business Set-Asides

Small business set-asides are defined as competitive awards that are limited only to small businesses. The small business set-aside program continues to exert a strong influence on the capability of small business firms to participate in the space program. In FY22, these set-asides exceeded \$2.1B.

(2) Section 8(a) Business Development Program Awards

NASA awards contracts under the Small Business Administration (SBA)'s 8(a) program to eligible firms (typically small disadvantaged businesses). Awards are made on either a competitive or a sole-source basis. In FY22, 8(a) awards totaled \$767.4M.

(3) Small Business Innovation Research (SBIR)

The Small Business Innovation Research (SBIR) program is a highly competitive program that encourages domestic small businesses to engage in Federal Research/Research and Development (R/R&D) that has the potential for commercialization. During FY22, NASA awarded 1,788 SBIR contracts totaling \$298.3M. Of this amount, 373 were Phase I and totaling \$42.2M, 895 Phase II totaling \$132.2M, 520 were Phase III totaling \$123.9M.

(4) Small Business Technology Transfer (STTR)

The Small Business Technology Transfer (STTR) program expands public-/private-sector partnerships, including joint venture opportunities for small businesses and non-profit research institutions. STTR's most important role is to bridge the gap between performance of basic science and commercialization of resulting innovations. During FY22, NASA awarded 295 STTR contracts.

(5) Women-Owned Small Business Participation

In accordance with Executive Order 12138, Women's Business Enterprise, NASA extends a particular effort to ensure that business firms owned and controlled by women have an equitable opportunity to participate in NASA's procurement program. In FY22, Women-Owned Small Business firms received prime contract awards totaling \$858.5M.

(6) HUBZone Small Business Awards

NASA awarded \$200.8M to HUBZone Small Business concerns in FY22.

(7) Veteran-Owned Small Business Awards

In FY22, NASA awarded \$312.8M to Veteran-Owned Small Businesses.

Notable Accomplishments:

Information Technology Procurement Office (ITPO)

FY22 marked the first year that ITPO worked towards a formal set of small business goals where the office met or exceeded all its goals in the first year of execution.

Kennedy Space Center (KSC)

In September 2022, KSC received the NASA Small Business Administrator's Cup Award for the second year in a row for having the best overall small business program in the Agency.

Marshall Space Flight Center (MSFC)

MSFC continues to lead the Agency's Mentor Protégé Program (MPP) with 19 out of 45 Agreements implemented since 2008. MSFC continues to establish MPP relationships between NASA Prime Contractors and Small Businesses through targeted outreach with our industry partners. Mentor Protégé Programs have allowed the emergent small business community to acquire past performance, leverage best practices, and gain an understanding of procurement processes and business acumen.

NASA Shared Services Center (NSSC)

In FY22, the NSSC met all SBA minimum goals for each socio-economic category for the first time. This is an incredible accomplishment in the short 16-year history of the NSSC. Moreover, it's also noteworthy to mention the NSSC has also met the SBA SDVOSB minimum goal of 3% four consecutive years. In summary, the NSSC OP achieved an overall award percentage of 75.2% of the eligible dollars to small businesses, exceeding our FY22 goal of 74.3% by almost 1%.

Stennis Space Center (SSC)

SSC notably exceeded all its FY22 Small Business (SB) and Sub-Category Goals, and received several Small Business Awards. The SSC 2021 Small Business Industry Awards recognized two Small Business Prime Contractors of the Year, the Small Business Subcontractor of the Year, and the Small Business Technical Person of the Year. Another SSC contractor received the U.S. SBA's 2022 Southeast Region Small Business Federal Contractor of the Year Award.

INTRODUCTION

Small Business Participation

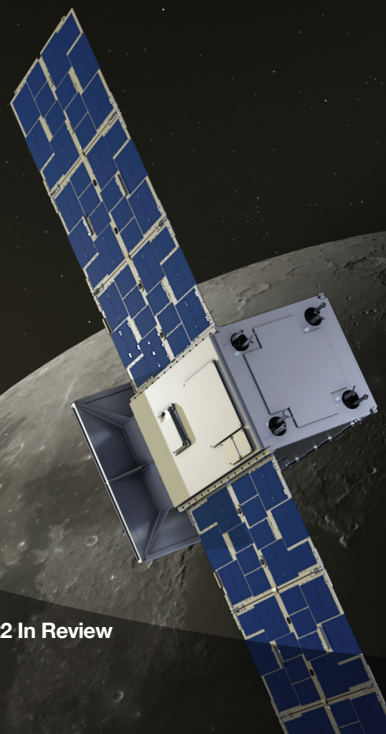
Total Small Business Eligible Actions	26,621
Total Small Business Eligible Dollars	\$19,892.2B
Small Business Actions	14,032
Small Business Dollars	\$3,535.5B
Small Business Percentage	17.77%

Small Business Achievements by Awarding Organization

Category	Dollars Obligated	Actions (Number of)	% of Total Obligations
Small Disadvantaged Business	\$1,588,328,857	5,871	7.98%
8(a) Program Small Business	\$767,437,765	1,642	3.85%
Veteran-Owned Small Business	\$312,840,833	1,975	1.57%
Service-Disabled Veteran-Owned Small Business	\$289,034,440	1,560	1.45%
Woman-Owned Small Business	\$858,495,173	3,715	4.31%
Certified HUBZone Small Business	\$200,785,321	1,433	1.00%

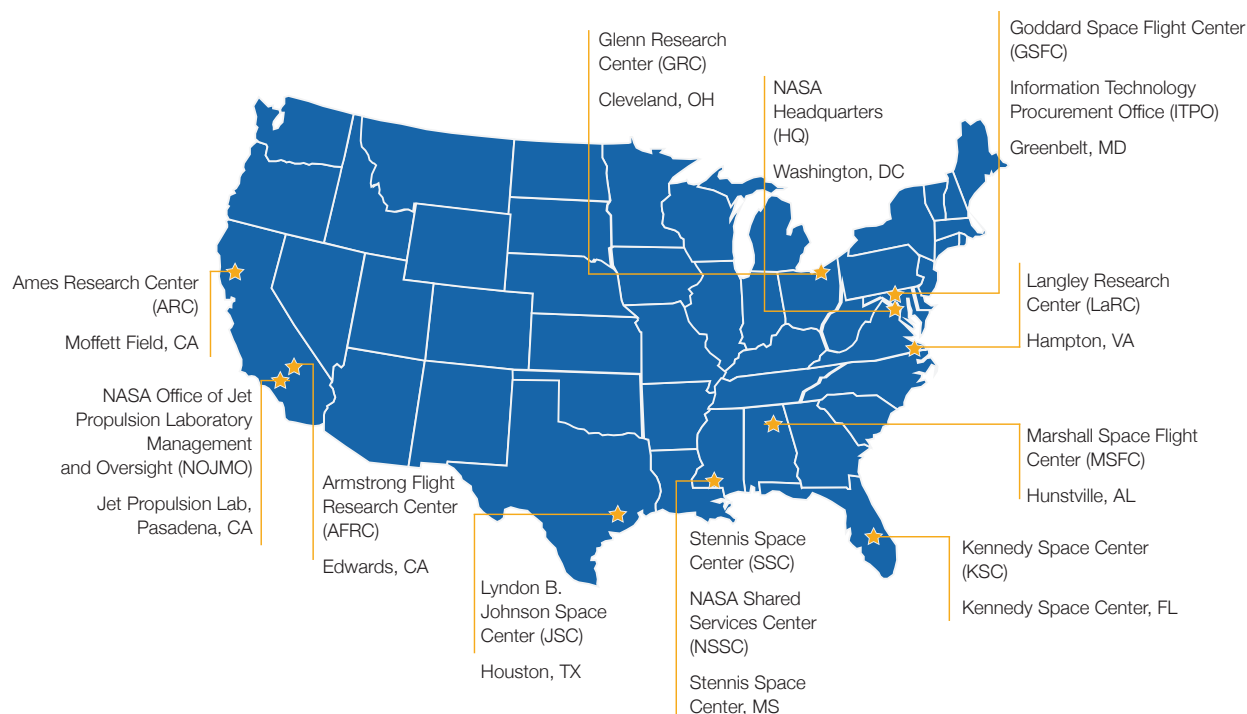
CAPSTONE, a microwave oven-sized CubeSat, will fly in cislunar space – the orbital space near and around the Moon. The mission will demonstrate an innovative spacecraft-to-spacecraft navigation solution at the Moon from a near rectilinear halo orbit slated for Artemis' Gateway. Illustration by Daniel Rutter.

Illustration: Daniel Rutter



Activity by Procurement Office Location

Most of NASA's purchases and contracts are made by the procurement offices located at their field installations.



Category	Dollars Obligated	Actions
Ames Research Center	\$454,662,511	1,066
Armstrong Flight Research Center	\$273,418,632	659
Glenn Research Center	\$633,158,202	1,740
Goddard Space Flight Center	\$2,989,076,956	3,125
NASA Headquarters	\$233,589,263	1,025
Information Technology Procurement Office	\$709,089,450	1,864
Johnson Space Center	\$4,675,669,609	2,810
Kennedy Space Center	\$1,792,320,281	1,589
Langley Research Center	\$429,348,635	1,218
Management Office - APL/JPL	\$2,629,563,189	1,808
Marshall Space Flight Center	\$4,189,293,440	2,461
NASA Shared Services Center	\$667,254,932	6,916
Stennis Space Center	\$236,888,556	502
Total	\$19,913,333,662	26777

INTRODUCTION

Awards by Type - PSC

PSC Category (Description)		Total Actions	% Total Actions	Total Dollars	% Total Dollars
Products	1	1,368	5.11%	\$1,356,892,517.13	6.81%
	2	53	0.20%	\$74,210,333.08	0.37%
	3	174	0.65%	\$6,002,072.80	0.03%
	4	103	0.38%	\$3,936,924.49	0.02%
	5	205	0.77%	\$14,522,464.76	0.07%
	6	1,080	4.03%	\$178,584,306.49	0.90%
	7	1,108	4.14%	\$21,325,188.63	0.11%
	8	19	0.07%	\$869,221.29	0.00%
	9	428	1.60%	\$85,910,957.75	0.43%
Research and Development (R&D)	A	8,637	32.25%	\$10,830,125,208.62	54.36%
Services other than R&D	B	359	1.34%	\$162,425,025.91	0.82%
	C	722	2.70%	\$138,335,770.88	0.69%
	D	669	2.50%	\$583,425,556.18	2.93%
	E	1	0.00%	\$-	0.00%
	F	138	0.52%	\$19,567,586.57	0.10%
	G	6	0.02%	\$72,264.91	0.00%
	H	280	1.05%	\$21,332,049.35	0.11%
	J	471	1.76%	\$125,403,685.61	0.63%
	K	76	0.28%	\$15,610,982.73	0.08%
	L	13	0.05%	\$388,349.44	0.00%
	M	394	1.47%	\$347,454,621.88	1.74%
	N	29	0.11%	\$1,577,462.10	0.01%
	P	9	0.03%	\$65,413.63	0.00%
	Q	86	0.32%	\$6,821,261.98	0.03%
	R	4,679	17.47%	\$2,614,378,415.74	13.12%
	S	878	3.28%	\$323,056,925.15	1.62%
	T	32	0.12%	\$646,432.25	0.00%
U	284	1.06%	\$22,024,825.71	0.11%	
Services other than R&D	V	356	1.33%	\$1,864,383,243.02	9.36%
	W	40	0.15%	\$20,717,669.39	0.10%
	X	20	0.07%	\$591,730.17	0.00%
	Y	888	3.32%	\$233,975,154.02	1.17%
	Z	770	2.87%	\$260,684,890.69	1.31%
No Category Specified		2,408	8.99%	\$588,265,228.79	2.95%
Total		26,783		\$19,923,583,741.14	


Top 25 NASA Contractors

1. California Institute of Technology
2. Space Exploration Technologies Corp
3. Boeing Company
4. Lockheed Martin Corporation
5. Jacobs Technology Inc
6. Orbital Sciences Corporation
7. KBR Wyle Services LLC
8. Science Applications International Corporation
9. Northrop Grumman Systems Corporation
10. Leidos Inc
11. The Johns Hopkins University Applied Physics Laboratory LLC
12. Aerojet Rocketdyne of DE Inc
13. ATK Launch Systems Incorporated
14. Science Systems and Applications, Inc
15. Peraton, Inc
16. Raytheon Company
17. Maxar Space, LLC
18. Syncom Space Services LLC
19. Ball Aerospace & Technologies Corp
20. Association of Universities for Research In Astronomy Incorporated
21. Sierra Nevada Corporation
22. Hamilton Sundstrand Space Systems International Inc
23. Astrobotic Technology, Inc
24. KBRWyle Technology Solutions LLC
25. ATA Aerospace LLC

Top 25 Small Businesses

1. Science Systems And Applications Inc
2. Astrobotic Technology Inc
3. Ata Aerospace LLC
4. Asrc Federal System Solutions LLC
5. Intuitive Machines LLC
6. ASRC Federal Data Solutions LLC
7. Alcyon Technical Services (Ats) Jv LLC
8. Analytical Mechanics Associates Inc
9. Barrios Technology Ltd
10. Sierra Lobo Inc
11. Yulista Tactical Services LLC
12. Healtheon Inc
13. Adnet Systems Inc
14. Arctic Slope Technical Services Inc
15. Icon Technology Inc
16. Aerie Aerospace LLC
17. Agile Decision Sciences LLC
18. Hx5 LLC
19. Hx5 Sierra LLC
20. Bastion Technologies Inc
21. Zin Technologies Inc
22. Firefly Aerospace Inc
23. Aerodyne Sgt Engineering Services LLC
24. Bqmi Peerless Joint Venture LLC
25. Chenega Infinity LLC

Refer to Appendix for additional information pertaining to NASA Awards.



Both halves of the Falcon 9 rocket's protective payload fairing moves toward NASA's Double Asteroid Redirection Test (DART) spacecraft. The payload fairing, with the spacecraft securely inside, was attached to the top of the Falcon 9 and protected the spacecraft during launch and ascent. DART was the first mission to test technologies for preventing an impact of Earth by a hazardous asteroid.

Photographer: NASA/Johns Hopkins APL/Ed Whitman

People

Develop, train, inspire, and motivate the acquisition workforce.

Priorities and Accomplishments



“I am privileged to lead this amazing organization of talented procurement professionals! Whether you are a contract specialist, cost/price analyst, policy/ebusiness/program analyst, contracting officer, supervisor, or executive leader—your dedication and professionalism makes the impossible possible at NASA!”

Karla Smith Jackson

Senior Procurement Executive, Deputy Chief Acquisition Officer, and Assistant Administrator of Procurement



Create a nationalized acquisition workforce that implements an enterprise-wide acquisition workforce model that leverages employee skills and capacity across the Agency.



NASA established a robust Enterprise Warrant Program and Enterprise Mentoring Program as Leading Initiatives for its Acquisition Workforce.



Enhance acquisition career development and leadership training by promoting a culture of growth and learning.

FY22 Office of Procurement Enterprise Awards

The OP Enterprise Awards recognizes individuals for their outstanding accomplishments that affected the entire Enterprise and were selected after a thorough and extensive screening process. The FY22 recipients are as follows:

Contract Specialist of the Year (POST-AWARD)

SSC: Sarah Maine

Contract Specialist of the Year (PRE-AWARD)

JSC: Rogelio Curiel

Contract Specialist of the Year (PRE-AWARD)

LaRC: Lashonda Jacobs-Terry

Grants and Agreements Support Specialist of the Year

JSC: Kelly Rubio

Procurement Analyst of the Year

ITPO: Meredith Link

Procurement Support Person of the Year

GSFC: Trina Haffelfinger

Cost/Price Analyst/Auditor of the Year

JSC: John Moore

Procurement Supervisor of the Year

GSFC: Eric Newman

Contracting Officer's Representative of the Year

JSC: Mihriban Whitmore

Early Career Contract Specialist of the Year

MSFC: Logan Ojermark

Group Award: Award-Aircraft Operations & Maintenance Product Service Line Procurement Team:

JSC:

- Alice Pursell
- Roger Roberts

AFRC:

- Angela Stinchfield
- Rosalia Toberman

HQ:

- Lakeeta Young-Hill
- Richard Schlatter

Procurement Team:

- **AFRC:**
 - James Eastman
 - James Williams
 - Melissa Newell
 - Nydia Neris
 - Rachel Holland

▪ JSC:

- Jose Garcia
- Charles Bell
- Darrell Compton
- Tiffany Goodwin

▪ LaRC:

- Susan McClain
- Lisa Harvey
- Joseph Janus

▪ GSFC:

- Mary Stevens
- Kyle Vann

▪ GSFC (Wallops):

- Therese Patterson
- Alisha Mercadante

Technical Team:

▪ LaRC:

- Sharon Hare

▪ GSFC (Wallops Flight Facility):

- Sylvia Bell
- Michael Cropper

▪ HQ:

- Jamal Abbed
- Yen Tzu-hsien

FY22 Acquisition Improvement Awards

The Acquisition Improvement Awards reward NASA individuals for creating and implementing improved results on individual contracts, or innovative changes in contracting processes that save resources and enhance mission attainment. The FY22 recipients are as follows:

Exploration Extravehicular Activity Services Contract: Lyndon B. Johnson Space Center

- Christian Gaspard
- Michael Boggs
- Stephanie Flint
- Stephen P. Gawenis
- Anne C. McClain
- Richard E. Watson
- Tyrone M. Wright
- Scott C. Wenger
- Mark Wiese
- Elizabeth E. Blok
- Jonathan S. Miller
- Paul D. Dum
- Colin S. Campbell
- Richard A. Rhodes
- Brandan R. Robertson
- Brian K. Alpert
- Randall S. Robinson
- Warnecke Miller
- Audrey Montgomery

Venture-Class Acquisition of Dedicated and Rideshare: John F. Kennedy Space Center

- Ana Rivera
- Kathy L. Owen
- Jason R. Siewert
- Liam J. Cheney
- Alicia Mendoza-hill
- Robert F. Paterson
- Leticia Gomez
- Samantha Johnson
- Amy Bowden
- Merri A. Stowe
- William C. Atkinson
- Mark K. Jensen
- Caley A. Burke
- William G. Shockley

People Accomplishments

Acquisition Workforce Data: No. Warranted and No. Certified

In FY22, NASA had approximately 4,312 acquisition professionals. This included approximately 743 procurement professionals that are in the 1102 Contracting Series with position titles of Contract Specialist, Contracting Officer, Contract Price/Cost Analyst, Procurement Analyst, and more. Other series that support contracting activities include the 1101 General Business and Industry Series and the 1105 Purchasing. NASA has 3,403 Contracting Officer Representatives (CORs) and on average, 166 Program/ Project Managers (P/PM).

Out of the 743 procurement professionals that are in the 1102 Contracting Series, 94% are FAC-C certified. NASA's acquisition workforce is FAC-C certified: Level III at 65%, Level II at 23%, and Level I at 12%. 68% (510/743) of the NASA 1102 workforce have warrants.

	Level:			
	I	II	III	Total
Number of Certifications for 1102s	85	164	453	702
Percent of Certification Levels	12%	23%	65%	
Percent of 743 Certificated				94%

	1102 Warrants	Total Percentage
Agency Total	510	67%

Acquisition Workforce Training Data

OP's Career Development and Training Program continues to successfully ensure that NASA's acquisition workforce is appropriately trained and certified to support NASA's procurements and programs. The OP hosted acquisition training courses (CON courses, COR courses, webinars, and other continuous learning courses) to support the career development and certification needs of the procurement workforce. In FY22, a total of 269 people became newly certified, earned advanced level, or a specialty certification. Specifically, 133 FAC-Cs, 10 FAC-C Digital Services, 120 FAC-COR, and six FAC P/PM certifications were successfully achieved.

Number of FAC Certification Earned	Level:			Total
	I	II	III	
FAC-C	47	41	45	133
FAC-C DS			10	10
FAC-COR	41	56	23	120
FAC P/PM			6	6
Total FY22 FAC Certification Earned				269

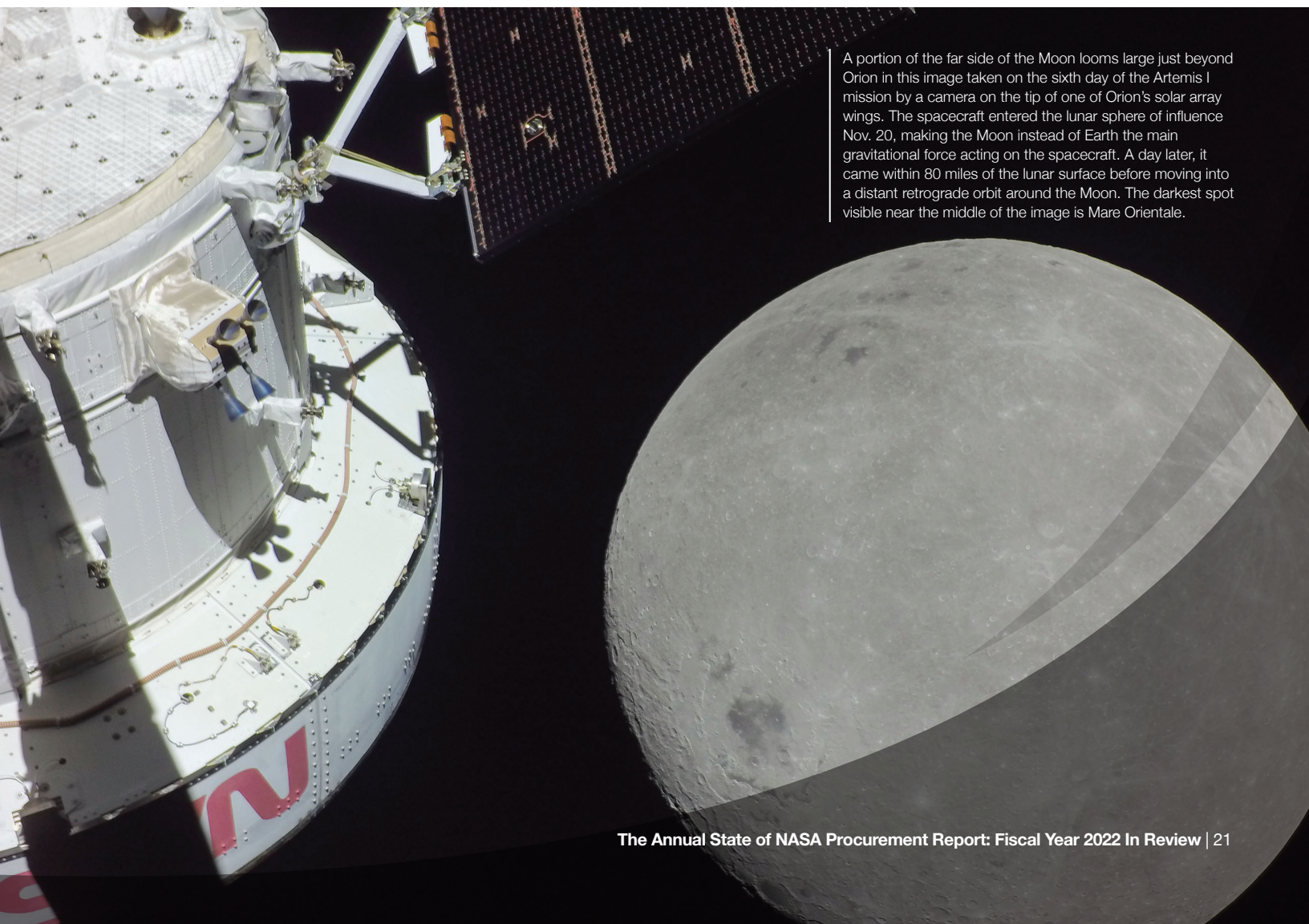
Additionally, OP placed emphasis on providing current, relevant, and timely policy topics and continuous learning courses. OP continues to host the NASA Procurement Quarterly Training series. In FY22, OP hosted several guest speakers and highlighted numerous topics such as, "Steps of Awarding AbilityOne Contracts", "Made in America Executive Order", "NASA Small Business Accomplishments and Goals", Advancing Diversity, Equity, Inclusion and Accessibility for Under-served Communities in Procurement", and "NASA Cat-

egory Management.” The popularity for this virtual resource continues to grow. Over the course of the fiscal year, webinar attendance totaled over 1,500 procurement professionals. Additionally, OP offered numerous COR certification and COR focused continuous learning courses (COR Basic, COR Refresher, etc.) to over 400 CORs.

Enterprise Mentoring Program

In OP’s pursuit to develop the acquisition workforce, the ACM designed the OP’s first Enterprise Mentoring Program (EMP) to build and cultivate a mentoring environment. This program outlined OP’s near-term solution to create a mentoring program exclusively for the procurement community. EMP aimed to assist the procurement workforce with career development, building strategic relations, and expanding organizational awareness. This opportunity was designed for mid to senior-level acquisition professionals that are interested in future leadership opportunities. A cadre of mentors were assembled, ranging from team leads, associate chiefs, divi-

sion directors, and procurement officers. OP’s pilot program matched 50 mentees with mentors from across the centers. Mentoring agreements and mentoring action plans were established to outline the goals, opportunities, and schedule for each mentee-mentor match. EMP is uniquely designed to offer a one-on-one mentoring experience accompanied by on-demand webcast and career development sessions with partnerships that range from six-months to one year. The career development webinars and group mentoring sessions have provided an array of topics such as “Dynamic Mentoring Connections”, “Communicating for Understanding and Influence”, “Emotional Intelligent Leadership”, and “Ask Me Anything Panel”. NASA’s Senior Procurement Executive, Karla Smith Jackson mentored the FY22 cohort intimately by providing an all-hands group mentoring session – “Resumes and Interview Techniques” that highlighted several insightful leadership tips and recommendations. Over 50% of the partnerships established are actively engaging one to two times a month, in meaningful mentee-mentor meetings. Surveyed participants have rated the program 4.5 out of 5 stars.



A portion of the far side of the Moon looms large just beyond Orion in this image taken on the sixth day of the Artemis I mission by a camera on the tip of one of Orion’s solar array wings. The spacecraft entered the lunar sphere of influence Nov. 20, making the Moon instead of Earth the main gravitational force acting on the spacecraft. A day later, it came within 80 miles of the lunar surface before moving into a distant retrograde orbit around the Moon. The darkest spot visible near the middle of the image is Mare Orientale.

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Enterprise Warrant Policy (EWP)

FAR 1.603 and NFS 1801.603 - Warrant Policy and Oversight.

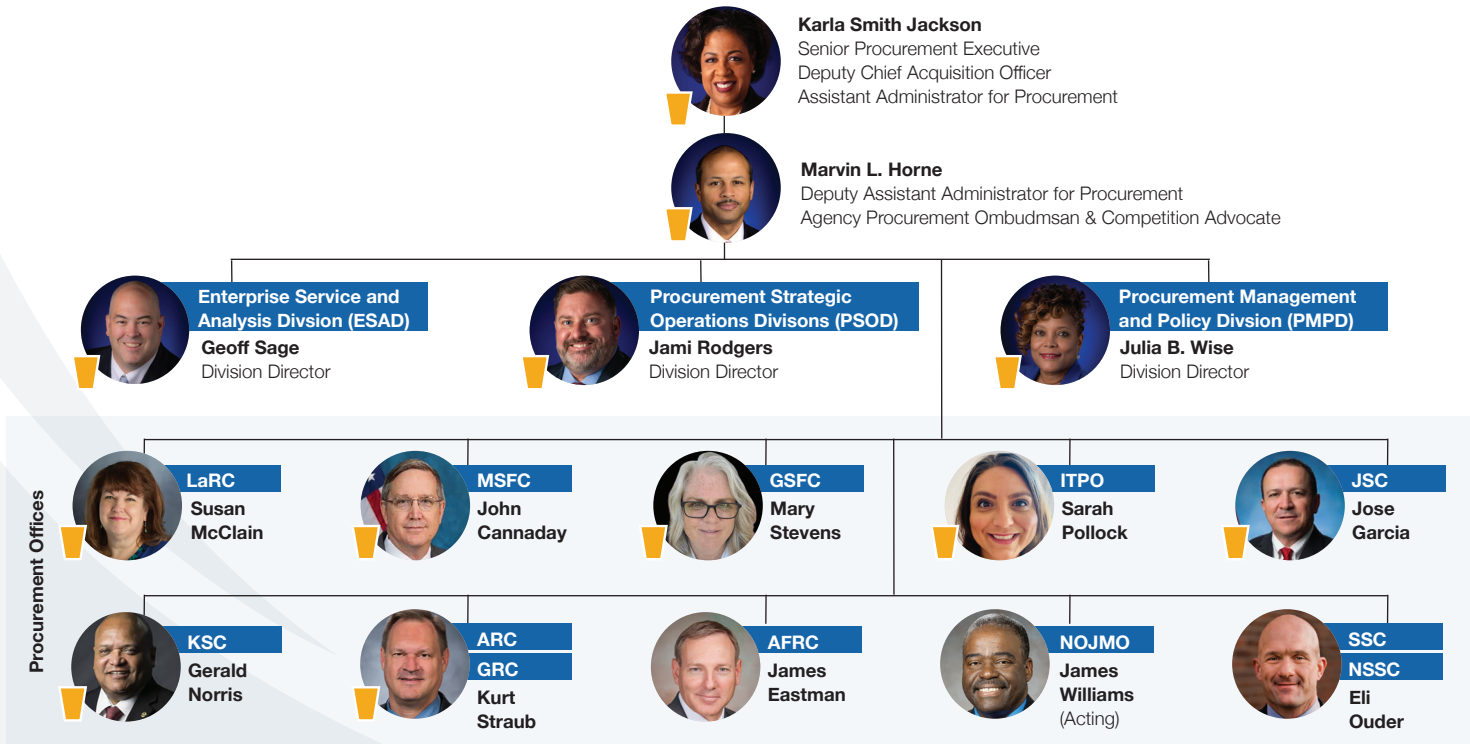
The Office of Procurement (OP) established the Enterprise Warrant Policy (EWP) on November 8, 2021, to regularly provide consistency, efficiency, and transparency in the NASA Contracting Officer warrant process. The purpose of the Office of Procurement Enterprise Warrant Program is to mandate the specific standards which must be met prior to the appointment of contracting officer authority. Federal Acquisition Regulation (FAR) 1.603, Selection, Appointment, and Termination of Appointment for Contracting Officers (COs), NASA FAR Supplement (NFS) 1801.603, and this appendix provide the procedures and policies for the selection, appointment, and termination of contracting officer warrants. The Policy established the first Enterprise Contracting Officer Review Board (CORB), to accomplish an integrated assessment of the candidate's experience, training, education, business acumen, judgment, character, and reputation (see

FAR 1.603-2) and recommend or deny nominations for appointments for class III or IV warrants. The CORB adds value by creating transparency throughout the Enterprise when selecting COs. The CORB members consider the complexity, volume, and dollar value of the acquisitions to be assigned, internal controls, and organizational alignment. Authority is delegated only to the lowest level and dollar amount needed to provide effective and efficient acquisition support to the requesting center and is not based on past delegated authority or position. The EWP centralizes center warrant authority under a single policy.

Grants Policy and Compliance (GPC)

In July 2022, the Agency transitioned Grants Policy and Compliance (GPC) from the Office of the Chief Financial Officer to the OP in the Procurement Management and Policy Division. This realignment aids NASA in strengthening its enterprise management practices by integrating financial assistance management, oversight, and execution under a single organization. With the absorption of GPC, OP gained

Office of Procurement Leadership*



* This organizational chart reflects the organization structure as of March 2023. For the most up to date version of the chart, please visit www.nasa.gov/office/procurement.



a Grants Policy and Compliance Chief and four Senior Analysts focusing on:

- Developing and promulgating federal-wide and NASA-specific grant policy,
- Developing agency-wide grants training,
- Serving as a single point of contact for Inspector General (IG) and Government Accountability Office (GAO) cross-cutting grant audits,
- Developing agency perspective Diversity, Equity, Inclusion, and Accessibility outreach activities,
- Monitoring single audit submissions, findings, and questioned costs,
- Leading compliance supplement activities, and
- Facilitating and coordinating interpretation of external reporting activities

Grant and Cooperative Agreements Manual (GCAM)

Consistent with OP's goal to "deliver policy that is required, clear, and easily implemented", GPC commenced the fiscal year with a November release of NASA's FY22 grant manual—the Grant and Cooperative Agreement Manual (GCAM). The FY22 edition was updated in response to financial statement audit findings, OIG audit recommendations, and feedback received from the internal grants community. The following are some of the high-level updates:

- Additional grant closeout requirements;
- Diversity, Equity, Inclusion, and Accessibility solicitation requirements; and
- New award terms and conditions: Preservation of Lunar Artifacts (One Small Act)

Following the release of the FY22 GCAM, GPC hosted a one-hour learning and training session for the internal grants community to increase awareness and to improve individual and organizational performance following the implementation of new policy.

Enhancing Grants Management Training

In early FY22, the OP's GPC team conducted an agency-wide training needs assessment. The assessment included a survey that gathered data on individuals' preferred training delivery methods, topics of interest, and ways in which GPC

could improve future trainings. GPC found that individuals' training delivery preferences reflected the Agency's broader shift to a hybrid work environment. Respondents expressed interest in learning more about the grants management lifecycle, grant regulations and policies, and ethics in grants. The data indicated a strong demand for an increase of training, similar to the number of trainings annually offered to the contracts. One respondent stated, "We need more efficient and effective training where issues inherent to [grants] can be the focus," and another stated that grants are "important and often misunderstood work," which necessitates more training. As a result of this needs assessment, GPC made significant improvements to NASA's Grant and Cooperative Agreement Training Program. GPC now has the necessary data to support tailoring of its training offerings to better meet customers' needs and interests, and the team has revised its training development plan to focus resources on high priority topics in the future.

In line with the assessment results, GPC developed and released a new virtual training course in the System for Administration, Training, and Educational Resources for NASA (SATERN) entitled "Introduction to 2 CFR: Uniform Guidance," this course provides an overview of the federal regulations that govern grants and cooperative agreements in Title 2 of the Code of Federal Regulations (CFR). The course familiarizes learners with the contents of the regulations and emphasizes how these regulations relate to the day-to-day activities of NASA's grants management personnel. Learners finish the course with a better understanding of how these regulations ensure that NASA's grant recipients are achieving their goals and objectives and how they facilitate NASA's responsible stewardship of taxpayer dollars. Data collected after the training show that it was a success, and most learners passed the course exam with a score of 80%. A post-training survey showed that 81% of learners felt they gained new knowledge and skills from the course, and 100% of learners indicated that they would recommend this course to others performing grant-related functions.

GPC's publication of "Introduction to 2 CFR: Uniform Guidance" – the third training of the 13 courses included in the GPC training plan – addressed a gap identified in the training needs assessment, namely a demand for more training related to federal grants regulations.

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E-Business Systems Office (EBSO)

Under the Enterprise Service and Analysis Division (ESAD), the Office of Procurement established the E-Business Systems Office (EBSO). Led by Mr. Steve Shiplett, Director of the EBSO, the office has cognizance over the NASA Contract Writing System and other E-Business systems that enable the acquisition workforce at NASA, internal and external websites, all efforts to define and govern data (standardization and analysis) that will be used to manage OP services, and the creation of Procurement Dashboards, metrics, and other analytical data tools, that will provide greater insight into the procurement function across the Enterprise.

Enterprise Pricing Office (EPO)

The Enterprise Pricing Office (EPO) is responsible for streamlining of contract closeout, audit services, cost/pricing policies, processes, the cross utilization of cost/pricing resources and training across the Enterprise as it relates to complex cost/price related actions. Led by Rochelle Overstreet, Supervisor of Contract Price/Cost Analyst, the EPO is a creation of a sustainable architecture that promotes an environment of pricing innovation that offers pragmatic pricing solutions that will offer timely and realistic negotiations to ensure the best possible fair and reasonable prices are achieved across NASA's Enterprise.

Agency Source Selection Board Activity (Over \$50M)

EPO is currently providing pricing support to over 45 Source Evaluation Boards (SEBs) valued at \$39B.

Internal Investigations

- Provide pricing support to Agency internal investigations, Fraud/GAO, OIG Internal/External Investigations.
- EPO is also responsible for the contract closeout, audit services, and the Administrative Contracting Officer (ACO) function across the Agency which recently contributed to NASA's FY22 financial audit, for which the Agency received our 12th consecutive clean audit opinion, with no material weaknesses or significant deficiencies.

Coordination and Approval Matrix

The EPO created a coordination and approval matrix to establish a framework/process for documents to be reviewed

from a pricing perspective. As a result, the EPO was able to communicate to all acquisition professionals and acquiring offices as to what documents requires review by a pricing professional based on level of risk to the Agency.

Review and Correspondence Log

The EPO Leadership Team created a review and correspondence log, which is vital to assisting the office management team with tracking and monitoring all request/actions submitted to the EPO for review or pricing/audit assistance. This tool is used to assist the OP programmers with the creation of an automated analysis tool which pulls data from the PALT+ (Procurement Action Lead Time) database on real-time basis.

- Created three tiger teams to target ongoing efforts in support of the operational structure of EPO:
 - **EPO Process Improvement Team** is responsible for reviewing and developing cost/pricing guidance and processes for the Agency, such as work instructions, templates, and pricing policy to be utilized across the NASA Enterprise.
 - **E-Team** is responsible for maintaining all pricing content on the Office of Procurement website and collaborating with the E-Business Systems Group to ensure all NASA contracting professionals have access to the latest pricing information, guidance, templates, and leadership contact information.
 - **EPO Bi-Monthly Forum Team** is responsible for creating and developing a format and content for a bi-monthly forum cadence. These efforts and content are intended to maximize the opportunity for enrichment of the EPO staff for both professional and personal use and application.

EPO Roadshows

The EPO communication plan afforded opportunity for the newly formed organization to speak with each Center procurement office, individually, to inform and discuss services the office has to offer. The roadshow presentation topics covered: (1) EPO Sr. Leadership introduction and opening remarks, (2) EPO's organizational structure, (3) EPO's background (e.g. NASA as Cognizant Federal Agency), (4) EPO's vision and mission statement, (5) EPO's goals and priorities, (6) EPO's framework, (7) Introduction and overview of EPO's Pricing Liaison Advocates (PLAs), (8) Overview and discussion of the EPO's Coordination and Approval Matrix (CAM), (9)

An overview and run through of EPO's website as well as its purpose and use by requestors, and (10) a question and answer session. Attendance from the widest possible procurement audience allowed for the dissemination and awareness of EPO's existence, services, and capabilities to be provided in support of procurement's critical mission needs.

Contract Audit Services

In 2016, NASA Headquarters Office of Procurement assumed its role of Cognizant Federal Agency (CFA) pursuant FAR 42.003 Cognizant Federal Agency. NASA's role as CFA optimizes procurement related functions by extending the agency's intimate knowledge beyond a singular contract but onto that of the contractor. In this role, OP is providing a platform that caters to the agency's needs by providing its own audit and contract administration services that will contribute to timely and quality audits yielding cost savings and timely contract closeout. In this role, NASA is CFA for approximately 153 contractors to date and is responsible for performing four specific functions related therein: negotiate forward pricing rate agreements, establishing final indirect rate and billing rate agreements, resolving cost accounting standards, and determine the adequacy of the contractor's accounting system.

As CFA, NASA OP expanded its contract audit service provider network creating a competitive market in which previously only Defense Contract Audit Agency (DCAA) existed. NASA currently procures contract audit services from DCAA, Department of Interior (DOI), and seven independent CPA firms to aid in timely contract audits. NASA OP established rules of engagement with partnering agencies and maintains continued collaboration to eliminate duplication of effort. This audit service network yields a cost savings/ avoidance of approximately \$3M per fiscal year.

Contract Audit Services activities yielded the following results for FY22:

- Recently contributed to NASA's FY22 financial audit, for which the Agency received our 12th consecutive clean audit opinion, with no material weaknesses or significant deficiencies.
- Development of the Administrative Contracting Officer (ACO) Role whereby NASA OP has successfully negotiated over 100 final indirect rate agreements to date.
- Enhancement of the Audit Services Process and Design to include quality reviews of audit reports, ordering over 500 contract audit services since inception.

Business Operations Team (BOT)

Since January 2022, the Business Operations Team (BOT) has played a pivotal role in supporting the daily operations of key officials including the Senior Procurement Executive, Deputy Chief Acquisition Officer, Assistant Administrator of Procurement and the Deputy Assistant Administrator for Procurement, Agency Procurement Ombudsman, and Competition Advocate. The BOT is driving progress and innovation within NASA's procurement operations to enable the organization to thrive in pursuit of its mission and vision.

Under the leadership of Tabisa Taliwaku Kalisa, the Chief of Business Operations, the BOT is structured to provide support across key areas such as Executive Oversight, Analysis & Strategy, Human Capital & Operations, Communications & Events, and Administrative Oversight.

Executive Oversight

The BOT Executive Oversight function primarily ensures compliance with NASA's policies and procedures in procurement activities. The Executive Officer, as a key Senior Advisor to OP Leadership, enables prompt and efficient follow-through on high-level matters, while supporting major initiatives like Category Management, Workforce Development, and Diversity, Equity, and Inclusion efforts. Additionally, the Executive Officer serves as a liaison to the Agency Competition Advocate and Procurement Ombudsman.

Analysis & Strategy

This function serves as the catalyst for aligning procurement strategies with NASA's overarching mission and objectives. Throughout FY22, the BOT expertly collaborated with prominent internal stakeholders on pivotal tasks such as hiring, succession planning, budget execution, and the management of recurring OP deliverables for both NASA and external organizations.

Human Capital Operations

As an integral part of NASA's procurement operations, Human Capital Operations expertly manage resources and ensure optimal staffing levels. Throughout FY22, the BOT skillfully conducted performance plans, midpoints, and evaluations for the OP Enterprise's 740 employees using the Standard Performance Appraisal Communication Environment system. The team adeptly managed various OP awards, including the Acquisition Improvement Awards (AIA), Agency and HQ Honor

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The Office of Procurement staff poses for a group photo at an onsite training meeting.

Awards, and OP Performance Awards. They also supported the OP Enterprise Awards and provided constructive feedback to nominators, facilitating punctual submissions to NASA's Automated Awards System (NAAS).

Embracing the vital task of fostering Enterprise development, the BOT has been proactive in determining workforce planning requirements.

Communications & Events

The BOT masterfully edited, designed, and produced content for over 120 internal and external outreach events, ensuring effective communication of OP's mission and accomplishments to stakeholders and the public.

The team expertly managed the layout, editing, imagery, research, and 508 compliances for 11 annual publications, including this report. Their responsibilities encompass a diverse array of materials, such as the Office of Procurement Communications Plan, Vendor Communications Plan, Supervisory Leadership Forum, OP Enterprise Newsletter, recruitment flyers, infographics, organizational charts, and registration support.

In FY22, the BOT skillfully organized a minimum of five high-profile events, including the NCMA World Congress, An-

nual Supervisory Leadership Forum, LGBTQIA+ Vendor Equity Forum, Procurement Officer Face-to-Face Meetings, and the PSL Industry Day. Their comprehensive event management includes agenda development, recruitment, fund distribution, travel arrangements, training, logistics, speaker coordination, talking points, and event booth setup.

Administrative Oversight

The Administrative function plays an indispensable role in facilitating the smooth and efficient functioning of NASA's procurement operations. In FY22, OP concluded the year with a dedicated HQ workforce of 48 individuals, with BOT expertly overseeing all administrative and travel processing activities, encompassing requests, authorizations, and vouchers.

Throughout FY22, by consistently providing vital resources and outstanding support to the Enterprise, the BOT successfully guaranteed that the OP team met its mission and stood ready to confront new challenges.



In this view looking down inside the Vehicle Assembly Building at NASA's Kennedy Space Center in Florida on March 11, 2022, the work platforms are being retracted from around the Artemis I Space Launch System rocket and Orion spacecraft in preparation to roll out to launch pad 39B. Artemis I is the first in a series of increasingly complex missions that will enable human exploration to the Moon and Mars.

Image Credit: NASA/Frank Michaux

Procure

Deliver exceptional, timely acquisition business solutions and results to enable NASA missions.

Priorities and Initiatives



“We provided strategic management of 25 product service lines for common spend across NASA, facilitating 30+ new contract awards as enterprise business solutions in FY22. Through early engagement with NASA centers and industry, we helped shape acquisition strategies in the areas of engineering, exploration and extravehicular activity, lunar payloads research, and rideshare launch services among many other mission-critical initiatives.”

Jami J. Rodgers

Director, Procurement Strategic Operations Division



Implement contracting solutions that enable NASA to achieve its mission.



Reduce Procurement Lead Times.



Assist and support Agency efforts to improve management of the Procurement Portfolio Model.



Increase use of Category Management principles when buying common goods and services.



Reduce Redundant and Duplicative Contracts and Other Instruments.

Procurement Accomplishments

U.S. Geographical Distribution of Awards

In FY22, 52 locations including District of Columbia and Puerto Rico participated in NASA's direct awards. The categorization of NASA procurements by state is based on the location where the items are to be produced or supplied from stock, where the services will be performed, or, with respect to construction contracts, the construction site. This table excludes awards outside the United States and awards that, for a number of reasons, may not have a place of performance listed.

U.S. Geographical Distribution of NASA Prime Contract Awards: Listed in Alphabetical Order

Place of Performance State	Total Dollars	Total Actions
Alabama	\$1,986,897,783.11	1,510
Alaska	\$14,242,875.43	17
Arizona	\$68,015,230.47	307
Arkansas	\$200,142.00	9
California	\$4,890,605,002.11	5,117
Colorado	\$927,563,944.62	788
Connecticut	\$23,065,811.40	259
Delaware	\$7,417,845.55	60
District Of Columbia	\$107,252,513.40	666
Florida	\$1,359,670,664.62	1,554
Georgia	\$4,106,493.09	92
Hawaii	\$1,895,636.48	18
Idaho	\$406,597.56	8
Illinois	\$11,356,499.27	182
Indiana	\$22,513,994.06	163
Iowa	\$103,000,133.03	32
Kansas	\$11,210,195.40	100
Kentucky	\$6,568,815.60	68
Louisiana	\$9,130,417.52	71

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Maine	\$6,752,647.17	17
Maryland	\$1,932,548,409.05	2,025
Massachusetts	\$160,409,327.80	525
Michigan	\$17,436,371.57	262
Minnesota	\$4,651,716.00	110
Mississippi	\$273,948,264.46	578
Missouri	\$3,671,019.02	89
Montana	\$4,802,019.44	28
Nebraska	\$317,854.66	9
Nevada	\$9,001,493.43	40
New Hampshire	\$17,151,179.11	179
New Jersey	\$27,522,183.62	248
New Mexico	\$11,294,990.66	103
New York	\$103,094,939.42	428
North Carolina	\$9,076,144.72	132
North Dakota	\$1,310,000.00	8
Ohio	\$246,917,062.74	1,374
Oklahoma	\$17,503,051.13	30
Oregon	\$6,070,749.19	69
Pennsylvania	\$143,550,455.58	408
Puerto Rico	\$55,900.00	1
Rhode Island	\$711,988.36	14
South Carolina	\$530,388.91	21
South Dakota	\$3,854,561.92	24
Tennessee	\$21,580,433.95	96
Texas	\$1,262,054,207.84	1,603
Utah	\$151,381,430.69	102
Vermont	\$761,138.00	8
Virginia	\$1,014,580,857.46	2,696
Washington	\$70,869,183.44	164
West Virginia	\$44,291,704.06	85
Wisconsin	\$10,422,613.93	77
Wyoming	\$384,401.00	9
Total	\$15,133,629,283.05	22,583

Awards by Contract Type

The table below depicts the trends in awards to business firms by contract type. The figure on the following page categorizes FY22 awards of new contracts and modifications to existing contracts. Since FY07, NASA has seen steady growth in the use of fixed-price awards.

Category	Dollars Obligated	Actions (Number of)	% of Total Obligations
Firm-Fixed-Price	17,846	6,482,863,915	32.6%
Incentive Fee	229	1,043,602,653	5.2%
Award Fee	1,438	5,616,522,345	28.2%
Cost-Plus Fixed Fee	5,830	5,504,655,310	27.6%
Other	1,434	1,265,689,439	6.4%
Total	26,777	\$19,913,333,662	

Notable Mission Procurements

Space Launch System (SLS)

NASA's Space Launch System, or SLS, is an advanced launch vehicle that provides the foundation for human exploration beyond Earth's orbit. With its unprecedented power and capabilities, SLS is the only rocket that can send Orion, astronauts, and large cargo to the Moon or beyond on a single mission. The primary accomplishment this calendar year was the successful launch of the Artemis I mission on November 16, 2022, of the SLS Block I configuration. The SLS Block I launch vehicle configuration is made up of two 5-segment Solid Rocket Boosters (Boosters), a Core Stage (CS) with 4 RS-25 engines, an Interim Cryogenic Propulsion Stage (ICPS) with 1 RL10 Engine, and a Launch Vehicle Stage Adapter (LVSA) which is procured at MSFC, and an Orion Stage Adapter which is made by MSFC.

There are two SLS Boosters contracts supporting SLS. The first contract includes the Design, Development, Test, and Evaluation (DDT&E) of the Booster for SLS, and the production of three booster sets for Artemis I through III which was awarded in 2007. The award of the second contract was a significant milestone achieved in FY22. The second contract, awarded in November 2021, is for the DDT&E for an

advanced Booster for SLS Block II with the production of one booster set for SLS Block II, and five additional Booster sets for Artemis IV through Artemis VIII in support of SLS Block IB. The SLS Boosters for Block I and Block IB utilize heritage hardware produced for the Space Shuttle Program.

SLS Stages include the massive SLS Core Stage (CS), which will store super-cooled liquid hydrogen and liquid oxygen to power the RS-25 engines, as well as development of the Exploration Upper Stage (EUS) which will replace the ICPS for Artemis IV and beyond for the SLS Block IB and II configurations. The EUS employs four RL10 engines in lieu of one RL10 for ICPS and will provide greater propulsion capabilities for deep space missions. Significant progress has been made in negotiations of the letter contract to produce up to 10 more CS and up to eight more EUS stages. The closure of the negotiations is anticipated in FY2023.

Propulsion for each SLS CS is provided by four RS-25 engines; the first 16 of these engines are heritage hardware from the Space Shuttle Program (SSP) and will be used for Artemis I through IV missions. The RS-25 engine contact includes the restart of the RS-25 engine production line utilizing advanced manufacturing methods to reduce the production costs of the engines and the production of 40 RS-25 engines. This is especially important since these engines will no longer be re-utilized but will be consumed through re-entry of Earth's atmosphere of the CS.

PROCURE

Propulsion for ICPS and EUS is provided by the RL10 engines. The first ICPS unit used for Artemis I already contained an RL10 engine. For Artemis II through IV, the contract has production of firm-fixed-price hardware with engineering support to adapt the future deliveries for human flights utilizing the RL10 as it has not previously been used for human space flight.

To support launch of Artemis I, MSFC OP executed a multitude of contract actions were executed to ensure that critical launch activities were supported at Kennedy Space Center to include four additional wet dress rehearsals, one tanking test, two vehicle roll backs to the Vehicle Assembly Building due to weather delays and for hardware needs, and several launch attempts.

The Habitation and Logistics Outpost (HALO)

The Habitation and Logistics Outpost (HALO) Contract is a FFP Contract valued at \$1.3B with a base period of performance from September 3, 2015, through October 17, 2026, and an option period (October 18, 2026, through December 31, 2026) to provide sustainment support.

HALO is where astronauts will spend their time living and conducting research while visiting the Gateway. The pressurized living quarters will provide command and control systems for the lunar outpost and docking ports for visiting vehicles such as Orion, lunar landers, and logistics resupply vehicles.

The HALO module implements the backbone for command and control and power distribution across the lunar outpost, as well as other core functions, including science investigations via internal and external payload accommodations and communications with lunar surface expeditions. HALO also enables the aggregation of additional habitable elements to expand Gateway capabilities.

The HALO Contract, currently in its fifth phase, consists of efforts for the continuation of progress towards production and delivery of the HALO Flight Module, integration with the Power and Propulsion Element (PPE) in preparation for the Co-Manifested Vehicle (CMV) launch. Major accomplishments under the HALO contract for 2022 are highlighted below:

- The HALO procurement team successfully negotiated and awarded a modification to incorporate the final negotiation for the Phase 5 Supplement proposal, resulting in \$1M in savings to the government.
- The HALO procurement team executed a modification to finalize the final fee earned by Next Gen Stem (NGS) under the Cost-Plus Incentive Fee phase of the contract (Phase 4), resulting in a total earned fee of \$16.7M or 10%.
- The HALO procurement team successfully negotiated and awarded Task Order 3 under the HALO contract for

Astronauts and astronaut candidates from NASA and the Canadian Space Agency pose for a photograph in front of NASA's Artemis I Space Launch System and Orion spacecraft atop the mobile launcher on the pad at Launch Complex 39B on Aug. 28, 2022.

Photographer: NASA/Kim Shiflett



the procurement of spare components in support of the Gateway Program. The Task Order was awarded in the amount of \$14.5M, resulting in a savings of \$194K to the government.

- The HALO procurement team successfully negotiated and awarded a modification to definitize an Undefined Contract Action (UCA) to incorporate Layer 3 network switch capability to the HALO Wi-Fi architecture design. The HALO Wi-Fi system will support HALO and gateway subsystems. This design update was critical in order to mitigate network security risks. The modification was awarded in the amount of \$31M, resulting in a savings of \$11M to the government.

Human Landing System (HLS)

The Human Landing System (HLS) is the lunar landing vehicle in the Artemis program which will return astronauts to the Moon. NASA initially selected SpaceX to develop a human landing system variant of Starship to land the next American astronauts on the Moon under Artemis III, which will mark humanity's first return to the lunar surface in more than 50 years. As part of that contract, SpaceX will also conduct an uncrewed demonstration mission to the Moon prior to Artemis III. In 2022, Procurement successfully developed and implemented the evolution of the initial lander towards a more robust and sustainable lander by planning, soliciting, and negotiating a sole-source modification to the SpaceX Next Space Technologies for Exploration Partnerships-2 (NextSTEP-2) Appendix H Option A contract awarded in April 2021. Known as Option B, the modification includes requirements accommodating four crew members, and delivering more mass to the lunar surface. With this addition, SpaceX will provide a second crewed landing demonstration mission in 2027 as part of NASA's Artemis IV mission. The previous work on the Appendix H acquisition approach provided invaluable experience in close collaboration within the NASA procurement, programmatic, safety, and engineering communities which was able to be leveraged. Working collaboratively with these stakeholders, we were able to reduce the procurement lead time to less than five months from development of the procurement strategy until the negotiation of the Option B modification with SpaceX. The resulting firm-fixed price, milestone-based modification value is \$1.15B. The close working relationship and team-oriented environment amongst the stakeholders is a best practice in enabling a shorter procurement process.

NASA is pursuing two parallel paths for human lunar landers

developed according to NASA's sustained requirements to increase the competitive pool of capable industry providers—the existing contract with SpaceX and another solicitation released earlier this year. The other solicitation, NextSTEP-2 Appendix P, HLS Sustaining Lunar Development (SLD), is open to all other U.S. companies to develop additional human landing system capabilities and includes uncrewed and crewed demonstration missions from lunar orbit to the surface of the Moon. Proposals for Appendix P were due at the end of 2022.

Mars Ascent Vehicle Integrated System (MAVIS)

The Mars Sample Return (MSR) Program is a joint international (NASA & European Space Agency (ESA)) multi-mission effort to bring the first pristine samples from Mars back to Earth. The program begins with the Mars 2020 Perseverance Rover that will gather samples of Martian rock and seal them in collection tubes on the Martian surface. In 2026, NASA will launch components for a Sample Retrieval Lander mission including ESA's Sample Fetch Rover and NASA's Mars Ascent Vehicle (MAV) to the surface of Mars. The rover will retrieve the samples and transport them to the lander where the MAV will transport those samples to Martian orbit to await rendezvous by an ESA provided Earth Return Orbiter (ERO). The ERO will capture the sealed sample container and return to Earth in the early 2030s.

The program clock began with the successful Perseverance Rover landing and operation on Mars in February 2022 of this year. The planned launch window for the Sample Retrieval missions to Mars take advantage of a favorable relative orbital position between the Earth and Mars that occurs every 15 to 17 years. The next launch window will not occur until the 2035 to 2037 timeframe. The Mars Ascent Vehicle Integrated System (MAVIS) contract is a key procurement in enabling the successful delivery of a Mars Ascent Vehicle by partnering with industry to design, development, test, evaluate, and deliver the flight vehicle responsible for launching the samples from the surface of Mars to Martian orbit for rendezvous with the ERO.



Image of the International Space Station

Adopting a “can-do” attitude and understanding the critical timeline of the mission, the MAVIS source evaluation team repeatedly proved its resiliency and innovation on this critical work effort that led to a successful \$200M contract award in the face of a highly aggressive schedule and myriad challenges. The team was challenged repeatedly to move the already-aggressive acquisition schedule to meet launch window constraints and answered the call by completing a process that would normally take at least 12 months in half that time. Shifting requirements for this high-dollar spaceflight hardware buy made the challenge even greater, yet the team maintained its focus to procure a rocket enabling a sample return to Earth when it launches from the Martian surface.

For this Jet Propulsion Laboratory (JPL) led mission, MSFC quickly recognized the complexities and challenges of this source selection and assembled a multi-disciplinary (e.g., engineering, safety, procurement, legal, etc.) collection of top talent internally and involved JPL and HQ personnel to align the acquisition schedule with a moving target of chang-

ing requirements. Without question this was a highly unique endeavor that required all team members total commitment and close coordination across multiple Centers to operate efficiently. Amidst the challenge of staying in lockstep with fluid MSR Campaign requirements and launch windows, the team consistently performed at a high-level against a very aggressive schedule to develop all required procurement documents and release the Request for Proposal to Industry leading to a successful contract award. It is no exaggeration to say that this team established a new benchmark for award of large system contracts. To do so, the team derived innovative solicitation wording, suggested combined reviews, and employed efficient proposal evaluation techniques that go well beyond fundamental task accountabilities.

Due to the constrained launch window and shifting requirements, the MAVIS team was required to develop innovative strategies to significantly reduce the acquisition lead time. For example, the team accepted more responsibility and ownership of the final request for proposal by waiving a draft proposal allowed by NASA FAR Supplement and approved by the contracting officer. Of significance, however, was the innovative use of mandatory qualification criteria as a separate volume. Based on the leverage of extensive market research, these criteria required that the offeror have been the lead or prime contractor in executing a NASA interplanetary spacecraft mission and must have designed and developed a launch vehicle or a guided missile. Only those offerors whose proposals demonstrated this capacity would be further evaluated. Additionally, the SEB utilized streamlined Mission Suitability and Cost volumes focused strictly on critical areas. Further, the streamlined Past Performance volume emphasized critical complexity considerations such as production of sophisticated spacecraft subsystems and integration of complex, constricted volume spacecraft, or payloads.

Based on the SEB’s focus on only critical areas, they reduced the number of offerors to only those fully qualified to perform MAVIS requirements and, as a result, were able to award the contract to an offeror with a strong track record of performance on similar space-related exploration. The evaluation and award of the MAVIS contract was a significant first step in securing a path for human exploration of Mars, as noted by the Associate Administrator of the Science Mission Directorate on Twitter and the NASA Administrator in the press release announcing the award:

“This groundbreaking endeavor is destined to inspire the world

when the first robotic round-trip mission retrieves a sample from another planet—a significant step that will ultimately help send the first astronauts to Mars,” NASA Administrator Bill Nelson said. “America’s investment in our Mars Sample Return program will fulfill a top priority planetary science goal and demonstrate our commitment to global partnerships, ensuring NASA remains a leader in exploration and discovery.”

Commercial Lunar Payload Services (CLPS)

NASA’s CLPS initiative allows rapid acquisition of lunar delivery services from American companies for payloads that advance capabilities for science, exploration, or commercial development of the Moon. Investigations and demonstrations launched on commercial Moon flights will help the Agency study Earth’s nearest neighbor under the Artemis approach.

Initially welcoming nine U.S. companies to its CLPS project in 2018, NASA added five more vendors to the project a year later, bringing the total number of eligible vendors to 14. As science technology demonstration and human exploration requirements for payloads develop, a request for surface task order bids will go to current CLPS contractors.

Individual task order awards cover end-to-end commercial payload delivery services, including payload integration, mission operations, launch from Earth and landing on the surface of the Moon. Companies are encouraged to fly commercial payloads in addition to the NASA payloads.

The CLPS contracts are indefinite delivery, indefinite quantity contracts with a combined maximum contract value of \$2.6B through November 2028. When comparing the bids from all vendors, NASA looks at things such as technical feasibility, schedule, and price.

Private Astronaut Missions (PAM)

In FY22, multidisciplinary representatives from the ISS Program Office, Johnson Space Center, the Space Operations Mission Directorate (SOMD), and NASA Headquarters collaborated to conduct privately funded commercial flights to the ISS for the conduct of approved commercial and marketing activities by private astronauts. The agreed-upon framework for these Private Astronaut Missions (PAMs) involves awarding basic ordering agreements (BOAs) to individual PAM providers to establish applicable terms and conditions followed by the issuance of orders thereunder to execute selected, individual missions and acquire services for NASA’s use during mission execution (e.g., up/down mass). Implementation of

this approach required a novel application of the Chiles Act to authorize the use of a contract as the single implementing instrument to both enable commercial activities and acquire services for NASA’s direct benefit. The inaugural mission was successfully accomplished in April of FY21. The award of the second PAM mission is scheduled to occur in FY23, and the third PAM mission is scheduled to occur in FY24.

Category Management

Category Management is the business practice of buying common goods and services as an Enterprise to eliminate redundancies, increase efficiency, and deliver more value and savings from the government’s acquisition programs. The Office of Management and Budget (OMB) sets annual, agency-specific goals for the Category Management Key Performance Indicators (KPIs) as required to achieve the government-wide KPI goals set by the president’s management agenda.

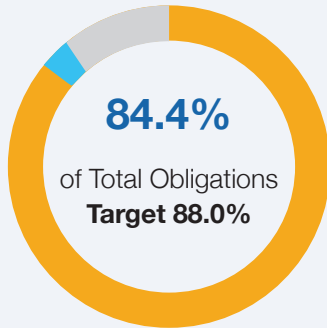
The primary KPIs are SUM and Best-in-Class (BIC). SUM is the percentage of an agency’s spending obligated on agency-wide (Tier 1), multi-agency (Tier 2) or BIC (Tier 3) contracts; or contracts awarded to socioeconomically disadvantaged small businesses (Tier 1-SB/Tier 2-SB). The BIC metric is a measure of an agency’s spending obligated on BIC contracts. BIC refers to contracts available for use government-wide that have been vetted by solution owners, agency users, and subject matter experts resulting in a designation as Best-in-Class by OMB.

The use of tiered solutions saves agencies money and supports small business utilization, while reducing duplicate contracts and streamlining the acquisition process - making it possible for agencies to focus more resources on high-priority mission work. This allows NASA to free up resources to re-invest in facilities, information technology and other capabilities necessary to achieve its ambitious portfolio of missions.

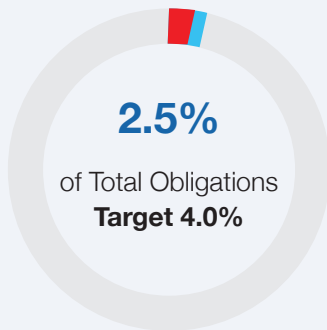
OP’s approach to the Mission Support Future Architecture Program (MAP) transformation involved the strategic organization of institutional services and a small subset of program/project support services into portfolios called Product Service Lines (PSLs) and the development of Enterprise Procurement Strategies for regional, central, or local procurement of PSLs by designated Procurement Offices. The strategies include mandates, codified in our NASA FAR Supplement, to utilize certain agency, Tier 1, Tier 2, or Tier 3 acquisition solutions to satisfy PSL requirements.

This has enabled the Agency to streamline the procurement

Spend Under Management



Best-in-Class Obligations



GWCM Training



process, share resources and lower operating costs, as well as increase efficiency, effectiveness and SUM as many of the PSLs align to the government-wide common spend categories (e.g., IT, Facilities O&M, Construction, Human Capital, etc.).

In FY22, NASA educated 321 individuals in category management practices, which represents 118.5% of the 271-trainee target set by OMB/OFPP. OP also obligated \$8B in government-wide common spend categories in FY22. Of that \$8B, NASA's SUM was \$6.8B (84.4%) as compared to \$5.8B (75%) in FY21. This reflects an increase of \$1B in managed spend. As compared to FY21, NASA increased its BIC obligations by \$38.6M in FY22, which resulted in achievement of 2.5% BIC.

FY22 marks the first year OMB changed the KPI methodology for the SUM and BIC targets from a dollar value to a percentage of total obligations. Although NASA did not meet its SUM target of 88% or BIC target of 4% under this new methodology, NASA still considers its improvement in both areas a success.

To see Category Management trends please visit page 9.

Product Service Lines (PSLs) Update:

NASA OP’s transformation for institutional services involves a strategic approach to acquisition strategies. NASA’s commonly procured goods and services (product service lines) have been aligned into 25 procurement portfolios. Each portfolio is managed collaboratively by the OP through the Procurement Portfolio Manager (PPM) and agency Functional Offices through an Enterprise Requirements Manager (ERM).

Under this approach, the PPMs and ERMs developed Enterprise Procurement Strategies (EPS), in collaboration with Center Representatives, that focus on procuring regionally, centrally, or locally at one or more procurement offices. These strategies, as approved by the Assistant Administrator (AA) for Procurement and responsible Functional Office, enable the Agency to streamline the procurement process, share resources and lower operating costs.

Each EPS is annotated in the NFS Appendix A-102: <https://tinyurl.com/NASAFarSupplement/>

Notable awards* during this period include:

GRC:

- \$39.7M Safety and Mission Assurance (SMA) Engineering and Technical Services (SETS) (Provides services to NASA Safety Center in Cleveland and NASA HQ).

ITPO:

- \$622.5M Cybersecurity and Privacy Enterprise Solutions and Services (CyPrESS) contract (Agency-wide).

KSC:

- \$74.9M NASA Agency-wide Supply of Liquid Hydrogen contract.
- \$143M NASA Agency-wide Supply of Gaseous and Liquid Helium contract.
- \$253.6M NASA Protective Services Contract South Region (NPSC-SR) contract (Regionalized- Johnson Space Center (JSC), White Sands Test Facility/White Sands Complex (WSTF/WSC), Kennedy Space Center (KSC), Marshall Space Flight Center (MSFC), Michoud Assembly Facility (MAF), and Stennis Space Center (SSC)).

MSFC:

- \$533.7M NASA Financial Support Services (NFSS) (Regionalized-Armstrong Flight Research Center (AFRC), Ames Research Center (ARC), Glenn Research Center

(GRC), Kennedy Space Center (KSC), Johnson Space Center (JSC), Marshall Space Flight Center, (MSFC), Stennis Space Center (SSC), and other NASA Centers as needed).

NSSC:

- \$290M NASA Science, Technology, Engineering and Mathematics (NSTEM) contract (Agency-wide).

*Amounts shown indicate Total (or maximum) Potential Value of Contracts.

PSL Status Summary

33

Contracts Awarded

24

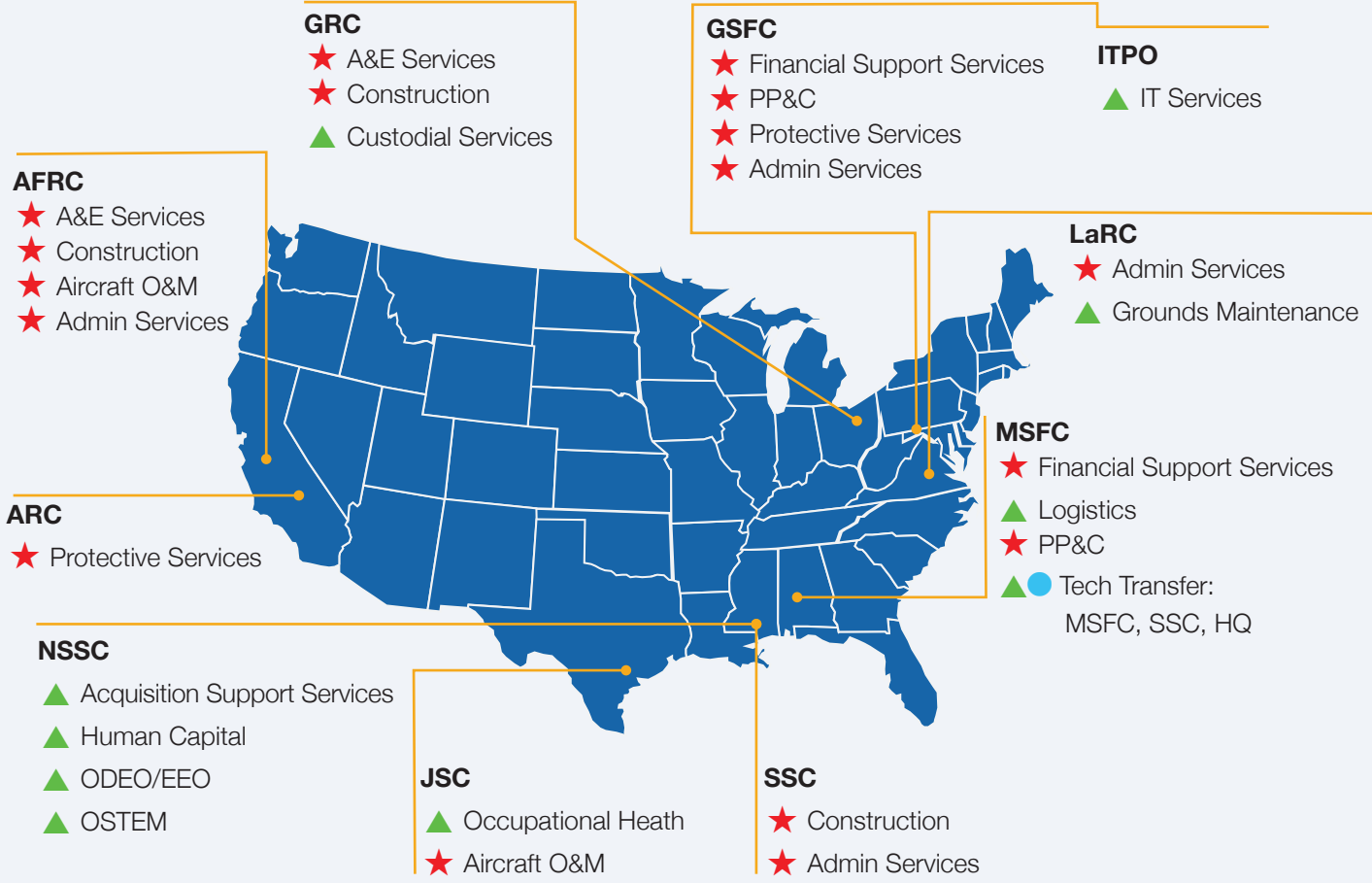
NFS Strategies

PSL details can be located within NFS A-102

36

Planned Awards FY23

PSL Delivery Model



★ **Regionalized**

▲ **Centralized: Procures for Agency**

● **Remains Located at Each Center:**

- Environmental Compliance
- Utilities
- Facilities O&M
- Engineering
- Safety & Mission Assurance
- Tech Transfer*

*Regionalized or centralized buying locations does not equate to consolidation of contacts. It is the Procurement Office that has overall responsibility of Contract Award (e.g. SEB).



What happens when the lights are turned out in the enormous clean room that currently houses NASA's James Webb Space Telescope? The technicians who are inspecting the telescope and its expansive golden mirrors look like ghostly wraiths in this image as they conduct a "lights out inspection" in the Spacecraft Systems Development and Integration Facility (SSDIF) at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

Image Credit: NASA/Chris Gunn

Caption: NASA/Rob Gutro

Process

Develop sound and flexible procurement processes that integrate the acquisition workforce.

Priorities and Initiatives



“OP has taken an enormous leap forward in FY22 in terms of process refinement and improvement with the establishment of the Enterprise Service and Analysis Division (ESAD). Under ESAD, the Enterprise Pricing Office is creating a sustainable architecture that promotes an environment of pricing innovation with pragmatic pricing solutions that will offer timely and realistic negotiations to ensure the best possible fair and reasonable prices are achieved across NASA’s Enterprise. Also under ESAD, the E-Business Systems Office (EBSO) has begun to redefine how OP and the Agency analyzes and utilizes procurement data to make informed acquisition decisions as we push forward to accomplish some of the most challenging missions and programs the Agency has ever undertaken. I look forward to seeing how these two offices continue to provide innovative solutions to everyday problems across the Agency!”

Geoff Sage

Director, Enterprise Service Analysis Division



Enhance utilization of Enterprise information technology resources (e.g., Virtual Source Selection Tool, Acquisition Forecast).



Standardize procurement procedures and focus on delivering a common procurement experience (internal and external).



Establish and implement a robust Vendor Engagement Approach.

Process Accomplishments

Procurement Vignettes

In 2022, the OP developed and published six procurement vignettes highlighting OP contributions and accomplishments on various NASA programs <https://www.nasa.gov/Procurement/Vignettes>. OP worked collaboratively to draft the OP accomplishments for the six initial programs to highlight: Commercial Crew Program (CCP), Commercial Low-Earth Orbit (Commercial LEO), Commercial Lunar Payload Services (CLPS), the James Webb Space Telescope (JWST), NASA's Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) programs, and the x59 Quiet Supersonic Technology (QueSST) program. The content was then combined with graphics and photos and was published into laminated handouts for distribution at the 2022 National Contracting Management Association (NCMA) World Congress. During the event, over 600 vignettes were distributed to procurement professionals in both the public and private sectors, highlighting the integral role of OP in NASA's missions.

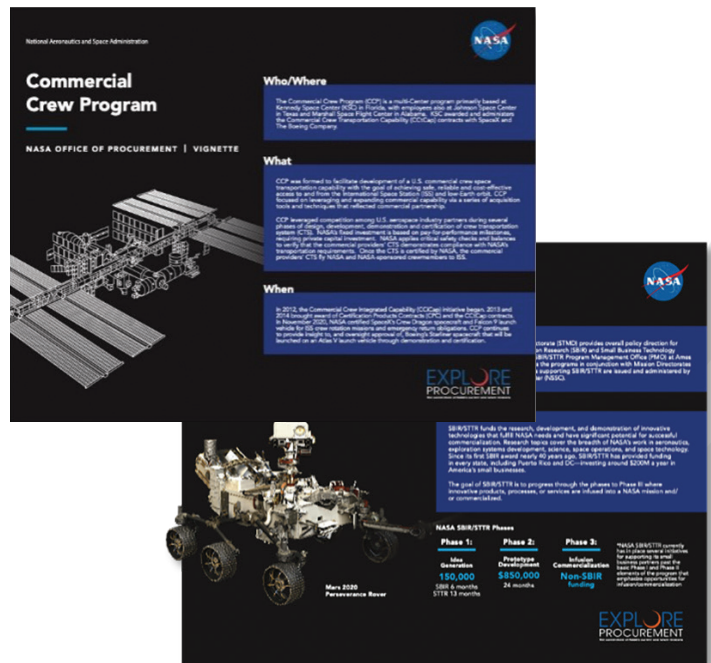
Acquisition Forecast Improvements

The Business Opportunity Development Reform Act of 1988 requires NASA to prepare an annual forecast and semiannual update of expected contract opportunities or classes of contract opportunities for each fiscal year and make this forecast available to the public. OP relies very heavily on the Acquisition Forecast to facilitate awards of contracts to small and small disadvantaged businesses, women-owned small businesses, HUBZone small businesses, veteran-owned small businesses, and service-disabled veteran-owned small businesses. In addition, senior leaders within the Office of Procurement use the forecast information as the basis for procurement planning discussions to be conducted with senior management.

In years past, the process for maintaining and generating the semiannual forecast had been a very time-intensive process

facilitated by an Excel spreadsheet submitted by each center. Historically, it took an average of three months to collect the input and generate the forecast for publication. During FY22, enhancements were made to the Acquisition Forecast process which proved to be a resounding success by providing a consolidated approach for identifying and tracking contract opportunities and reducing the processing time for each publication of the Acquisition Forecast from three months to one month. NASA also revamped the website that is utilized to publish the forecast.

The improved Acquisition Forecast provides detailed information on its list of upcoming contracting opportunities to assist and make it easier for contractors, especially new entrants, small businesses, and contracting members of the



Example of two vignettes

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underserved communities to find opportunities and navigate NASA's procurement environment of 10 centers with unique program and contracting needs. The updated and additional fields ensured NASA's compliance with OMB required Category Management reporting and received accolades and feedback from internal and external users. With the implementation of OP's improvements NASA's rating on the annual [PSC Federal Business Forecast Scorecard](#) has been raised from Fair to Good, resulting in NASA being one of only 17 agencies with the highest possible rating of "Good" out of the 62 agencies reviewed.

Contract Closeout, Cancelling Funds and Deobligations

On average, NASA has an outstanding 3,000 contracts requiring close out each month.

The inventory includes current contracts ready for closeout and backlog contracts (contracts that have been physically complete more than six years). The backlog inventory is approximately 40% of the monthly inventory. NASA's goal is to complete 1,500 closeouts per quarter.

Achievements in Closeout, Cancelling Funds and Deobligations:

During FY22, the contract closeout team had a tremendous year of accomplishments by closing 7,038 instruments, an average of 540 closures per month. \$29.2M in funds were deobligated and redeployed throughout the Enterprise, a 13% increase compared to FY21, and \$7.8M in cancelling funds across 292 instruments were returned.

The team also supported 121 audits averaging a one-to-two-day response time. Overage grants instruments dropped from 190 in FY21 to 16 in FY22, a 95% reduction, and overage grants with undisbursed balances dropped from \$1,031,013 to \$2,168, a 99% reduction.

The list below summarizes the achievements for FY22:

- Instruments closed: 7,038, which exceeded NASA's goal of 6,000
- Average instruments closed per month: 540, which exceeded the monthly goal of 500
- Average backlog closed per month: 46
- Deobligations: \$29,234,232, which is a 13% increase from 2021

- Cancelling funds returned: \$7,829,130
- Cancelling funds instruments: 292, a 55% increase of instruments from FY21
- Audits supported: 121
- 92% reduction in grants instruments 2+ years overage
- 99% reduction in grants undisbursed balances 2+ years overage

Innovative Techniques:

The team developed a revised contractor checklist that, together with training that has been developed in this area, will reduce the time contracts are in closeout inventory by ensuring packages are adequate and complete when sent to closeout.

Another innovation is the development of "reason codes" associated with each instrument in the contract close out inventory that describes the primary reasons why instruments are not closed. The reason codes are then translated into actionable information to facilitate closure. As an example, all projects with property administration issues listed as a primary reason preventing closeout were shared with the property administration team to help clear those items with great success. This process has reduced the time contracts are in closeout inventory. During the last fiscal year, the contractor closed approximately 80 more instruments per month than the required goal.

For grants closures, the team worked with the NSSC and supported customers to make improvements in closeout volume, especially those that were overaged. The primary issue was that the NASA Technical Officers did not complete their performance validation forms (PVF) which are required for grant closeout. The team worked with the customers to automate the PVF notification process and included links in the automated emails summarizing the research reports required for grant closeouts. Improving this process for the customers led to an increase in grants closeouts and a 92% reduction in the grant's closeout inventory.

Contract Writing System Replacement Initiative

The Office of Procurement, with support from the OCIO Agency Application Platform Services (APS) Office, have embarked on an investigation, analysis, and recommendation for the replacement of the current Systems Application Prod-

uct's (SAP) Procurement for Public Sector (PPS) system that is reaching end-of-life in 2027. Utilizing a human-center design, the E-Business Systems Office (EBSO), has been busy engaging the Procurement Enterprise along with other key stakeholders to assess the needs and goals of these users as it relates to the contract writing system.

Initial survey results from over 70% of the procurement workforce have been used to develop an understanding of how the contract writing system fits in their workdays—and determined user and stakeholder points of view regarding the system's strengths and shortcomings of the current PPS system. EBSO has engaged the over 150 individuals from the procurement workforce and stakeholders from each center in 90-minute listening sessions and targeted interviews to create a platform for discussion about how stakeholders currently engage with each other and the PPS contract writing system to execute procurement processes.

These sessions yielded essential human-centered, qualitative data that complemented the quantitative data from the kickoff survey and deepens the understanding of how PPS fits into each stakeholder's toolkit. Both activities have provided invaluable information that has led to the documentation of the current state and laid the foundation for future state workflows, an analysis of alternative, and ultimately a business case that will detail the path forward for the future of the NASA contract writing system.

Procurement Administrative Lead Time (PALT)

Section 878 of the National Defense Authorization Act (NDAA) of 2019 required the Office of Federal Procurement Policy (OFPP) to create a plan for measuring and publicly reporting government-wide data on Procurement Administrative Lead Time (PALT).

PALT is defined as the time between initial solicitation date and award date on contracts and orders above the simplified acquisition threshold (SAT). FY21 was the first year that the PALT metric was calculated and benchmarked across the Federal Government.

In the initial benchmarking, NASA's average PALT for FY21 was 325 days, the highest among agencies with similar spending levels. Over FY22, OP worked diligently to analyze its PALT data to look for opportunities to leverage efficiencies and innovations to reduce the PALT, as well as ensure the integrity of the data being reported. Through these efforts, NASA achieved an average PALT for FY22 of 128 days.

Vendor Engagement

Vendor engagement is integral to NASA's ability to fulfill the mission. NASA's Vendor Communication Plan includes specific pre-award and post-award engagement activities and is publicly available at <https://tinyurl.com/nasavendorcommplan> NASA hosts a variety of engagement



Left, Office of Procurement Team members pose together at National Contract Management Association (NCMA) World Congress. Right, the Office of Procurement booth at NCMA. The event was held in Chicago, IL from July 17 to July 20, 2022.

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events to share information with vendors on the NASA organization and upcoming business opportunities. In FY22, OP participated in over 56 engagements with industry. In March 2022, NASA OP was featured as part of the 33rd Marshall Small Business Alliance Meeting: “Product Service Lines: Everything You Need to Know” (<https://www.nasa.gov/office/procurement/PSL-Industry-Day-2022>). Agenda items for this event included NASA OP transformation and FY22 priorities, an overview and deep dive into NASA OP’s product service lines, category management, and increasing small business spend and the participation of underserved communities. Representatives from OP also actively participated as speakers or panel members for events hosted by NASA’s Office of Small Business Programs (OSBP).

In addition to traditional engagement methods, such as Requests for Information (RFIs), sources sought synopses, draft solicitations, and pre-solicitation conferences conducted by contracting personnel to obtain feedback from industry, NASA’s Senior Procurement Executive (SPE) also met with the Council of Defense and Space Industry Associations (COD-SIA) and other Industry Associations and Councils to address their concerns and questions.

In July 2022, NASA’s SPE had the honor of co-emceeding the NCMA World Congress during which other representatives from NASA also presented to a combined industry and government audience at breakout sessions on the following topics: NASA’s OP’s transition from the Old Decentralized Model to a Modern Enterprise Acquisition Office; NASA’s Price-Performance Trade-Off Process; Negotiating a Deal: Trading for a Seat on Russia’s Soyuz; and NASA’s Commercial Crew Program: Using Commercial-Friendly Part 15 Firm-Fixed-Price Contracts for R&D and Services.

This event was followed by NASA OP’s Inaugural LGBTQ+ Vendor Equity Forum (<https://www.nasa.gov/office/procurement/LGBTQ-Vendor-Equity-Forum>) in August 2022 and participation in the HBCU/MSI Tech Infusion Road Show at Texas Southern University (<https://www.nasa.gov/stem/murep/projects/hbcu-msi-road-tour.html>) in September 2022.

NASA’s procurement website contains links on how to do business with NASA at <https://www.nasa.gov/office/procurement/doingbusiness>, to include the current acquisition forecast with feedback mechanisms available to industry.

The forecast was recently enhanced to add attributes rated as user-friendly and most effective by vendors; and new data fields (e.g., Product Service Code (PSC), planned type of award/contract vehicle) to share additional relevant infor-

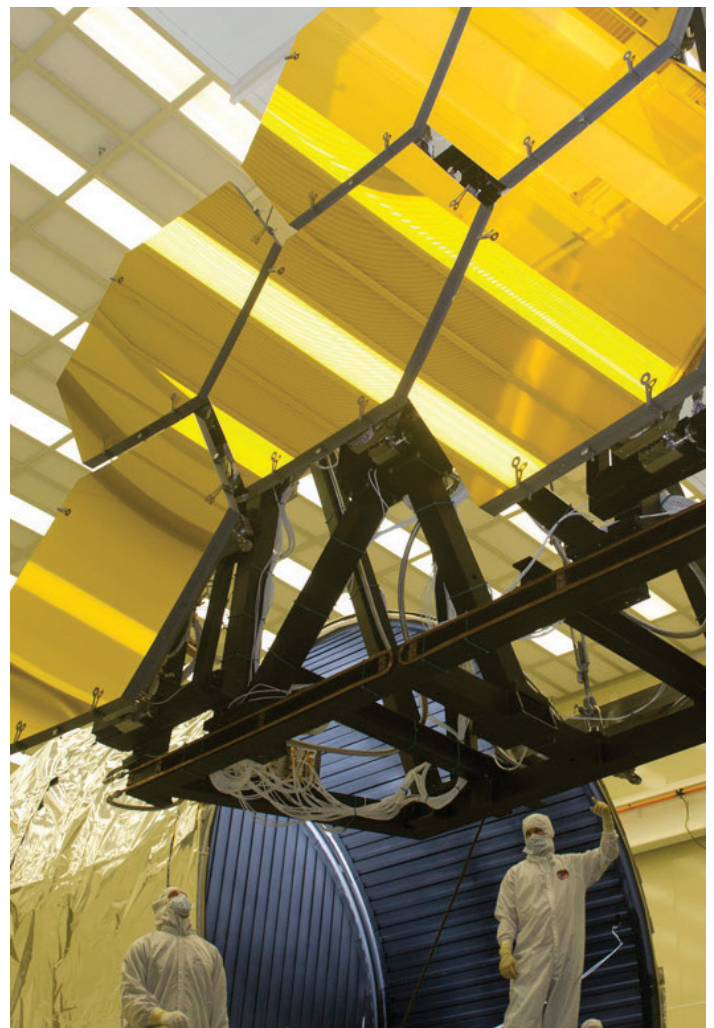
mation with vendors and to make it easier to identify large acquisitions for common goods/services.

The enhancements made to NASA’s acquisition forecast resulted in NASA’s rating on the annual PSC Federal Business Forecast Scorecard being raised from “Fair” in 2019 to “Good” in 2022. NASA is now 1 of 17 agencies with the highest possible rating of “Good” out of the 62 agencies reviewed: <https://www.pscouncil.org/scorecard#Scorecard%20Full>

Together, these important actions and initiatives enabled consistent and timely vendor engagement by NASA’s Senior Procurement Executive (SPE) and OP senior leadership across HQ and the 10 NASA Centers.

Below: The James Webb Space Telescope mirrors have completed deep-freeze tests and are removed from the X-ray and Cryogenic test Facility at Marshall Space Flight Center

Photographer: NASA Goddard





Technicians at NASA's Kennedy Space Center in Florida work to safely lower the Artemis I Orion spacecraft into the FAST cell after completing the installation of the spacecraft adapter (SA) cone inside the Neil Armstrong Operations and Checkout Building on Aug. 20, 2020. This is one of the final major hardware operations the spacecraft will undergo during closeout processing prior to being integrated with the Space Launch System (SLS) rocket in preparation for the first Artemis mission.
Photographer: NASA/Frank Michaux

Policy

Deliver procurement policy that is required, clear, and easily implemented.

Policy Highlights



“The Procurement Management and Policy Division (PMPD) has established innovative policy and practices to improve and strengthen key phases of the procurement process. We have revised policies to transform the mindset and behavior of acquisition professionals to ensure steps are taken to procure Made in America products, Advance Equity in Procurement, and provide opportunities for members of underserved communities to work and do business with NASA. The PMPD’s Mentor Protégé Program has created a coaching and mentoring culture across the OP Enterprise!”

Julia B. Wise

Director, Procurement Strategic Operations Division



Reduce or remove unnecessary/outdated/burdensome policy requirements that have outlived their intended purpose.



Standardize procurement policy that is clear, required, and easily implemented and enables the Enterprise Delivery model.



Monitor the effectiveness of procurement guidance to improve compliance, oversight, contractor performance, and Agency procurement risk.

Policy

Accomplishments

Made in America (EO 14005)

On March 7, 2022, the Department of Defense (DoD), General Services Administration (GSA), and NASA published in the Federal Register Federal Acquisition Circular (FAC) 2022-05; FAR Case 2021-008 Amendments to the FAR Buy American Act Requirements and was effective October 25, 2022. The final rule amends the Federal Acquisition Regulation (FAR) to implement: A near-term increase to the domestic content threshold following a short grace period during which contractors and the workforce prepare for the increase and a schedule for future increases; A fallback threshold that would allow for products meeting a specific lower domestic content threshold to qualify as domestic products under certain circumstances; and a framework for application of an enhanced evaluation factor (price preference) for a domestic product that is considered a critical item or made up of critical components.

The rule increases the domestic content threshold initially from 55% to 60%, then to 65% in calendar year 2024 and to 75% in calendar year 2029. The rule allows, until one year after the increase of the domestic content threshold to 75%, for the use of the 55% domestic content threshold (i.e., the threshold in effect prior to the effective date of this rule) in instances where an agency has determined that there are no end products or construction materials that meet the new domestic content threshold, or such products are of unreasonable cost.

The fallback threshold only applies to construction material that does not consist wholly or predominantly of iron or steel or a combination of both and that are not commercially available off-the-shelf (COTS) items, as well as to end products that do not consist wholly or predominantly of iron or steel or a combination of both and that are not COTS items. The increase of the domestic content threshold ultimately to 75% is consistent with the Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58) which was enacted on November

15, 2021. A supplier that is awarded a contract with a period of performance that spans the schedule of domestic content threshold increases will be required to comply with each increased threshold for the items in the year of delivery.

In instances where this requirement to comply with changing domestic content thresholds throughout its life would not be feasible for a particular contract, the rule provides for a senior procurement executive to allow the application of an alternate domestic content test in defining “domestic end product” or “domestic construction material” after consultation with Office of Management and Budget’s Made in America Office (MIAO). The alternate domestic content test would allow the supplier to comply with the domestic content threshold that applies at the time of contract award, for the entire period of performance for that contract. The rule provides for a framework through which higher price preferences will be applied to end products and construction material deemed to be critical or made up of critical components.

A subsequent rulemaking, FAR Case 2022-004 Enhanced Price Preferences for Critical Components and Critical Items, will establish the definitive list at FAR 25.105 of critical items and critical components in the FAR, along with their associated enhanced price preference(s). When a final rule goes into place establishing the list and preference factors at FAR 25.105, the higher price preference for critical items or critical components shall be used.

On April 28, 2022, NASA HQ OP provided training entitled, “Made in America Executive Order – FAR Rule and NASA Policy Changes,” to the workforce. This training addressed: 1) Buy American Act/Made in America EO 14005 requirements and the changes incorporated in the FAR; 2) The NASA’s internal waiver process established for nonavailability waiver request; 3) Information on available training from the Federal Acquisition Institute (FAI); and 4) An overview of the Made in

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America Report to OMB. This training was attended by approximately 350 individuals.

Efforts are underway to develop a NASA Made in America (MIA) webpage on the external NASA.gov website. This webpage will highlight stories that demonstrate mission success with domestic suppliers and provide data related to NASA's use of such suppliers. In addition, the webpage will include resources developed to assist the workforce with understanding MIA policies and regulations such as links to E.O. 14005; published March 7, 2022; OMB's Memorandum 21-26, Increasing Opportunities for Domestic Sourcing and Need for Waivers; dated October 26, 2021; other MIA-related websites (e.g., MIAO, Manufacturing Partnership Extension (MEP), etc.); the Agency's internal waiver process; external and internal training courses available through the FAI related to MIA; and the NASA policy changes.

NASA is actively engaged in and working on the FAR rule that is being processed by the FAR Council member agencies (i.e., NASA, DoD, and GSA). In addition to FAR Case 2022-004, Enhanced Price Preferences for Critical Components and Critical Items, the FAR Council has or will be opening additional cases to meet requirements of EO 14005 and the IIJA as follows:

- FAR Case 2020-009 updates the non-available articles list at FAR 25.104(a).
- List non-availability waivers – Codify deviation in Civilian Agency Acquisition Council (CAAC) Letter 2022-01, dated November 16, 2021.
- Note public interest waivers – Section 70921(b) of the IIJA and Section 5 of EO 14005.
- Provide waiver transparency – Sections 70921(a)(3), 70936, and 70937 of the IIJA; Sections 4 and 6 of EO 14005.
- Define “end product manufactured in the United States” – Section 70921(d) of the IIJA.
- Remove domestic content test exemption for iron/steel (COTS) fasteners – Section 70922 (a) and (b) of the IIJA.

In accordance with the OMB Memorandum M-21-26, Increasing Opportunities for Domestic Sourcing and Reducing the Need for Waivers from Made in America Laws, the head of each covered agency, through its Senior Accountable Official (SAO), is required to report on its use of Made in America laws (pursuant to Section 11 of EO 14005). NASA's SAO is Margaret V. Schaus, Chief Financial Officer. Section 12 of the

EO 14005 requires agencies following their initial submission to submit bi-annual reports on the agency's ongoing implementation of, and compliance with, Made in America Laws to the MIAO Director.

The report format is in accordance with the report elements prescribed in the OMB Memorandum and includes: updated policies, processes and/or procedures as they relate to strengthening compliance with Made in America Laws across the agency; communication strategies for any departments/offices under the agency to ensure consistency and compliance with Made in America Laws; efforts to reduce the need for waivers; specific barriers (can include agency, legal, or other policy matters) to eliminate existing agency waivers; agency success stories that identify and support new sources of Made in America products (e.g., a firm the agency has not utilized in the past three years); agency market research tactics to identify domestic suppliers to meet agency needs. Responsible NASA offices for this report are the Office of Procurement (OP) and the Office of the Chief Financial Officer (OCFO). NASA's initial report was submitted in July 2021. The second report was submitted March 2022. The third report was submitted in August 2022. The fourth report was submitted in February 2023.



NASA astronaut and Expedition 68 Flight Engineer Nicole Mann's image is refracted through a sphere of water flying weightlessly in microgravity.

In accordance with FAR Part 25 and the NFS 1825, NASA's acquisition workforce acquires domestic end products to the maximum extent practicable and uses the exceptions available in the current FAR Subsection 25.103, exceptions, when necessary, to support the Agency's mission under various programs and projects. NASA's Office of Procurement use of waivers (exceptions) reported in the Federal Procurement Data System (FPDS) in FY21 & FY22 is as follows:

FY21: NASA Procurement Waiver Data

Exceptions	Actions	Dollars
1. Public interest	0	\$0.00
2. Non-availability of domestic end products	56	\$23,820,096.38
3. Unreasonable cost of a domestic end product	14	\$1,244,438.57
4. Commissary resale	16	\$700,028.84
5. Commercial information technology Subtotals	18	\$4,343,557.66
Subtotals	N/A	\$30,108,121.45
6. Trade Agreement	8	\$494,240.00
7. Use Outside U.S.	17	\$2,186,840.32
Totals	129	\$ 32,789,201.77

FY22: NASA Procurement Waiver Data

Exceptions	Actions	Dollars
1. Public interest	0	\$0.00
2. Non-availability of domestic end products	47	\$14,431,152.93
3. Unreasonable cost of a domestic end product	16	\$2,038,115.00
4. Commissary resale	20	\$475,534.05
5. Commercial information technology	38	\$1,981,470.72
Subtotals	121	\$18,926,272.70
6. Trade Agreement	7	\$1,663,489.56
7. Use Outside U.S.	19	\$283,640.49
Totals	147	\$ 20,873,402.75

AbilityOne Program

Enabled by the Javits-Wagner-O'Day (JWOD) Act, AbilityOne is a program that provides employment opportunities to almost 40,000 people who are blind or have significant disabilities. The AbilityOne Program uses the purchasing power of the federal government to buy products and services from participating, community-based non-profit agencies nationwide, dedicated to training and employing individuals who are blind or have significant disabilities.

In FY22, NASA's FAR Supplement (NFS) was revised to encourage the use of the AbilityOne Program; ensure compliance with the requirement to execute federal buying in accordance with mandatory source contracting procedures; and support achievement of NASA's pledge to increase its AbilityOne spend. This was accomplished through revision of NASA FAR Supplement (NFS) 1808.705 to provide guidance to contracting officers on engaging with the AbilityOne Program during market research and the development of an "AbilityOne Coordination Template". The template is de-

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signed to ensure contracting officers provide the information necessary for the AbilityOne Program to assess whether a requirement can be satisfied by AbilityOne nonprofit agencies. Providing the information requested by this template will aid in decreasing the coordination time between AbilityOne and the contracting officer.

In May 2022, NASA's Senior Accountable Official (SAO) and Deputy Administrator signed an AbilityOne Advocacy Memorandum that was issued to Officials-in-Charge of Headquarters Offices and Directors at NASA Centers to further emphasize NASA's commitment to increasing opportunities for underserved communities.

In FY22, NASA obligated \$20M on six prime contracts with AbilityOne nonprofit agencies which represents a \$1.1M increase over NASA's FY21 AbilityOne obligations of \$18.9M.

Through continued collaboration with the AbilityOne Program and NASA stakeholders, NASA will continue to strive to identify untapped procurement opportunities for utilization of AbilityOne nonprofit agencies, as both prime contractors and subcontractors, to make a more positive impact on our communities and the economy.

Historically Black Colleges and Universities/Minority Serving Institutions (HBCU/MSI) Technology Infusion Road Tours

NASA's OP, in collaboration with the OSBP, Space Technology Mission Directorate (STMD), the Science Mission Directorate (SMD) and the Office of Science, Technology, Engineering and Mathematics (OSTEM) hosted the NASA Historically Black College and University/Minority Serving Institution (HBCU/MSI) Technology Infusion Road Tour. Together with these NASA partners, we provided an open platform for HBCU and MSI representatives to learn about NASA's Mentor-Protégé Program (MPP), STMD's Small Business Innovative Research/Small Business Technical Transfer (SBIR/STTR) opportunities, SMD's science research opportunities, grants, fellowships, and contracts as well as OSTEM's grant and cooperative agreement opportunities. They also received some insight into the working of OP and were able to meet and ask questions directly with the senior leadership; such as the Assistant Administrator, Deputy Assistant Administrator, Directors, Deputy Directors, and Procurement Officers.

The Road Tour is designed to increase awareness and demystify the process for partnering with NASA, therefore ultimately increasing the dollars awarded to HBCU/ MSI, enabling them to meet or exceed its goal. This initiative will serve as a continuous improvement method moving forward for all parties involved.

While we have seen success and results from the HBCU/MSI Technology Infusion Road Tour, we realize that there continues to be a challenge for universities diligently seeking access to NASA contracts. By understanding and addressing the issues associated with acquisitions and contracting, in a closed forum amongst NASA, other Federal Government agencies, Large Business Prime Contractors, and HBCUs/MSIs, we are continuously seeking for ways to improve dialogue with educational institutions in order to continue meeting our missions.

OP participated, in support of the White House Initiative, during the National HBCU week in Washington, D.C. OP provided an overview on NASA Research and Grant Opportunities and educated attendees on how to find and respond to the many opportunities within the Agency. OP continues to work closely with our partners in OSBP by participating in their quarterly learning series.

FY2022 FAR Cases

As a Federal Acquisition Regulation Council member, NASA was a key participant in the completion of eight Federal Acquisition Circulars issued in FY22, with 11 Final or Interim Rules published. In addition, seven Proposed Rules and one Advance Notice of Proposed Rulemaking (ANPR) were published for a total of 19 cases overall in FY22. NASA also actively participated on the FAR drafting teams responsible for facilitating changes to the FAR in response to legislative and executive priorities. Many of the cases this year (59%) were non-statutory in origin, with 41% statutory.

NFS Policy – Priorities and Initiatives

Diversity, Equity, Inclusion, and Accessibility (DEIA)

In support of the Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities through the Federal Government, NASA is seeking to advance equity or remove barriers for members of underserved communities to access procurement opportunities. Underserved communities refer to populations sharing a particular characteristic,

as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life. Underserved communities include Black, Latino, Indigenous, Native American, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; LGBTQIA+ persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.

As a part of NASA's framework to support its plan to ensure the requirements of Executive Order 13985, titled "Advancing Racial Equity and Support for Underserved Communities through the Federal Government," is implemented within the Agency's acquisitions, NASA developed a DEIA Plan Data

Requirements Description (DRD) which was implemented in the first quarter of FY22. This DRD establishes a requirement for awardees of contracts \$5M or greater, except for construction and commercial supply contracts and individual task/delivery orders against NASA Indefinite – Delivery, Indefinite-Quantity Contracts, to submit a DEIA Plan within 30 days of contract award.

The intent of a DEIA plan is for the contractor to demonstrate a commitment to fairness regarding diversity, equity, inclusion, and accessibility. The DRD requires inclusion in the DEIA plan of the qualitative and quantitative approaches to be utilized by contractors to measure progress in the areas of Leadership and Commitment, Diverse Talent, and Culture and Sustainability. The DEIA plan provides NASA with an understanding of how the contractor plans to recruit, retain, and develop a diverse

Type of Rule	FAR Case	Publication Date	FR Publication
P	2022-002, Exemption of Certain Contracts from the Periodic Inflation Adjustments to the Acquisition-Related Thresholds	9/26/22	87 FR 58300
F	2020-013, Certification of Women-Owned Small Businesses	9/23/22	87 FR 58237
F	2019-007, Update of Historically Underutilized Business Zone Program	9/23/22	87 FR 58232`
F	2018-020, Construction Contract Administration	9/23/22	87 FR 58227
F	2017-019, Policy on Joint Ventures	9/23/22	87 FR 58219
P	2022-007, Removal of FAR Subpart 8.5, Acquisition of Helium	9/19/22	87 FR 57166
P	2022-003, Use of Project Labor Agreements for Federal Construction Projects	8/19/22	87 FR 51044
F	17 2016-002, Applicability of Small Business Regulations Outside the United States	4/26/22	87 FR 24836
F	2021-008, Amendments to the FAR Buy American Act Requirements	3/7/22	87 FR 12780
P	2019-008, Small Business Program Amendments	2/24/22	87 FR 10327
I	2021-014, Increasing the Minimum Wage for Contractors	1/26/22	87 FR 4117
F	2022-001, Trade Agreement Thresholds	12/30/21	86 FR 74528
F	2021-003, Update to Certain Online References in the FAR	12/15/21	86 FR 71323
P	2020-014, United States-Mexico-Canada Agreement	12/13/21	86 FR 70808
ANPR	2021-016, Minimizing the Risk of Climate Change in Federal Acquisitions	12/7/21 and 10/15/21	86 FR 69218 and 86 FR 57404
F	2021-007, Maximum Award Price for Certain Sole Source Manufacturing Contracts	11/4/21	86 FR 61040
F	2019-003, Consolidation and Substantial Bundling	11/4/21	86 FR 61038
F	2018-018, Revision of Definition of "Commercial Item"	11/4/21	86 FR 61017
P	2020-013, Certification of Women-Owned Small Businesses	10/7/21	86 FR 55769

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high performing workforce from underserved communities.

Procurement Control Board (PCB)

The Procurement Control Board (PCB) was formed in late FY19 as part of OP's transition to an enterprise organization and is chaired by the Deputy Assistant Administrator for Procurement. The PCB serves as the governance and decision-making body within the NASA Office of Procurement to approve standardized operational procurement policies and/or processes to be implemented enterprise-wide (e.g., templates/guides/ processes that the buying offices use for daily operations) as well as agency-wide or regulatory procurement policy. Through hard work and perseverance in 2022, the PCB developed, approved, and established a total of 92 enterprise-wide templates in 78 different topic areas that replaced 331 center templates previously used across the Agency in these topic areas. This resulted in an overall 72% reduction in Agency templates, implementation of a common experience, and streamlined the process.

In 2022, the PCB continued to approve standardized operational procurement policies and/or processes for implementation enterprise wide. For example, the PCB collaborated with the Office of International and Interagency Relations (OIIR) to develop and approve the "Foreign Travel by Contractor Employees on NASA Official Business." Then, they standardized policy used to supplement the statement of work or performance work statement in NASA contracts regarding the training needed for contractor and subcontractor employees when traveling abroad on official NASA business.

Similarly, the team also collaborated with the Office of Protective Services, Counterintelligence Division to establish the "Counterintelligence Briefings" requirement statement and standardized policy used in contracts requirements for pre- and post-travel counterintelligence threat briefings when contractor and subcontractor employees travel on official NASA travel to high intelligence-threat areas. Both of these requirement's statements will increase the effectiveness of the travel process by contractor employees by providing information regarding training and briefings when these employees travel to foreign and designated countries on NASA official business.

Purchase Card - NASA APR

One of the most profound and impactful accomplishments during FY22 involved the NASA P-Card Program and resulted from the implementation of Section 889, paragraphs (a)

(1)(A) and (a)(1)(B) of the John S. McCain National Defense Authorization Act (NDAA) for Fiscal Year 2019 (Pub. L. 115-232), Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment. This prohibition applied to commercial item purchases, including Commercial-Off the Shelf (COTS) items and to purchases at or below the simplified acquisition threshold. Section 889 of the FY19 NDAA was implemented at NASA and across the entire Federal Government, as a national security measure to protect government information, as well as government information technology (IT) and communication technology (CT) systems.

Paragraph (a)(1)(A) (Part A) of Section 889 prohibited the Federal Government from procuring or obtaining or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunication equipment or services as a substantial or essential component of any system, or as a critical technology as part of any system on or after August 13, 2019, unless an exception applies, or a waiver has been granted. The covered telecommunication equipment or services are those provided by Huawei, ZTE, Hikvision, Hytera, and Dahua and their subsidiaries and affiliates.

Paragraph (a)(1)(B) (Part B) of Section 889, effective on August 13, 2020, prohibited Federal Government agencies from entering, extending, or renewing a contract [including purchase card transactions] with an offeror or contractor that uses any equipment, system, or service using telecommunications or video surveillance equipment or services from certain named companies as a substantial or essential component of any system, or as critical technology as part of any system.

The proscribed companies are Huawei, ZTE, Hikvision, Hytera and Dahua and their subsidiaries and affiliates. Part B was more far-reaching than Part A because while Part A prohibits agencies from procuring prohibited products and services, Part B prohibits agencies from contracting with entities that use the covered proscribed products and services, even if such use is not related to a Federal Government contract.

Due to the wide applicability of Section 889, it was determined that it would require considerable time and effort for the Federal Government to establish procedures and systems for vetting companies regarding compliance with this law, and to obtain the required FAR representations from companies that do business with the Federal Government. Accordingly, out of an abundance of caution, NASA HQ-OP, in conjunction with NSSC and senior NASA leadership, made the unprecedented decision to pause the Agency's P-Card Program; thereby, pro-

hibiting the use of all NASA purchase cards and convenience checks. This extreme measure was put in place to protect the U.S. Government and the integrity of our NASA missions and the programs and projects that support NASA's mission.

As the Agency gained a better understanding of the Section 889 requirements and developed procedures and forms to better facilitate cardholder compliance, HQ-OP reopened the P-Card Program, but only to a few select number of cardholders (approximately 20% of the pre-Section 889 total). Determining compliance with section 889 is an ongoing challenge for Agency's card holder.

For every purchase, cardholders were required to access SAM.gov and wade through a plethora of FAR clause-based representations & certifications to locate the applicable Section 889 representations. Unlike contracting professionals, cardholders are not accustomed to working with FAR clauses; therefore, the exercise created a level of stress and burden that didn't exist previously.

Over the next several months, the number of cardholders increased, but the challenges and extra burden associated with providing evidence of Section 889 compliance for vendors remained. It appeared this would be the norm for the foreseeable future until HQ-OP received word through the NSSC Agency Program Coordinator (APC) and Deputy APC that a small team out of Langley Research Center (LaRC), namely Ben Jensen, Mia Siochi, and Godfrey Sauti, had developed a Section 889 compliance tool that was being used by all LaRC cardholders.

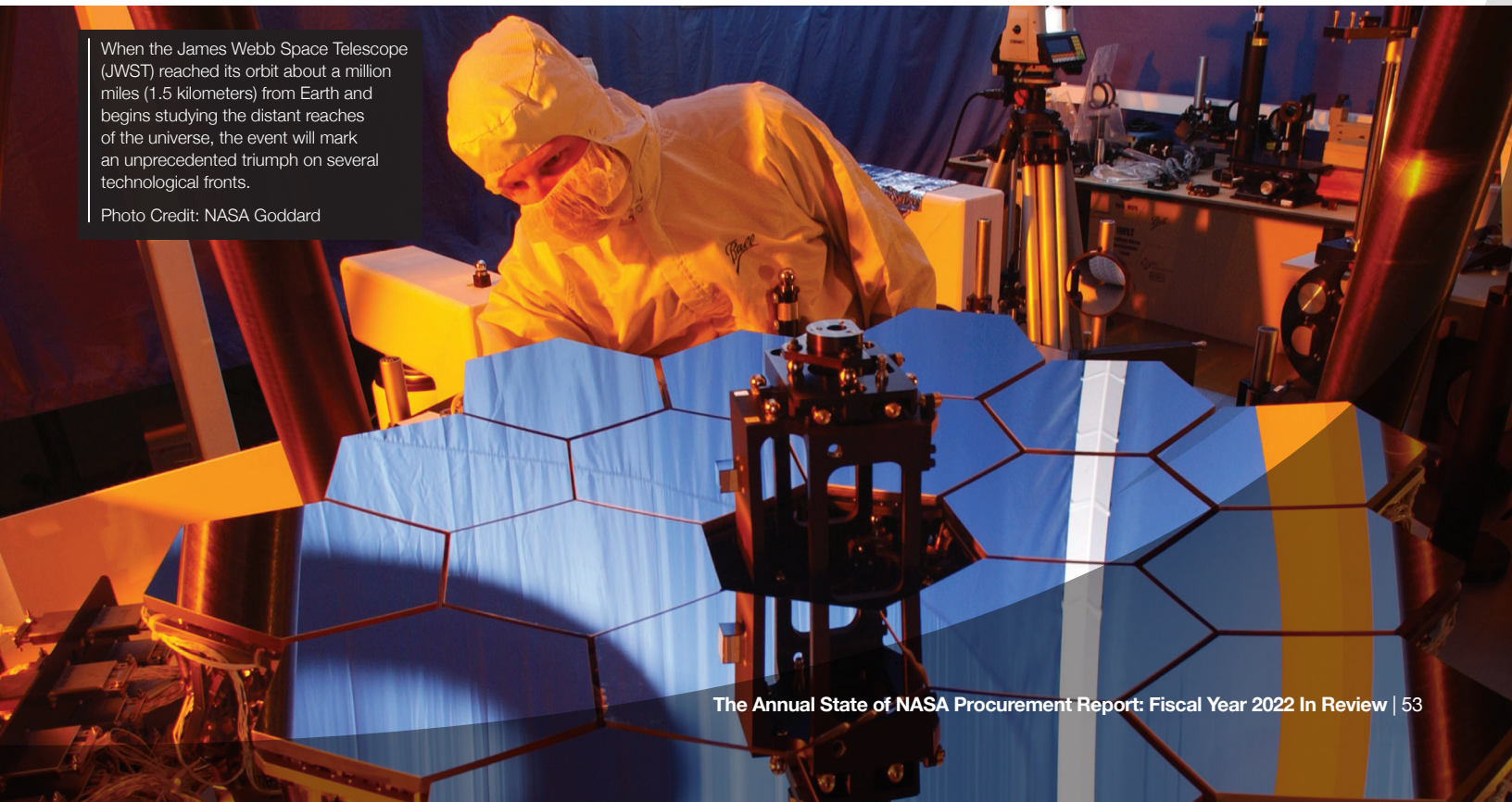
The tool provides a quick and reliable confirmation of a vendor's compliance with Section 889, both Parts A & B, without the user having to know the vendor's DUNS number or wade through a plethora of FAR clauses/Reps & Certs on SAM.gov. The LaRC tool instantaneously returns a highly visible blue "compliant" indicator simply by locating the vendor's name, making it a great market research tool for cardholders, contracting officers, and end-users/requestors of supplies and services.

As HQ-OP and the NSSC contemplated and sought approvals to roll-out the LaRC-developed tool across the Agency, the NSSC APC and Deputy APC further suggested to HQ-OP that the Section 889 tool might be too big and too profound to confine it within the walls of NASA and recommended the Agency offer the tool to GSA for possible deployment federal-wide. When the tool was demonstrated for GSA purchase card leadership, GSA described the tool as "slick" and "elegantly simple to use, especially for non-procurement cardholders." GSA accepted the tool as well as full responsibility for its maintenance and roll-out federal-wide, to all government cardholders.

While the LaRC team is due a huge gratitude for their initiative in the development of the Section 889 tool, the NSSC is also due its proper credit and thanks for sharing the news of the tool with HQ-OP and for their advocacy and tenacity in seeking approval to transfer the amazing tool to GSA for the benefit of many.

When the James Webb Space Telescope (JWST) reached its orbit about a million miles (1.5 kilometers) from Earth and begins studying the distant reaches of the universe, the event will mark an unprecedented triumph on several technological fronts.

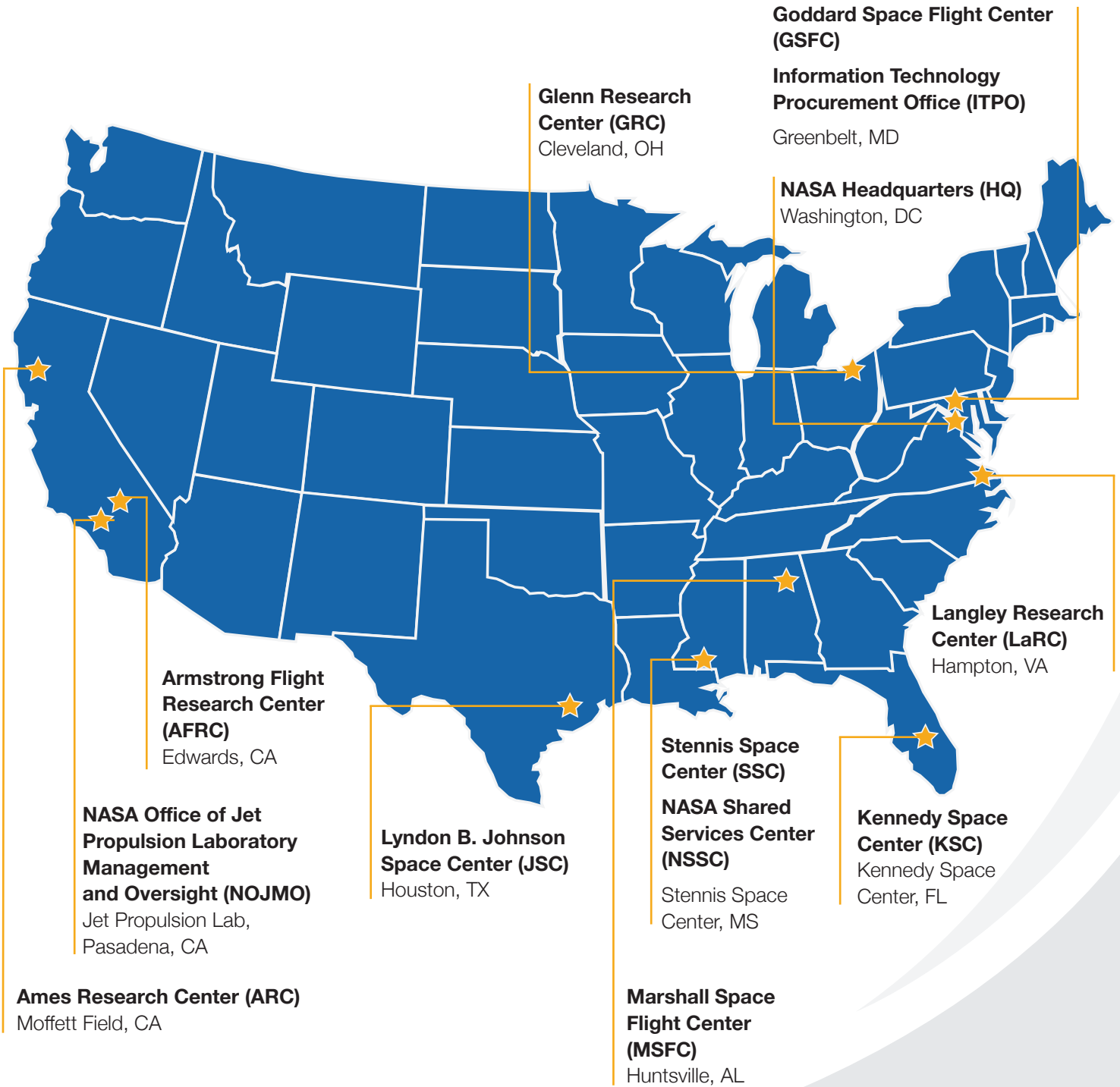
Photo Credit: NASA Goddard





**Procurement
Office Location
Highlights**

Procurement Office Location



Ames Research Center (ARC)

Moffett Field, California



Dustin Holta, launch engineer, left, and Rebecca Rogers, systems engineer, right, wrap the CAPSTONE spacecraft dispenser in a thermal blanket with the spacecraft stowed inside at Tyvak Nano-Satellite Systems, Inc., in Irvine, California.
Photographer: Dominic Hart

About ARC:

NASA's Ames Research Center, one of ten NASA field centers, is located in the heart of California's Silicon Valley. Since 1939, Ames has led NASA in conducting world-class research and development in aeronautics, exploration technology and science aligned with the center's core capabilities.



Kurt Straub
Procurement Officer

Introduction

The Ames Research Center (ARC) OP concluded FY22 successfully with timely closeout of FY22 activities. As a group of 48 civil servants, 121 actions were processed, obligating nearly \$454.7M to ensure that ARC could continue operations without interruption. Behind the scenes, to enable this, COs frequently worked extended hours and employed creative and responsive approaches to ensure nearly 17% of the Center's annual obligations were recorded within the last month of the fiscal year. Notably in April 2022, ARC awarded contract 80ARC-022DA011 to Jacobs Technology Inc. of Tullahoma, Tennessee for Aerospace Testing and Facilities Operations and Maintenance (ATOM-5). The contract provides support services for ground-based aerospace test facilities at the Center. The contract supports a vast number of experiments in the ground-based aerospace facilities at Ames, including wind tunnels, high-enthalpy ARC jet facilities, and the Sensor and Thermal Protection System Advanced Research (STAR) Lab. This is a hybrid contract; five-year POP, FFP core management, CPFF core technical, IDIQ component, with a contract value of \$209M.

Directorate Acquisition Representatives (DARs)

Each directorate to designate a Point of Contact (POC) within the directorate responsible for concurring with all requirements and relevant Procurement Requests package contents for which the technical directorate is responsible. Ensuring that all documentation required to support an acquisition is developed in a timely and effective manner is key to ensuring the procurement meets the planned schedule.

The DAR is the technical focal point for ensuring all documentation and planning for new acquisitions is completed in a timely and effective manner. The DAR will participate, as necessary, in strategic planning discussions held to determine contract type and other major business decisions for the acquisition.

It is expected that the DAR will be an individual that works at the directorate level. The individual should have knowledge of the technical requirements of the directorate as well as experience with ARC's procurement process.

Redesign of the Monthly Procurement Tag to the Executive Committee

Implementation of a one-page document focused on the most relevant data, but also helps to facilitate the conversation around schedule, accountability, responsibility, and surface obstacles that may be preventing effective/timely accomplishment of milestones. It is of significant importance that we have transparent conversations to help us all accomplish the common goal of awarding/executing a contract to provide the necessary services to accomplish mission.

Quarterly Procurement Officer/Deputy Procurement Officer Roadshows

ARC OP believes that it's important to conduct in-person roadshows as much as possible. The plan is for ARC OP to conduct roadshows with each individual Technical Directorate. The content of the roadshow will evolve over time to capture the most current and relevant information.

Leadership Training

ARC OP is motivated to foster a partnership with our technical customer/teammates in the acquisition process. Both Technical and Procurement are instrumental in achieving success with awarding an effective contract and proceeding with efficient/effective contract administration. As such, we are not only looking to the Technical Directorates for support, but we are also exploring our organization from an inward perspective to help us identify what is working, what is not working, and how we can move forward to build an effective partnership.

Armstrong Flight Research Center (AFRC)



Edwards Air Force Base, Edwards, California

NASA's Armstrong Flight Research Center ER-2 #809 high-altitude aircraft prepped for Dynamics and Chemistry of the Summer Stratosphere (DCOTSS) science flights in Palmdale, CA.

Photographer: NASA/Lauren Hughes



About AFRC:

The Armstrong Flight Research Center is NASA's primary center for high-risk, atmospheric flight research and test projects. The center has the facilities and requisite expertise to conceive, design, analyze, fabricate, integrate, maintain, and conduct disciplinary research, flight research and flight test on modified or unique research vehicles and systems. Armstrong's strength is in integration of complex developmental systems.

Introduction

The Armstrong Flight Research Center (AFRC) OP had a year full of innovation, growth, and countless contributions to revolutionizing air transportation. In FY22, the Center workforce comprised of 18 civil servants processed 659 actions, obligating over \$273M.

Notably in FY22, the Agency's supersonic X-59 experimental aircraft returned from ground tests in Fort Worth, Texas, and work began on integrating key components. AFRC led key milestones in some of the final developments in the X-59's construction, including the system check of the ejection seat and final installation of the F414-GE-100 engine.

NASA's X-57 Maxwell all-electric aircraft reached another milestone toward first flight. Lithium-ion battery packs were successfully installed and powered the plane's motors. AFRC is advancing all-electric propulsion technology that will make aviation more efficient, quiet, and environmentally friendly. NASA Armstrong's Flight Loads Laboratory also completed its most complex loads calibration tests on an F/A-18E Super Hornet from the Naval Air Systems Command (NAVAIR) in Patuxent River, Maryland.

In support of the Agency's work in space exploration, Armstrong supported development and testing efforts for the Orion spacecraft and other key elements of NASA's Artemis missions. Additionally, NASA Armstrong had some key contributions for the Low-Earth Orbit Flight Test of an Inflatable Decelerator.

The Electric Powertrain Flight Demonstration (EPFD)

The Electric Powertrain Flight Demonstration (EPFD) project is a part of NASA's Integrated Aviation Systems Program (IASP) which conducts flight-oriented, system-level research, and technology development to mature and transition advanced



James Eastman
Procurement Officer

hybrid electric aeronautic technologies into future air vehicles and operational systems. IASP focuses on the execution of highly complex flight tests and related experiments to support all phases of NASA's aeronautics research.

The awards under the EPFD project announcement are hybrid firm-fixed-price/cost-share contracts. The total combined value of the awards is \$253.4M, and the work will be conducted over the next five years. The companies that received awards and their award values are:

- GE Aviation (GE) of Cincinnati, Ohio, \$179M.
- magniX USA Inc (magniX) of Redmond, Washington, \$74.3M.

In 2022, U.S. companies were selected to support rapidly maturing Electrified Aircraft Propulsion (EAP) technologies through ground and flight demonstrations. Through the EPFD program, NASA seeks to introduce EAP technologies to U.S. aviation fleets no later than 2035, supporting short-range and regional commercial air travel, as well as single-aisle seat transports.

NASA is collaborating with industry partners to demonstrate these technologies by using existing aircraft that will be modified and flown with EAP systems and components. EPFD also will assist industry in addressing key technical barriers and risks associated with integrating EAP systems into airliners, as well as help identify and evaluate new standards for future EAP aircraft. EAP technologies offer innovative solutions to making flight more sustainable— including lighter and more efficient motors, electronics, and materials that can help reduce emission levels and improve fuel efficiency.

The EPFD project will test these technologies for future use in smaller, regional aircraft with less than 100 passengers, as well as single-aisle commercial airliners designed for around 180 passengers and operating longer-distance flights. The EPFD procurement is a stellar example of how a group of technical, procurement, and legal professionals working together across multiple NASA centers can come together to execute a “traditional” government acquisition and successfully evaluate seven contractor proposals and award two contracts to highly non-traditional government businesses within 145 days from proposal receipt to contract award.

PROCUREMENT OFFICE LOCATION HIGHLIGHTS

Microgravity Flight Services Contract

The NASA Flight Opportunities Microgravity Flight Services Contract, 80AFRC21DA004, has been used at multiple NASA centers and is available for other government agencies. NASA partnered with the Transportation and Logistics Services (T&LS) category to determine possible Spend Under Management (SUM) status. After completing the review process, NASA submitted its Tier 2 proposal to Office of Management and Budget (OMB) and received its new tier status approval within six business days.

- These contracts are 100% small business and increased Standard Billing Unite (SBU) with an additional \$1.5M in spend within FY22.
- With the increased tier status, NASA supported the T&LS with a total contract value of \$7.5M in SUM.

Some task orders issued in FY22 have been for a station specialist from the International Space Station (ISS) team to evaluate a Fiber Optic Manufacturing in Space (FOMS) space fibers payload prior to being sent to the station, a research scientist from the Fluidic Telescope Experiment (FLUTE) team to evaluate their payload coordinated through Ames Research Center (ARC), and a United States Air Force Academy (USAFA) cadets training opportunity regarding the conditions and effects of working in microgravity environments with tools and experiments. The recent order by USAFA, which captured photos and videos, had intangible benefit of increasing cadet enrollment. There are current discussions with USAFA to increase to six flights per year.

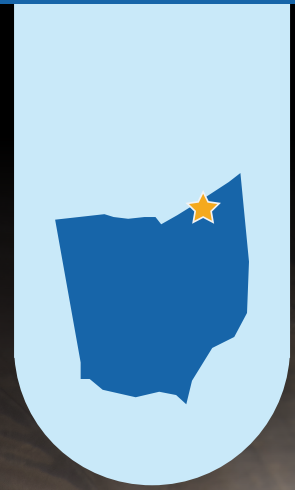


NASA's all-electric X-57 Maxwell continues to undergo high-voltage ground testing with successful spinning of the propellers under electric power at NASA's Armstrong Flight Research Center in California.

Photographer: NASA/Lauren Hughes

Glenn Research Center (GRC)

Cleveland, Ohio



A worker sets up a Commercial Supersonic Transport, CST Project, X-59 Sonic Boom Test Model, in the 8x6-foot Supersonic Wind Tunnel at Glenn Research Center.

Photographer: NASA/GRC/Quentin Schwinn



PROCUREMENT OFFICE LOCATION HIGHLIGHTS

About GRC:

The NASA Glenn Research Center in Cleveland, Ohio designs and develops innovative technology to advance NASA's missions in aeronautics and space exploration. GRC and ARC are both overseen by Procurement Officer Kurt Straub.



Kurt Straub
Procurement Officer

Introduction

The Glenn Research Center (GRC) OP, made up of 40 civil servants, concluded FY22 successfully by processing \$633M in obligations. Among the highlights were the Power and Propulsion Element (PPE), awarding six Engineering Change Proposals in the summer of 2022. Other actions of note included the obligation of over 95% of the funding received from the Department of Defense (DoD) (approx. \$30M) to relocate the NASA Electrified Aircraft Engineering Testbed (NEAT) facility from one location at the Armstrong Test Facility at Plum Brook Station, to another onsite location. Once the NEAT facility is relocated with DoD's cooperation, DoD will take possession of and operate the Hypersonic Test Facility at the Armstrong Test Facility. All tasks are being performed by small businesses from either the GRC's multiple award construction contracts or the GRC Test Facilities Operation Maintenance and Engineering contract.

Notable Accomplishments

GRC OP awarded two Phase One contracts via a NASA Research Announcement to upgrade the high voltage systems at Lewis Field. The multimillion-dollar contracts for the NASA Hybrid Thermally Efficient Core (HyTEC) Project were solicited and awarded within eight months. Additionally, GRC OP was instrumental in helping the Partnerships Office solicit and award more than 10 funded Space Act Agreements in support of the Communications Services Project, which will aid in commercialization of the Space Communications realm, tying in terrestrial, near earth, and deep space communications via a series of compatible relays.

CY 2023 Initiative

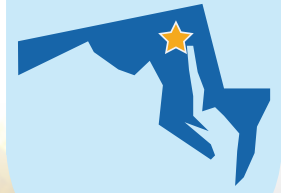
GRC and ARC OP have implemented a Joint Educational Development Initiative to train newly on-boarded employees more efficiently. Facilitation and "Train the Trainer" classes will be provided for presenters to provide training on functional systems and procurement foundations.

Goddard Space Flight Center (GSFC)

Greenbelt, Maryland

The James Webb Space Telescope mirrors have completed deep-freeze tests and are removed from the X-ray and Cryogenic test Facility

Photographer: NASA Goddard



PROCUREMENT OFFICE LOCATION HIGHLIGHTS

About GSFC:

Goddard Space Flight Center missions' support multiple scientific disciplines, including Earth science, solar science and the sun-Earth environment, planetary studies, and astrophysics.



Mary Stevens
Procurement Officer

Introduction

The Goddard Space Flight Center (GSFC) was established as NASA's first spaceflight center. Since then, GSFC has grown to one of the largest scientific organizations in the world, with more than 10,000 employees in total. Of that 10,000, 148 personnel make up the GSFC OP. In FY22, GSFC OP processed 4,150 actions, totaling over \$3.2B in obligations.

Commercial SmallSat Data Acquisition (CSDA) Program

NASA spends roughly \$30M a year evaluating commercial data sources and purchasing datasets. The increasing pace of commercial satellite launches prompted NASA officials to look for ways to improve the data-acquisition process.

As a result, the Commercial SmallSat Data Acquisition (CSDA) Program for the NASA Science Mission Directorate (SMD), Earth Sciences Division (ESD) was initiated in November 2017 as a pilot recognizing the potential impact commercial small-satellite (smallsat) constellations may have in encouraging/enabling efficient approaches to advancing Earth System Science and applications development for societal benefit. Debra Werner via *Space News*; Jan 28, 2022.

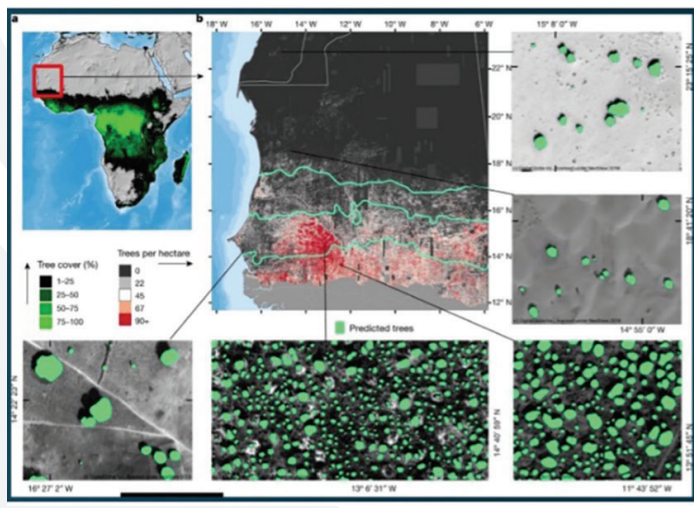


Image of the CSDA Program

In early 2022, NASA moved on from the pilot to the start of a new competitive acquisition to acquire earth observation data and related services from commercial sources. This effort will serve as a streamlined and flexible method for the government to acquire data from commercial sources that support NASA's Earth science research and application activities. Emphasis will be placed on data acquired by commercial constellations, affording the means of complementing NASA's Earth observations data with higher resolutions, increased temporal frequency or other novel capabilities.

This acquisition will award Multiple IDIQ contracts with FFP task orders with a five-year effective ordering period.

The Draft Request for Proposal (DRFP) was issued in September 22. In response to the DRFP, GSFC has received approximately 56 questions in which responses were posted. The Final Request for Proposal was released in early 2023.

Some interesting aspects of this acquisition include a competitive "on-ramp" feature which will allow potential new CSDA vendors the opportunity to be awarded a contract. In addition, it will allow adding new data products to the existing vendors' catalogs. NASA will require End User License Agreements (EULAs) to enable broad levels of dissemination and shareability of the commercial data with U.S. government agencies and partners. There will be a set of government-defined license tiers (i.e., EULA tiers) associated with all contracts and task orders awarded for Scientific Non-Commercial Use.

GSFC's Dashboard

To provide a holistic view of the office's performance or the organization's performance, GSFC created a customized internal dashboard that displays data visualizations accessible from a single location.

Various types of performance metrics reports are summarized and displayed on the dashboard using graphic visualizations. Performance data displayed on the dashboard is selected by the Procurement Officer and can vary upon the interests and needs of the organization, Center, and/or Agency. Items that the dashboard has reported include UCAs, procurement

PROCUREMENT OFFICE LOCATION HIGHLIGHTS

lead-times, contract actions (e.g. funding mods, awards), Contractor Performance Assessment Rating System (CPARS) compliance, turnaround time to issue Flight Dynamics Officer (FDO) letters, Award Fee Evaluation System (AFES) reporting, closeout actions/progress, and more.

The dashboard provides data at the organization-level, as well as the office-level. Managers of each procurement office use the dashboard to monitor the performance of their staff, address outstanding actions, identify areas of efficiencies/improvement, and manage staff workload. The Procurement Officer conducts monthly reviews of the dashboard, along with the respective managers of each procurement office, to monitor the office's performance, track progress, identify efficiencies/inefficiencies, and manage workload. The dashboard also assists management with identifying trends, process improvement, strategic planning, forecasting, as well as providing access to historical data. Overall, the dashboard provides quick and easy-to-interpret visual data that helps improve the management, health, and productivity of the organization.

GSFC's Procurement Masters Forum

GSFC held its first Procurement Masters Forum in June 2011. Since that date, there have been over 20 forums held. Generally, this in-house training opportunity has been presented twice annually to provide first-hand accounts of procurement cases that have occurred within GSFC's procurement organization. The forums originated as a response to a request by our Contract Specialists for more in-house training that is relevant and directly applicable to the work we perform. In response to this request, GSFC's Chief Knowledge Officer in 2011 (since retired), Ed Rogers, worked collaboratively with Cindy Cherrix, GSFC's Associate Division Chief for Business Operations, to design the Procurement Masters Forum.

The forums were originally developed as an all-day learning experience where multiple cases were presented, and the discussion was led by the Contracting Officer or Management Team member who experienced the acquisition. All levels of Contract Specialists are welcome to attend, and discussion amongst participants is encouraged as it's an important aspect of this learning opportunity. There was also a case study that was developed and presented virtually.

A variety of topics have been presented as part of GSFC's Procurement Masters Forum over the years. They include new award strategies, complex change order negotiations,

and damaged government property claims. There have also been interactive training modules related to Small/Small Disadvantaged Business Contracting and Procurement Systems Training such as "Government Acquisition Reporting: Follow the Money." Additional past topics included the cases below, and more are planned for the future:

- **Scratch That:** A Global Precipitation Measurement (GPM) case related to a damaged circuit board found at a contractor's facility.
- **Wait, Wait, Wait, Don't Launch:** A case study focused on the authority of the government to stop launch from proceeding under a fixed-price contract for GOES-N weather satellites.
- **Eddie Money Penny and Hurricane Harvey: Yes, I Really Do Need This by Close of Business Today!** A case study focused on flexible procurement strategies and a quick turnaround contract.

Project Management Input for HQ Report

GSFC Procurement has applied project management principles to the acquisition process to ensure acquisitions are awarded in a timely and efficient manner. Project management principles have been applied to all phases of the acquisition process from defining requirements, planning courses of action, monitoring and managing the acquisition schedule and tasks, assessing and identifying risks, troubleshooting issues, status reporting, and completing all actions to successfully award the contract. GSFC has also standardized schedule templates for all pre-award actions and has developed a reporting structure that largely automates the development of executive reporting.

Applying project management principles and standard schedules, tailored to the dollar value of each acquisition, enabled Goddard procurement to conduct an in-depth analysis of procurement action lead time. Goddard analyzed approximately 120 procurements, with over 1,200 data points. This analysis resulted in identifying common areas that caused delays. By identifying these areas, Goddard was able to implement solutions such as process changes and increased management oversight. Applying project management principles and conducting an in-depth schedule analysis has significantly improved the efficiency of Goddard procurements.

Information Technology Procurement Office (ITPO)



Goddard Space Flight Center, Greenbelt, Maryland



Mechanical technicians at GSFC reorient the Ocean Color Instrument (OCI) Optical Module on a rotation fixture to allow for additional hardware integration. OCI is a highly advanced optical spectrometer that will be used to measure properties of light over portions of the electromagnetic spectrum.

Photographer: NASA/Katie Mellows

About ITPO:

Explore and execute innovative, effective, and efficient Information Technology acquisition business solutions to optimize capabilities and operations that enable NASA's missions.



Sarah Pollock
Procurement Officer

Introduction

The Information Technology Procurement Office (ITPO) is a geographically dispersed office made up of 40 civil servants. ITPO works in close partnership with NASA's Office of Chief Information Officer in developing strategic approaches to acquiring and delivering NASA's IT needs. In FY22, the office conducted 1,864 actions and \$709M in obligations.

During FY22, ITPO made significant investments in workforce development and human capital initiatives. The ITPO Senior Management set the vision for the workforce that included the importance of employee development and succession planning at an initial all hands that was followed by monthly all-hands where employees were recognized, job opportunities were announced, and requests for volunteers were presented. This emphasis was further supported by including a special element dedicated toward career development and continuous learning in each employees' performance plan. A primary focus for the ITPO workforce was the Digital IT Acquisition Professional (DITAP) Training Program where nine of our Contracting Officers became certified in FY22.

The ITPO had several members participate in the OP enterprise level Mentor Program both as mentors and mentees. Numerous workforce development opportunities focused on strengthening core competencies, filling skills gaps, and developing future leaders have been offered to the entire procurement team as the ITPO pooled their training funds with Goddard Space Flight Center (GSFC) to maximize the number of classes offered. Approximately 50% of the ITPO procurement team attended the 2022 National Contract Management Association (NCMA) World Congress event either virtually or in-person with two individuals presenting at the conference.

Focused and specialized training efforts included the following topics: Delivering Source Evaluation Board Debriefings with Offerors; Past Performance Evaluation Process; Self-Assessment Results and Areas of Improvement; Federal Procurement Data System; Organizational Conflict of Interest (OCI); and Procurement Administrative Lead Time (PALT)

Plus System. Numerous employees and teams were formally recognized with employee contribution awards. The office is planning its first ever face-to-face teambuilding and training event for 2023.

Given ITPO was recently established in October 2020, there was a strong focus in FY22 in right sizing and properly grading the staff to be commensurate with the complexity of work associated with Agency-level contracts. The ITPO was able to create five new Senior Contracting Officer Positions to manage the Agency-level contracts providing for opportunities to advance in the organization.

In addition, the office was able to establish dedicated external support to include representatives for the Office of Small Business Programs and the Office of General Counsel. These dedicated representatives increased the efficiency and effectiveness in processing procurement actions.

Finally, the ITPO refined its Procurements on Demand (ITPOD) team that focuses on buys ranging from \$250K to \$7.5M along with the processes and templates used by the team. Along with the new positions, dedicated representatives, and process improvements, the ITPO focused on developing robust but efficient hiring practices utilizing Agency-wide job announcements with direct hiring authority.

AEGIS

The AEGIS contract consolidates approximately \$2.5B of support for Agency-wide secure telecommunications services, including Operations and Maintenance of NASA's Communications Infrastructure through IT products and services, end-to-end seamless communications network and infrastructure, telecommunications, cybersecurity support, on-premises and managed cloud data center resources, online collaboration tools, cable plant, emergency and early warning systems, telephony, and radio systems.

The AEGIS contract implements a variety of innovative strategies with the goal of improving contract effectiveness and customer satisfaction, while also reducing cost risk to the

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Government. The contract type is a hybrid, Cost-Plus-Award-Fee (CPAF), FFP, and Award Term, with FFP Indefinite-Delivery Indefinite-Quantity (IDIQ) Task Orders. To reduce cost and cost risk to the Government, there is a mechanism in the contract to move work from CPAF to FFP over the life of the contract. This is done through the Award Terms, which are earned based upon gates requiring acceptable, cost-effective plans for increasing the FFP portion of the contract. In collaborating with OCIO and implementing this significant and innovative change in contract type, the ITPO seeks to bring substantial improvement and cost avoidance to the Agency.

The AEGIS contract standardizes requirements across the Agency thereby leveraging economies of scale and improving efficiencies and effectiveness. Historical decentralized computing services requirements are scheduled to transition into AEGIS thereby reducing duplicative center-specific contracts, aligning with Agency initiatives. This strategy also increases NASA's Spend Under Management for Agency Strategic Sourcing Contracts. This enterprise contract will increase collaboration, allow for the sharing of capabilities across the centers, and support the cross-utilization of employees.

CyPrESS

The CyPrESS contract, valued at \$622.5M, supports all NASA centers and facilities. The contract includes services and supports in the following functional areas: Cybersecurity and Privacy Program Management Support, Cybersecurity and Privacy Oversight Support, Cybersecurity Standards, Architecture and Engineering, Cybersecurity and Privacy Services, Risk Management Framework Services, and Cybersecurity Posture Assessment Services.

Like AEGIS, the CyPrESS contract implements a variety of innovative strategies to improve contract effectiveness and better meet customer needs, while also reducing cost risk to the government. The contract type is a Cost-Plus Award Fee (CPAF) Core and Hybrid Indefinite-Delivery, IDIQ with the ability to award CPAF and FFP task orders.

To reduce cost and cost risk to the government, and like AEGIS, there is a mechanism to move work from CPAF to FFP over the life of the contract. Additionally, for work that is not transitioned to FFP, there is a mechanism to convert from CPAF to CPFF.

The CyPrESS contract standardizes requirements across 32 NASA contracts, thereby leveraging economies of scale and improving efficiencies and effectiveness. Historically decen-

tralized cybersecurity and privacy services are scheduled to transition into CyPrESS, thereby reducing duplicative center-specific contracts and aligning with Agency initiatives.

The CyPrESS contract supports the Agency's goals by transforming the Agency's cybersecurity and privacy services into one enterprise contract for utilization across centers, thereby creating a more efficient, cost-effective model. This enterprise contract will increase collaboration, support the sharing of capabilities across the centers, and allow for the cross-utilization of employees.

The award of the CyPrESS contract also addresses a critical finding in a NASA OIG report that recommended that the Security Operations Center (SOC) services be placed on an enterprise contract. More specifically, the IG noted "[. . .] the current contract vehicle used to procure SOC services limits the Agency's operational flexibility and the ability of SOC management to measure contractor performance. Instead of utilizing a dedicated, Agency-wide service contract, NASA procures SOC services through a task order on a much larger IT services contract at Ames. [. . .] Additionally, while NASA HQ funds the task order for SOC operations, Ames procurement officials are responsible for managing the contract and evaluating contractor performance.

Consequently, OCIO's insight and supervisory authority over this critical Agency-wide enterprise has been limited, adversely affecting SOC personnel and resources." Consolidating cybersecurity and privacy services onto the CyPrESS contract addresses the finding in the OIG report and will provide the OCIO more insight and authority over cybersecurity and privacy services, which includes the critical SOC services. This approach also gives the OCIO more flexibility to enhance operational capabilities to achieve mission goals, while improving the Agency's score.

Further, the OP and OCIO utilize the iSite contract management system for AEGIS and CyPrESS with the goal of improving contract management. The iSite tool enables increased efficiencies and streamlined contract administration, reducing errors and enhancing financial management reporting.

In conclusion, both AEGIS and CyPrESS are major implementation steps in executing the OP and OCIO initiatives that will optimize NASA IT systems, software, and services by eliminating redundancy, reducing duplication, and intelligently centralizing help desks, tools, systems, and applications.

Lyndon B. Johnson Space Center (JSC)



Houston, Texas



An artist's illustration of two suited crew members working on the lunar surface. The one in the foreground lifts a rock to examine it while the other photographs the collection site in the background.

Photographer: NASA

PROCUREMENT OFFICE LOCATION HIGHLIGHTS

About JSC:

Lead Human Space Exploration. Accomplished by focusing on our four priorities: maximize use of the space station; enable the success of the Commercial Crew Program; develop Orion for future missions; and build the foundation for human missions to Mars. Our mission is continual progress towards these four priorities as we extend human exploration to the stars.



Jose Garcia
Procurement Officer

Introduction

The Johnson Space Center (JSC) OP had a historical year. The office, made up of 115 personnel, processed 2,810 actions and over \$4.6B in obligations.

Exploration Extravehicular Activity Services (xEVAS)

The NASA Artemis Program is prepared to achieve the goal of sending the first woman and the next man to the Moon and eventually to Mars. Exploration Extravehicular Activity (xEVA) hardware will be required to explore cislunar¹ space and beyond. Exploration Space Suits are a key element to successfully explore deep-space destinations using EVA technology. NASA has a need for Extravehicular Activity (EVA) capability to support its various human spaceflight missions. The ISS program requires EVA capability to maintain the ISS vehicle through the program lifecycle. The Artemis program needs EVA capability to support sustainable lunar missions and to maintain the Gateway and other programs or missions that may identify a requirement for EVA capability during the performance period of this contract that would need the services under the xEVAS to ensure mission success.

The principal purpose of the xEVAS contract is to procure an “EVA as a Service” solution to provide NASA EVA capability for the ISS and Artemis program missions. The contractor(s) will be responsible for leveraging current government and/or commercial investments to provide an extensible EVA system solution (space suit, associated hardware, and services) for a successful demonstration in a relevant environment and initial certification for use by NASA crew members. Additionally, the contractor(s) will be awarded task order(s) to provide recurring EVA services for ISS and lunar missions, including, but not limited to contractor provided: certified suits; vehicle interfaces; EVA tools and crew aids specific for individual mission

needs; and to support to mission integration, ground operations (fitting, training, etc.), and real-time EVA operations.

The xEVAS procurement will deviate from the government-owned hardware approach previously employed under the previous EVA system contracts/procurements. Instead, the xEVAS procurement will more closely resemble NASA's more recent efforts in developing one or more commercial providers of a service through investments in the space economy that results in overall reduced costs to NASA for the same capabilities. Examples of this approach include the Commercial Crew Transportation Capability (CCtCap) contracts awarded to transport U.S. and international partner crew members to the ISS, the Commercial Resupply Services (CRS) contracts that provide cargo to the ISS, and the recently awarded Gateway Logistics Services (GLS) contract that will supply the Gateway. All three of these contracts implemented a procurement approach to develop commercial capabilities that hadn't existed prior to those procurements but resulted in significant cost savings compared to NASA's historical government hardware ownership approach to procurements. The xEVAS procurement is meant to follow the natural progression of those contracts by developing an EVA capability through a service acquisition approach.

Several companies have invested a significant amount of their own money into development of this new technology. The contractor will own the spacesuits and are encouraged to explore other non-NASA commercial applications for data and technologies they co-develop with NASA. This new approach to spacewalk services encourages an emerging commercial market for a range of customers, and grants NASA the right to use the same data and technologies within the Agency and on future exploration program procurements.

¹Cislunar space is the area around the Earth extending out to just beyond the Moon's orbit and including all of the five Lagrangian points that are stable in position in reference to the Earth and Moon as they rotate about each other.

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One of the unique aspects of the SEB process was the evaluation of potential offeror's commercialization approach for these services. The Offeror was required to describe its commercialization approach for leveraging this effort to enable future commercial uses of EVA capabilities or technologies while maintaining compatibility with NASA's objectives and facilitating sustainable and cost-effective recurring EVA services for NASA. Specifically, The Offeror was required to describe how its commercial approach will benefit NASA's future human exploration missions, including how such an approach could enable sustainable EVA services for NASA. The Offeror defined and described the anticipated market(s) to which it will provide products and services, including size, anticipated growth rate, target customers, domestic and foreign. The Offerors provided a market revenue forecast and key assumptions for all proposed products and services over the contract's period of performance, including total addressable market and expected revenue capture for both government and commercial markets.

The SEB also asked the offerors to describe how they would comply with its statement of work requirements and special clauses addressing NASA Insight and Approval. In this acqui-

sition, it was important for NASA to work/collaborate with the contractor community to strike a balance between giving the contractor community the freedom and flexibility of operating in a commercial environment, while at the same time providing NASA with the ability to closely monitor safety and certification requirements. The SEB directed offerors to provide an Insight and Collaboration Implementation Plan to address the Offeror's proposed approval process and approach for providing NASA personnel the necessary technical, schedule, and risk data, along with other applicable information in order to efficiently and effectively monitor contract performance. The plan also had to address the methodology to notify NASA of design, test, qualification, sustaining engineering, and operations phases of the xEVAS service, including notification of qualification, test, and operations anomalies involving similar systems, subassemblies, and components associated with non-NASA use of similar xEVA systems; and the process for providing this information to NASA personnel remotely or on-site at contractor facilities.

On May 31, 2022, the xEVAS \$3.1B multiple award IDIQ contract with FFP task orders was awarded. NASA selected Axiom Space and Collins Aerospace to advance spacewalk-

Test subjects Kelsey Young and Tess Caswell evaluate lunar field geology tasks as part of the Exploration Extravehicular Activity (xEVA) night operations development tests conducted at Johnson Space Center's Rock Yard.

Photographer: Norah Moran – NASA – Johnson



PROCUREMENT OFFICE LOCATION HIGHLIGHTS

ing capabilities in low-Earth orbit and at the Moon, by buying services that provide astronauts with next generation space-suit and spacewalk systems to work outside the International Space Station, explore the lunar surface on Artemis missions, and prepare for human missions to Mars. The awards leverage NASA expertise with commercial innovation to support continued science at the orbiting laboratory and long-term human exploration at the Moon under Artemis, including landing the first woman and first person of color on the lunar surface.

New Employee Cohort (NEC)

Previously, most OP employees entered through the co-op or intern programs to begin their career as a direct hire after graduating from college. Now, over 30% of the JSC OP workforce join without interning or going through a co-op program. Instead, they come from other centers, agencies, and Industry, in addition to recent graduates. JSC OP recognized that as more new employees begin their OP career, they needed a better way to connect with each other to learn the culture of NASA and JSC.

The New Employee Cohort (NEC) program was established to help integrate each new employee with their unique backgrounds, while also learning from their experiences. Both civil servants and contractors are included to ensure a smooth transition for everyone joining the organization. The program has three goals:

1. Ensure a smooth onboarding experience for new employees
2. Assist in creating a network of peers
3. Facilitate or leverage existing activities to support learning and development

The program includes multiple facets to meet these goals, such as a “Welcome to JSC and the Office of Procurement” package, varied training sessions on systems and processes, and many social and networking opportunities. Additionally, each participant has an opportunity to meet managers from across the organization and various procurement stakeholders, such as attorneys from the Office of Chief Counsel, at an informal gathering. While many events are held virtually, more events are being held in-person to help facilitate stronger connections.

Since the beginning of the pandemic and the resulting change in working more from home, this program has proven to be invaluable to our new employees and their ability to build re-

lationships within the JSC OP. With over 66 graduates of the program thus far, the program has received overwhelming positive feedback, calling it a “great opportunity” and “great experience,” and saying that they had “wonderful conversations while meeting the people behind the names,” to whom they speak to regularly over the phone. The NEC has proven critical to helping the new employees build a network of peers they can grow with over their NASA career, while introducing them to the many stakeholders they will work with over the years. As the mix of new employees changes each year, the NEC will continue to adapt to meet their needs and help them meet the Agency’s and NASA Office of Procurement’s mission.

Soyuz Seat Exchange

NOTE: *The following article is based on a breakout session presented at the 2022 NCMA World Congress in Chicago on July 19, 2022, by co-presenters Kelly L. Rubio, Contracting Officer, and Rebecca M. Bresnik, Senior Attorney, National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, TX.*

The Commercial Crew Pilot (CCP) was formed to provide launch and transportation capability services for U.S. astronauts and international partner participants to the ISS, with a safe return to Earth. Until 2011, NASA relied heavily on the Russian partners to provide transportation services on a Soyuz spacecraft vehicle ferrying U.S. astronauts to and from the ISS. After the retirement of the Space Shuttle Program in 2011, NASA could no longer rely on Russia’s Soyuz to transport U.S. astronauts to the ISS.

Since CCP’s Crew-2 mission had yet to launch, NASA had to mitigate the risk of uninterrupted operations on the ISS. Axiom Space, Inc. offered NASA one single seat to fly on Russia’s Soyuz spacecraft on the MS-18 launch in the fiscal year 2021. Axiom had secured the exclusive rights to that seat from the Russians, and it provided the risk mitigation that NASA needed. In exchange, Axiom wanted rights to a single seat on a future commercial crew flight in fiscal year 2023 aboard a Space X vehicle.

To fulfill an urgent and critical requirement for uninterrupted operations of the ISS on-orbit, we had to identify the opportunities and risks involved from a contract and legal perspective to find a solution for the ISS Program.

PROCUREMENT OFFICE LOCATION HIGHLIGHTS



Russia's Soyuz spacecraft
photographer: NASA/Carla Cioffi

Type of contract:

We began with the basics of contracting. Would this be a contract based on the FAR or other transactional authority, such as a Space Act Agreement? The acquisition was for the direct benefit of the U.S. Government, and so the Chiles Act would apply:

Chiles Act (31 U.S.C § 6303(1)) “An executive agency shall use a procurement contract as the legal instrument reflecting a relationship between the United States Government and a State, a local government, or other recipient when the *principal purpose of the instrument* is to acquire (by purchase, lease, or barter) property or services for the *direct benefit or use of the United States Government.*”

We were exchanging a Soyuz Seat for an Axiom Seat and, therefore, acquisition of Seat services between the parties. Since there would be no exchange of funds, the acquisition would not use appropriated funds.

Therefore, we structured the contract using in-kind consideration rather than appropriated funds. Regarding case law and the fact there would be no appropriated funds; we would not be required to use FAR clauses. However, FAR requirements apply only to acquisitions by the government of supplies or services with appropriated funds. Fidelity and Casualty Co. of New York, B-281281, Jan. 21, 1999, 99-1 CPD ¶ 16; FAR, 48 C.F.R ¶¶1.104, 2.101.

Though there was no exchange of funds on this acquisition (“a non-funded funding obligation”), there was still funding and fiscal obligations that were to be considered.

Risk of ensuring the benefit received was consistent within the fiscal timing of the benefit provided:

- The Soyuz Seat benefit received occurred in April 2011
- The Axiom Seat benefit was to be received in March 2023

The order of the seat exchange happened to be in the government's favor. We committed to providing a FY 2023 seat in advance of the FY 23 appropriations. Though the authority-to-proceed and first obligation/payment occurred in FY 21, the bulk of the funding would occur in FY22 and FY23 for the Axiom Seat via the CCP contract.

Mitigation: 51 USC 20142 provides authority to contract for launch vehicle services in excess of available obligations with incremental funding.

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FAR and Statutory Requirements for Competition

NASA considered this a type of contract and used FAR based clauses for the purposes of expediency, precedence using both the existing underlying contracts that were governed by the FAR, the CCP contract (with Space X for commercial crew transportation services), and the Roscosmos contract (with the Russians for previous Soyuz Seat transportation services), in addition to other statutory requirements implemented through the FAR.

We determined the Competition in Contract Act applies, as this would be a no exchange of funds, no-cost contract of civilian agencies [See 41 U.S.C § 253; Gourmet Distributors, B-259083, Mar. 6, 1995, 95-1 CPD ¶ 130.]

In February 2021, NASA chose to do a sole source justification for the seat exchange and synopsisized the requirement via sam.gov. The synopsis publicized that Axiom Space, Inc. obtained the sole, exclusive rights with Roscosmos for a single seat on a Soyuz spacecraft in NASA's needed timeframe of April/May. Securing the additional Soyuz Seat assured critical risk mitigation associated with any interruption in U.S. crew member presence on ISS.

Constructing the Agreement:

As part of constructing the agreement there were several contract considerations involved in this no exchange of funds acquisition, as follows:

- Statement of Work (SOW) - The SOW was organized in two phases; Phase I was for the Axiom provided Soyuz Services and Phase II was the NASA provided CCP Services;
- Comparative Analysis - We performed a comparative analysis for the exchanged services to determine value. Though we did not price each seat specifically, we knew the price of each individual seat. The benefit of the Soyuz Seat outweighed the CCP seat because of the value received for uninterrupted operations of the ISS.
- Milestones - We structured milestone dependencies across the two phases of the contract that correlated to one another. When the contractor meets full and complete performance of Phase I milestones, as well as the government on Phase II, the parties agree that the obligations of both parties are met, and no additional consideration will be required. This mechanism ensured equivalency between the two phases and thus balanc-

ing the risk between each parties' obligations to ensure a mutually beneficial no-exchange of funds arrangement.

- Additional areas included Adjustments, Other Terms and Conditions, Cross Waiver of Liability which encourages participation in exploring, exploiting, and using outer space through the ISS.

The Rest of the Story

Use of this no-exchange of funds negotiation technique was a one-of-a-kind for the Agency and accomplished many objectives, such as, NASA maintained critical continuous U.S. presence aboard the ISS as well as the fact NASA astronaut Mark Vande Hei completed a 355 day stay, which was a record for the longest American in spaceflight. Axiom Space signed an agreement with the Mohammad Bin Rashid Space Center announcing they would fly a United Arab Emirates astronaut to the ISS in 2023. In addition, NASA is continuing to enable commercialization of LEO using the ISS.

The requirements for this no-exchange of funds contract were uniquely suitable to engage in the negotiation of a seat exchange between the parties using a novel negotiating technique. This deal involved the negotiation of consideration between NASA and Axiom Space in order to reach final agreement. Both seats involved were of equal importance and benefit in terms of the value of the services rendered to each party.

In the end, the ISS Seat Exchange contract was successfully executed within 30 days from the time the synopsis was posted on sam.gov. This contract provided NASA with critical supplemental crew transportation for one U.S. astronaut to the ISS utilizing the flight proven Russian Soyuz spacecraft from a domestic third-party contract. In exchange, NASA provided the contractor with an opportunity to fly a non-U.S. astronaut member or Spaceflight participant aboard a future USCV to the ISS in the approximate 2023 timeframe. As such, use of this novel negotiating feature assisted the ISS Program to ensure the orbital outpost continue human operations to support the commercialization of LEO, scientific advancement as a platform for discoveries, and to enable Artemis missions to the moon and beyond.

John F. Kennedy Space Center (KSC)

Kennedy Space Center, Florida



A full Moon is in view from Launch Complex 39B at NASA's Kennedy Space Center in Florida on June 14, 2022. The Artemis I Space Launch System (SLS) and Orion spacecraft, atop the mobile launcher, were prepared for a wet dress rehearsal to practice timelines and procedures for launch.

The first in an increasingly complex series of missions, Artemis I tested SLS and Orion as an integrated system prior to crewed flights to the Moon. Through Artemis, NASA will land the first woman and first person of color on the lunar surface, paving the way for a long-term lunar presence and using the Moon as a steppingstone on the way to Mars.

Photographer: NASA/Cory Huston

PROCUREMENT OFFICE LOCATION HIGHLIGHTS

About KSC:

Kennedy Space Center safely manages, develops, integrates, and sustains space systems through partnerships that enable innovative, diverse access to space and inspires the nation's future explorers.



Gerald Norris
Procurement Officer

Introduction

The Kennedy Space Center (KSC) Office of Procurement is a diverse group of acquisition professionals drawing from a vast array of personal and professional experiences to successfully meet its customer's needs and objectives. The office had an exciting year preparing for Artemis, providing innovative commercial launch services, managing seven Product Service Lines, and supporting the transformation of KSC into a world class spaceport. This all took place while continuing to promote the local small business market and inclusiveness amongst the KSC workforce and over 6,000 contractor employees at KSC. With a staff of approximately 100 personnel, the office executed 1,543 actions, \$1.75B in obligations, managed five source evaluation boards, and received 92 group and individual awards at the Center and Agency level. These accomplishments and the dedication of the KSC OP workforce were highlighted in the final days of the fiscal year with the onset of Hurricane Ian. As the storm approached, KSC was forced to shut down and many employees and their families throughout the region suffered flooding and widespread power outages. Despite these challenges, the KSC OP workforce persevered to successfully complete all year-end actions while supporting activities to secure the Center and prepare for the pending crew launch to the International Space Station (ISS) the following week.

Artemis

In preparation for Artemis, KSC OP has been an integral part of the physical transformation of KSC while also providing and expanding available services. They competitively awarded \$263M in construction contracts linked directly to Artemis. Projects included the roof replacement at the Booster Fabrication Facility where boosters will be prepared for the first eight missions, Crawlerway reconditioning to transport the SLS to the launchpad, and upgrades to the Artemis pad at Launch Complex 39B and its Liquid Helium Sphere. In addition, critical modifications were negotiated to the Mobile

Launcher 1, Vehicle Assembly Building, High Bay Platforms, and Mobile Launcher 2 (ML2) contracts. Under the ML2 effort, one of the Agency's highest Artemis priorities, \$636M was executed across 26 negotiated actions to ensure the launcher meets the needs of the future SLS vehicle configuration.

KSC OP is also responsible for launch services under the Test and Operations Support Contract (TOSC) where they oversaw \$67M in tasking to prepare for Artemis I. This included the successful integration and stacking of the launch vehicle, several SLS rollouts and rollbacks between the Vehicle Assembly Building (VAB) and the launchpad, multiple SLS Wet Dress Rehearsals (WDR), and two launch attempts. In addition, as the Agency lead for all propellants, KSC OP was responsible for expertly negotiating additional liquid hydrogen to reduce turn-around times between SLS tests and acquiring expedited repairs to Gaseous Nitrogen pumps, with redundant backup capabilities, in time for the final Wet Dress Rehearsal (WDR) and subsequent launch attempts.

In preparation for increased services required for future Artemis missions and the next generation of launch vehicles and spacecraft, KSC OP managed the Consolidated Operations, Management, Engineering & Test (COMET) acquisition to expand upon services currently provided under TOSC. As a result of the COMET acquisition, KSC OP will provide vital services to manage KSC's launch infrastructure and provide ground processing for all its customers to include Exploration Ground Systems, SLS, and Orion Programs. KSC OP's efforts also resulted in the acquisition of \$14.2M in critical ground support equipment for ML2 and Orion recovery fabrication and three environmentally friendly all-electric Crew Transportation Vehicles (CTVs). The CTVs are designed to carry Artemis crew on the nine-mile stretch of road from the Neil Armstrong Operations and Checkout Building to the launch pad, replacing a fleet of vehicles approaching 40 years old.

Commercial Launch Services

KSC OP is transforming the way NASA acquires commercial launch services. They were successful in conducting one of the

PROCUREMENT OFFICE LOCATION HIGHLIGHTS



KSC Procurement Office

addition, they are continuing to expand their reach and lines of communication with the entire workforce with the establishment of a DEIA team to represent each of its offices and support the DEIA Champion. In addition to the workforce participating in various Employee Resource Groups (ERG) at the Center, its leadership serves as the Executive Champion for the KSC Veterans ERG and senior advisor to the KSC Hispanic Outreach and Leadership Alliance ERG.

Product Service Lines (PSLs)

KSC OP played an essential role in the establishment of Enterprise PSL contracts. Under the first Regional Architect and Engineering (A&E) Services contract vehicle for KSC, SSC, JSC, and MSFC valued at \$300M, nine contracts were awarded with 28 task orders issued in FY22 to design approximately \$120M in infrastructure projects. KSC OP also established the acquisition for Communications Services

to support all NASA centers with performance beginning in 2023. Furthermore, in addition to their propellant's contributions to Artemis I described above, as the nation faced a national helium shortage that threatened to impact delivery to all NASA centers, KSC OP negotiated supply from additional providers and secured the Agency's helium needs for the remainder of the fiscal year, mitigating impacts to multiple programs across the Agency. In addition, they were responsible for conducting three concurrent propellant acquisitions for the Agency's future helium and hydrogen requirements.

Langley Research Center (LaRC)

Hampton, Virginia

The LaRC team weighs and performs Center of Gravity (CG) measurements of the Structural Test Article (STA) at NASA Langley Research Center.

Photographer: NASA/Mark Knopp



PROCUREMENT OFFICE LOCATION HIGHLIGHTS

About LaRC:

Langley Research Center works to make revolutionary improvements to aviation, expand understanding of Earth's atmosphere, and develop technology for space exploration.



Susan McClain
Procurement Officer

Introduction

The Langley Research Center (LaRC) OP continues to solve critical and complex problems for the nation. In FY22, LaRC's 47 OP employee workforce celebrated its 105th anniversary by conducting 1,218 actions and over \$429M in obligations and securing 204 patents and inventions.

LaRC is creating newer, safer, and cleaner modes of flight, including advanced air mobility and supersonic travel over land, while researchers continue to deepen Earth's understanding of the atmosphere and climate. LaRC has contributed to the Artemis mission by shaping the architecture, refining the spacecraft exit and entry aerodynamics, crafting electronics for instrumentation, and developing new business approaches for space commerce.

In 2022, LaRC opened the Measurements System Laboratory where sensors will be developed to help further the progress in Earth Science, flight, and exploration. Ground was also broken on the Flight Dynamics Research Facility, which will serve as an area for flight testing for future NASA missions.

Low-Earth Orbit Flight Test of an Inflatable Decelerator (LOFTID)

Entry, Descent, and Landing (EDL) of large payloads, such as experiments, equipment, and people, has been an ongoing challenge NASA faces when it comes to the exploration of planets with an atmosphere, due to the rocket's small shroud size. Over the last 10 years, the team at NASA Langley Research Center (LaRC) has diligently worked to produce a successful demonstration of the launch, flight, and re-entry of an integrated vehicle under the Low-Earth Orbit Flight Test of an Inflatable Decelerator (LOFTID) project. This achievement could not have been accomplished without the work and support from the dedicated LaRC procurement workforce who has been there every step of the way.

The LOFTID project evolved from a concept, to test articles, to a now 6.0 meter in diameter (20 feet) Hypersonic Inflatable Aerodynamic Decelerator (HIAD) aeroshell, integrated with a re-en-

try vehicle to collect data from the flight. The HIAD aeroshell was created to provide a flexible heat shield and slow down the integrated vehicle as it re-enters into the Earth's atmosphere. The multi-year design and development of the aeroshell, ended with a Task Order awarded to Airborne Systems North America (Airborne). Airborne has been a NASA contractor for many years, and they had the expertise needed to scale their previously developed 3.0-meter HIAD to the larger required 6.0-meter HIAD for LOFTID. Upon completing the design and development of this cross-cutting technology, the LaRC team turned their attention to identifying a launch provider.

To find the best partner to support the Agency's missions, LaRC OP teamed up with United Launch Alliance (ULA), through a NASA Space Act Agreement, to allow for the LOFTID test vehicle and inflatable aeroshell to be a secondary payload on an Atlas V launch vehicle. The launch of the Atlas V was part of an already scheduled International Space Station (ISS) cargo resupply mission for Orbital Sciences Corporation (OSC).

The critical EDL capabilities developed by multiple procurements over the last decade are essential to the Agency's future science and human exploration missions. The data collected from the successful launch of the LOFTID vehicle on November 10, 2022, and its 6.0-meter inflatable aeroshell, will be used to enable mission infusion for future planetary atmospheric flight missions. The LaRC Office of Procurement has capitalized on its contractual success with LOFTID and awarded its new multiple award IDIQ IAD contract in September 2022, that includes seven total contractors ready to support NASA and its commercial partner's needs. This new contract vehicle will continue to provide vital IAD EDL design and development for future missions that may visit Mars, Venus and Saturn's Moon, and Titan, with the ability to land much larger payloads on their surface by utilizing this unique technology.

Marshall Space Flight Center (MSFC)

Huntsville, Alabama



Crews at NASA's Michoud Assembly Facility in New Orleans lift the forward skirt of a core stage that will power NASA's Space Launch System (SLS) rocket out of the Vertical Weld Center Sept. 16, 2022. The forward skirt will be used for NASA's Artemis IV mission.

Photographer: NASA/Michael DeMocker



PROCUREMENT OFFICE LOCATION HIGHLIGHTS

About MSFC:

Marshall Space Flight Center has been solving complex technical problems throughout NASA's history – advancing propulsion technologies, developing science instruments, and refining engineering solutions to support all NASA's space-flight endeavors, research activities, and new missions to the Moon, Mars, and beyond.



John Cannaday
Procurement Officer

Introduction

The Marshall Space Flight Center (MSFC) OP, consisting of 110 civil servant personnel, conducted 2,461 actions and \$4.1B in obligations.

Workforce Initiative

MSFC OP continues to focus on workforce development and human capital initiatives to include succession planning, diversity and inclusion, training, and development.

During 2022, numerous workforce development opportunities focused on strengthening core competencies, filling skills gaps, and developing future leaders have been offered to the entire procurement team. All procurement Division Directors, Office Chiefs, and team leads supporting the MSFC Procurement Organization participated in a week-long leadership and management workshop.

Approximately 30% of the MSFC procurement team attended the 2022 NCMA World Congress either virtually or in-person. Focused and specialized training efforts to include knowledge sharing sessions on CPARS and Controlled Unclassified Information (CUI) were also provided to the workforce. Partnerships with the Defense Acquisition University, NCMA, and other training vendors will continue to be leveraged in the next fiscal year. Additionally, development of robust hiring practices and utilization of Talent Marketplace and Agency-wide job announcements with Direct Hiring Authority have allowed for transparency in manpower decisions.

MSFC OP continues to right size the procurement organization to meet the evolving needs of MSFC, a recent example is the appointment of Product Service Line leads to oversee the strategic procurement initiatives lead by MSFC.

DART – Double Asteroid Redirection Test

Planetary Missions Program Office (PMPO)

NASA's Double Asteroid Redirection Test (DART) is the world's first full-scale mission to test technology for defending Earth against potential asteroid or comet hazards. DART is part of NASA's larger planetary defense strategy and was built and managed by the Johns Hopkins Applied Physics Laboratory (APL) under the Aerospace Research, Development and Engineering Support (ARDES) Indefinite-delivery IDIQ contract managed by the MSFC.

DART proved that a spacecraft can autonomously navigate to a target asteroid and intentionally collide with it—a method of deflection called kinetic impact. The test provided important data to help better prepare for an asteroid that might pose an impact hazard to Earth, should one ever be discovered. LICIACube, a CubeSat riding with DART provided by the Italian Space Agency (ASI), was released prior to DART's impact to capture images of the impact and the resulting cloud of ejected matter. The spacecraft's sole instrument, the Didymo Reconnaissance and Steroid Camera for Optical navigation (DRACO), together with a sophisticated guidance, navigation and control system that worked in tandem with Small-body Maneuvering Autonomous Real Time Navigation (SMART Nav) algorithms, enabled DART to identify and distinguish between the two asteroids, targeting the small body.

DART launched November 23, 2021, from Vandenberg Space Force Base in California aboard a SpaceX Falcon 9 rocket. After 10 months, DART successfully impacted its asteroid target, Dimorphos, on September 26, 2022. Dimorphos, was a small body of just 530 feet in diameter, which orbits a larger, 2,560-foot asteroid called Didymos. Neither posed a direct threat to Earth. "At its core, DART represents an unprecedented success for planetary defense, but it is also a mission of unity

PROCUREMENT OFFICE LOCATION HIGHLIGHTS

with real benefit for all humanity,” said NASA Administrator Bill Nelson. “As NASA studies the cosmos and our home planet, we’re also working to protect that home, and this international collaboration turned science fiction into science fact, demonstrating one way to protect Earth.”

The ARDES II IDIQ contract was issued in April 2020 for a cost-plus, fixed-fee contract. When compared to the ARDES I contract, ARDES II provides NASA with greater program management control and oversight, more comprehensive data requirements descriptions for NASA deliverables, more favorable technical data license rights, and protections against counterfeit items and contract funding flowing into China and Russia. All existing program/projects task orders on ARDES I transitioned to the new ARDES II contract. Phase E/F was solicited and awarded under the ARDES II contract in December 2021 with performance through closeout of September 2023.

With the success of the DART Mission, PMPO is now identifying additional in-scope requirements for enhanced analysis of the ejecta plume which was larger/worse than expected. Dimorphos was a rubble-pile asteroid like Bennu and that was not anticipated. Additionally, Communication and Public Outreach (publications, conference attendance, white papers) as well as development opportunities for summer interns, is anticipated for FY23.

Consolidated Program Support Services (CPSS)

As NASA continued to implement its Enterprise Product Service Line (PSL) strategy in Fiscal Year 2022, Marshall Space Flight Center (MSFC) awarded and began execution of the Consolidated Program Support Services (CPSS) Program Planning and Control (PP&C) contract. The CPSS PP&C contract supports the Agency’s western region composed of MSFC, ARC, AFRC, GRC, JSC, KSC, and SSC.

The Agency’s CPSS PP&C contract will ultimately enhance how program/project stakeholders acquire and contractors deliver PP&C integration, earned value management, cost estimating and cost analysis, resource data storage and retrieval library services, scheduling, and risk management support. The contract also provides non-PSL related programmatic subject matter expert (SME) support services that are available to the entire Agency. Currently, the CPSS PP&C contract is supporting PP&C requirements at NASA HQ, ARC, GRC, and MSFC—and the contract is well positioned to support future PP&C requirements across the western region. The contract is also supporting programmatic SME requirements at ARC and MSFC.

The regional performance-based contract contains a firm-fixed-price mission services element (for support at JSC and MSFC), an indefinite-delivery, indefinite-quantity (IDIQ) element available to support PP&C requirements at every regional location, and a time-and-materials element for programmatic SME requirements Agency-wide. The contract will continue through September 2023 with one-year options available through 2026.



DART is the world’s first full-scale planetary defense test, demonstrating one method of asteroid deflection technology.

Photo Credit: NASA/Bill Ingalls

NASA Office of Jet Propulsion Laboratory Management and Oversight (NOJMO)



Jet Propulsion Laboratory, Pasadena, California



Diane Hope, Charlene Ung, and Cathryn Murray-Wooddell oversee preparations for vibration testing of the Earth Surface Mineral Dust Source Investigation (EMIT) science instrument at NASA's Jet Propulsion Laboratory. The testing simulates the accelerations and vibrations the instrument will experience during its launch to the International Space Station.

Photographer: NASA/JPL-Caltech

About NOJMO:

The NASA Office of JPL Management and Oversight (NOJMO) is the NASA Headquarters on-site government organization serving the functions of contract management, on-site agency oversight, and ensuring regulatory compliance of contractor operations in accordance with 48 Code of Federal Regulations 35.017 as an FFRDC.



James Williams
Acting Procurement Officer

Introduction

The NASA Office of JPL Management and Oversight (NOJMO) obligated \$2.6B in FY22. The team of 13 has and continues to support multiple project requirements through the negotiations and awards. Those project requirements cover the solar system and earth exploration, astrophysics, microgravity science, aeronautics and space technology, and Deep Space Network (DSN).

Notable Accomplishments:

- Surface Water and Ocean Topography (SWOT) will make the first-ever global survey of Earth's surface water and will collect detailed measurements of how bodies of water on Earth change over time. The satellite will survey at least 90% of the globe, studying Earth's lakes, rivers, reservoirs, and oceans at least twice every 21 days to improve ocean circulation models, weather and climate predictions, and aid in freshwater management around the world.

- Europa Clipper's mission will conduct a detailed survey of Europa. It will use a sophisticated suite of science instruments to investigate whether the icy moon has conditions suitable for life.
- Euclid will perform a survey of a significant portion of the sky and provide images of billions of galaxies across the universe. This effort will provide insights into the nature of dark matter and dark energy.

The NOJMO Contract Management Division (CMD) leadership team is working to develop plans to assist with the ease of transition to leadership position under its identified succession plan and backfill any vacancies. The CMD Leadership Team meets one-on-one with each team member to discuss their short-term and long-term goals. These meetings assist the leadership team to identify interested and potential future leaders and start these individuals' preparation for higher-level roles. This also gives the individuals the opportunity to discuss their current position's training needs.



Photo of the Jet Propulsion Laboratory (JPL) in Pasadena, California.

NASA Shared Services Center (NSSC)



Stennis Space Center, Mississippi

This image is from NASA Galaxy Evolution Explorer is an observation of the large galaxy in Andromeda, Messier 31. The Andromeda galaxy is the most massive in the local group of galaxies that includes our Milky Way.

About NSSC:

NSSC serves as a major Agency-wide service resource that provides timely, accurate, high-quality, cost effective, and customer-focused services for NASA. The NSSC serves the IT, financial management, procurement, and human resources communities as a value added, independent resource. Increased operational efficiency and improved overall customer service will be achieved through consolidated business and technical services. By achieving synergy within and across functions the NSSC will reduce resource requirements for institutional support areas and position NASA for further business process improvements and innovations.



Eli Ouder
Procurement Officer

Introduction

The NSSC Office of Procurement supports a robust and diverse portfolio encompassing Grants, Small Business Innovative Research (SBIR) Contracts, Small Business Technology Transfer (STTR) program support, Enterprise License Management (ELM), Agency-wide enterprise contracts, Simplified Acquisition Threshold (SAT) purchases, Government Purchase Card (PCard) program management, Federal Acquisition Certification—Contracting (FAC-C), Federal Acquisition Certification—Contracting Officer Representative (FAC-COR) programs, and other ancillary support activities in support of the entire NASA Enterprise.

The NSSC OP workforce consists of 46 Civil Servant personnel and approximately 99 Service Provider (SP) contractor support personnel. Collectively, the NSSC OP processed 10,231 new awards exceeding \$1.9B in obligations in FY22.

Notable Accomplishments:

- Successfully negotiated and awarded 332 SBIR/STTR Phase I contracts valued at more than \$150M while processing grants and cooperative agreements during the peak season of fourth quarter.
- Made a critical award against the SEWP catalog, inclusive of all potential agency Microsoft buys. The Microsoft catalog is the highest dollar value action in the history of Enterprise License Management Team (ELMT), valued at \$114M.
- Awarded 2,000 grants valued in excess of \$800M in support of numerous missions across all of NASA.
- 3,522 orders, valued in excess of \$150M to support numerous missions across all of NASA.

Diversity, Equity, Inclusion, and Accessibility (DEIA)

NSSC OP continues to lead from the front supporting strategic initiatives. During FY22, NSSC OP held several sessions in staff meetings to spread awareness on a variety of DEIA topics, such as embracing diversity, kindness in the workplace, and emotional intelligence. Members of NSSC OP attended several Center and Agency events, such as Black History Month events, Women's History Month events, Koffee with Karla, Ask the NSSC, Small Business outreach events, Historically Black College and University (HBCU) events, and Category Management and Advancing Diversity, Equity, Inclusion & Accessibility for Underserved Communities in Procurement.

NSSC OP Leadership has made concerted efforts to offer staff members the opportunities to broaden their experiences through detail assignments, rotational assignments, and augmenting other branches during peak work periods.

John C. Stennis Space Center (SSC)



Stennis Space Center, Mississippi

NASA conducts a hot fire test of the core stage for the agency's Space Launch System rocket on the B-2 Test Stand at Stennis Space Center near Bay St. Louis, Mississippi. The hot fire is the final test of the Green Run test series, which represents a comprehensive assessment of the core stage and its integrated systems prior to its launch on the Artemis I mission to the Moon.

Photographer: Danny Nowlin



About SSC:

Stennis Space Center is the partner of choice for providing propulsion test capabilities to the nation. Stennis utilizes its unique location and assets to collaborate with other agencies, academia, and industry to develop and test autonomous systems, enhance national security, and increase knowledge of the Earth and its oceans.



Eli Ouder
Procurement Officer

Introduction

The Stennis Space Center (SSC) OP supports the missions of NASA and the John C. Stennis Space Center in Mississippi and its approximately 50 agencies, commercial, and academia residents.

In FY22, the SSC OP, consisting of 25 civil servant personnel, conducted 502 actions and obligated \$237M. On October 25, 2021, SSC celebrated 60 years of powering dreams as the nation's premier propulsion test site!

Notable Accomplishments

- SSC OP personnel were recognized with several awards and other recognitions:
 - Group Achievement Award for the Space Launch System Core Stage Green Run Hot Fire Test Event; B-2 Test Stand Core Stage Operational Readiness Assessment Team Support; B-2 Test Stand Space Launch System Core Stage 1 Removal and Shipping Team;
 - 2022 NASA OP Enterprise Awards Contracting Officer of the Year Post-Award; Space Flight Awareness (SFA);
 - Years of Service Awards for 30 and 25 years of public service;
 - SSC Lagniappe Articles highlighting two SSC OP members;
 - SSC Making a Difference from a Distance Campaign highlighting one SSC OP member;
 - Four (4) SSC OP Employees were featured in the "I Am Stennis" video campaign;
- The SSC Synergy-Achieving Consolidated Operations and Maintenance (SACOM) and Laboratory Services

contracts and the Low and High-Speed Data Acquisition System Commodity Purchases provided significant rocket propulsion test support and the SACOM contract also provided construction support to NASA and SSC missions as well as SSC commercial tenants (SLS RS25 Engine test, EUS/SLS program).

- Awarded the Autonomous Services Contract and 12 associated task orders supporting Autonomous Operations for the agency.
- During FY22, one of SSC's Utility Energy Services Contract (UESC) project completed its final payback using savings generated from the project. This achieved the projected savings and provided payback seven years earlier than the target goal of 10 years for energy projects.

Diversity, Equity, Inclusion, and Accessibility (DEIA)

The SSC OP operates according to the principles of Diversity, Equity, Inclusion, and Accessibility (DEIA). SSC OP has and continues to be an inclusive environment embracing and supporting employees from diverse backgrounds (e.g., Latino and Hispanic, Asian and Pacific Islander, African American, Disabled). SSC also celebrates all ages, stages of life, and career levels. Inclusiveness is part of SSC OP's identity, and we appreciate the significance of team members having a variety of backgrounds and experiences.



NASA's Space Launch System rocket carrying the Orion spacecraft launches on the Artemis I flight test, Wednesday, Nov. 16, 2022, from Launch Complex 39B at NASA's Kennedy Space Center in Florida. NASA's Artemis I mission is the first integrated flight test of the agency's deep space exploration systems: the Orion spacecraft, Space Launch System (SLS) rocket, and ground systems. SLS and Orion launched at 1:47 a.m. EST, from Launch Pad 39B at the Kennedy Space Center.

Photographer: NASA/Keegan Barber

Closing and Appendix

In Closing

NASA achieved several historic milestones in 2022, including the inaugural launch of its mega Moon rocket (SLS) and the uncrewed Orion spacecraft's journey around the Moon. The agency has also ushered in a new era in astronomy with the Webb Space Telescope, which has produced record-breaking images of the cosmos. NASA conducted humanity's first-ever planetary defense demonstration by successfully moving an asteroid, while also sending astronauts on regular missions to the International Space Station and testing new technologies such as an inflatable heat shield for Mars.

The combined efforts of the NASA acquisition workforce enabled the success of these missions. During this time frame, the Office of Procurement continued to make significant progress implementing the enterprise service delivery model which includes codifying more than 20 Product Service Lines acquisition strategies into the NASA Federal Acquisition Supplement Regulation and awarding in excess of 33 contracts which has increased NASA Spend under Management obligations. Throughout all these achievements, the NASA Office of Procurement was committed to providing a foundation for human deep space exploration and demonstrating NASA's commitment and capability to extending human presence to the Moon and eventually Mars.

Let me express my gratitude for the continued hard work and innovative successes from our workforce across the country. Thank you for taking the time to read about these milestones and accomplishments, and we can't wait to show you what we achieve next for our great nation!

Sincerely,



Marvin L. Horne

Deputy Assistant Administrator for Procurement
Agency Procurement Ombudsman & Competition Advocate



Abbreviations

A

ARTEMIS: Acceleration, Reconnection, Turbulence and Electrodynamics of the Moon's Interaction with the Sun

ACO: Administrative Contracting Officer

ANPR: Advance Notice of Proposed Rulemaking

ARDES: Aerospace Research, Development and Engineering Support

RAVE: African American, Women, Veterans Remote & Virtual Employees

APS: Agency Application Platform Services

APC: Agency Program Coordinator

ASI: Agenzia Spaziale Italiana

ARC: Ames Research Center

APL: Applied Physics Laboratory

A&E: Architect and Engineering

AFRC: Armstrong Flight Research Center

AFES: Award Fee Evaluation System

B

BOAs: Basic Ordering Agreements

BOE: Basis of Estimate

C

CAM: Coordination and Approval Matrix

CDC: Center for Disease Control and Prevention

CCG: Closeout Capability Group

CFR: Code of Federal Regulations

CFA: Cognizant Federal Agency

CMV: Co-Manifested Vehicle

CCP: Commercial Crew Pilot

CCtCap: Commercial Crew Transportation Capability

Commercial LEO: Commercial Low-Earth Orbit

CPAF: Cost-Plus-Award-Fee

CLPS: Commercial Lunar Payload Services

CRS: Commercial Resupply Services

CSDA: Commercial SmallSat Data Acquisition

COTS: Commercial-Off the Shelf

CT: Communication Technology

CATTS: Consolidated Agency Technology Transfer Services

COMET: Consolidated Operations, Management, Engineering & Test

CMD: Contract Management Division

CORs: Contracting Officer Representatives

CPARS: Contractor Performance Assessment Rating System

STTR: Small Business Technology Transfer

CUI: Controlled Unclassified Information

CS: Core Stage

CPFF: Cost-plus Fixed-fee

CODSIA: Council of Defense and Space Industry Associations

CTVs: Crew Transportation Vehicles

CSI: Cross-Program Systems Integration

D

DRD: Data Requirements Description

DSN: Deep Space Network

DST: Deep Space Transport

DCAA: Defense Contract Audit Agency

DCMA: Defense Contract Management Agency Support

DoD: Department of Defense

DOI: Department of Interior

DDT&E: Design, Development, Test, and Evaluation

DU: Detector Unit

DITAP: Digital IT Acquisition Professional

DEIA: Diversity, Equity, Inclusion, and Accessibility

DART: Double Asteroid Redirection Test

DRFP: Draft Request for Proposal

E

ERO: Earth Return Orbiter

ESD: Earth Sciences Division

EBSO: E-Business Systems Office

EPFD: Electric Powertrain Flight Demonstration

ERG: Employee Resource Groups

EULAs: End User License Agreements

ECC: Enterprise Central Component

ELM: Enterprise License Management

EPO: Enterprise Pricing Office

ERMs: Enterprise Requirements Managers

EWP: Enterprise Warrant Policy

ESA: European Space Agency

xEVAS: Exploration Extravehicular Activity Services

EGS: Exploration Ground Systems

EPOC: Exploration Production and Operations Contract

ESD: Exploration Systems Development

EUS: Exploration Upper Stage

F

FEDIS: Facilities Engineering Design and Inspection Services

FMO: Facilities Management Office

FAC-C: Federal Acquisition Certification—Contracting

FAC-COR: Federal Acquisition Certification—Contracting Officer Representative

FAI: Federal Acquisition Institute

FAR: Federal Acquisition Regulations

FITARA: Federal Information Technology Acquisition Reform Act

FFRDC: Federal Funded Research and Development Center

FPDS: Federal Procurement Data System

FOMS: Fiber Optic

Manufacturing in Space

FFP: Firm-Fixed Price

FY22: Fiscal Year 2022

FDO: Flight Dynamics Officer

FLUTE: Fluidic Telescope Experiment

FFP: Firm-Fixed Price

G

GLS: Gateway Logistics Services

GSA: General Services Administration

GRC: Glenn Research Center

GSFC: Goddard Space Flight Center

GAO: Government Accountability Office

PCard: Government Purchase Card

GCAM: Grant and Cooperative Agreements Manual

GPC: Grants Policy and Compliance

H

HALO: Habitation and Logistics Outpost

HQ: Headquarters

HVAC: Heating, Ventilation, and Air Conditioning

HiCAM: Hi-Rate Composite Aircraft Manufacturing

HBCU/MSI: Historically Black Colleges and Universities/Minority Serving Institutions

HLS: Human Landing System

HyTEC: Hybrid Thermally Efficient Core

I

IXPE: Imaging X-Ray Polarimetry Explorer

IDEA: Inclusion, Diversity, Equity, and Accessibility

IDIQ: Indefinite-Delivery, Indefinite-Quantity

IGCE: Independent Government Cost Estimate

IT: Information Technology

ITPO: Information Technology Procurement Office

IJA: Infrastructure Investment and Jobs Act

IASP: Integrated Aviation Systems Program

IAAs: Interagency Agreements

ICPS: Interim Cryogenic Propulsion Stage

ISS: International Space Station

ITPOD: IT Procurements on Demand

J

JWST: James Webb Space Telescope

JWOD: Javits-Wagner-O'Day

JPL: Jet Propulsion Laboratory

JSC: Johnson Space Center

K

KEOPS: Kennedy Engineering and Other Professional Services

KSC: Kennedy Space Center

KPIs: Key Performance Indicators

L

LRD: Launch Readiness Date

LVSA: Launch Vehicle Stage Adapter

LGBTQIA+: Lesbian, Gay, Bi, Transgender, Queer, Intersex, and Asexual +

LENS: Logistics Engineering Support

LEO: Low-Earth Orbit

CLOSING AND APPENDIX

M

MIA: Made in America
MIAO: Made in America Office
MAVIS: Mars Ascent Vehicle Integrated System
MSR: Mars Sample Return
MSFC: Marshall Space Flight Center
MPP: Mentor-Protégé Program
MAF: Michoud Assembly Facility
MCC-IV: Minor Construction Contract
MMA: Mirror Module Assembly
MR: Mission Rehearsal
ML2: Mobile Launcher 2

N

NEAT: NASA Electrified Aircraft Engineering Testbed
NFS: NASA FAR Supplement
NLS: NASA Launch Services
NOJMO: NASA Office of Jet Propulsion Laboratory Management and Oversight
OSTEM: NASA Office of Science, Technology, Engineering and Mathematics
NEC: New Employee Cohort
NGS: Next Gen Stem
NSC: NASA Safety Center
NSTEM: NASA Science, Technology, Engineering and Mathematics
NSSC: NASA Shared Services Center
SBIR/STTR: NASA's Small Business Innovative Research/Small Business Technology Transfer
NCMA: National Contract Management Association
NDAA: National Defense Authorization Act

O

OCFO: Office of Chief Financial Officer
ODEO/EEO: Office of Diversity and Equal Opportunity/Equal Employment Opportunity
OFPP: Office of Federal Procurement Policy
OIG: Office of Inspector General
OIIR: Office of International and Interagency Relations
OMB: Office of Management and Budget
OP: Office of Procurement
OSTEM: Office of Science, Technology, Engineering and Mathematics (STEM) Engagement
OSMA: Office of Safety and Mission Assurance
OSBP: Office of Small Business Programs
OP LM: OP360 Leadership Module
OCI: Organizational Conflict of Interest

P

PVF: Performance Validation Forms
POC: Person of Contact
PCI: Personal Card Issuer
PMPO: Planetary Missions Program Office
PPE: Personal Protection Equipment
PPE: Power and Propulsion Element
PLAs: Pricing Liaison Advocates
PAM: Private Astronaut Missions
PALT: Procurement Administrative Lead Time
PCD: Procurement Class Deviation
PCB: Procurement Control Board
PPS: Procurement for Public Sector (PPS) Portal

PMPD: Procurement Management and Policy Division
PO: Procurement Officer
PPMs: Procurement Portfolio Managers
PSC: Product Service Code
PSL: Product Service Lines
PP&C: Program Planning and Control
P/PM: Program/Project Managers
POP: Period of Performance
P3: Public Private Partnerships

Q

QueSST: Quiet Supersonic Technology

R

RFI: Requests for Information
RDTs: Requirements Development Teams
R/R&D: Research/Research and Development

S

SMA: Safety and Mission Assurance
SMAS II: Safety and Mission Assurance Services II
SMD: Science Mission Directorate
SOC: Security Operations Center
SAO: Senior Accountable Official
SPE: Senior Procurement Executive
STAR: Sensor and Thermal Protection System Advanced Research
SLIs: Service Level Indicators
SAT: Simplified Acquisition Threshold
SMART Nav: Small body Maneuvering Autonomous Real Time Navigation

SBA: Small Business Administration

SBIR: Small Business
Innovative Research

STTR: Small Business
Technical Transfer

SBSs: Small Business Specialists

SMEX: Small Explorer

STOCC: Small Task Order
Construction Contract

SEB: Source Evaluation Board

SLS: Space Launch System

SSP: Space Shuttle Program

STMD: Space Technology
Mission Directorate

SUM: Spend Under Management

SOW: Statement of Work

SSC: Stennis Space Center

SME: Subject Matter Expert

SWOT: Surface Water and
Ocean Topography

SLD: Sustaining Lunar Development

SATERN: System for Administration,
Training, and Educational Resources
for NASA

SAP: Systems Application Product's

T

TOIS: Task Order Initiation System

TOs: Task Orders

TOSC: Test and Operations
Support Contract

U

USACE: U.S. Army Corp of Engineers

UCA: Undefinitized Contract Action

USAFA: United States Air
Force Academy

UESC: Utility Energy Services Contract

V

VAB: Vehicle Assembly Building

VADR: Venture-Class Acquisition
for Dedicated and Rideshare

V&V: Verification and Validation

W

WDR: Wet Dress Rehearsals

WSTF/WSC: White Sands Test Facility/
White Sands Complex

Glossary

The data contained in this publication were compiled on the basis of the definitions given below:

1. **Sealed Bids:** Procurement actions resulting from acceptance of bids made by contractors in response to invitations for bid.
2. **Award:** See procurement action.
3. **Coverage:**
 - Summary data are provided in terms of obligations on all procurement actions (see item 8). The obligation data are obtained from the Federal Procurement Data System (FPDS-NG).
 - Detailed data: Information on procurements include all contracts, grants, and cooperative agreements. Wherever exclusions apply, a generalized footnote is provided.
4. **Intragovernmental:** Procurement actions placed through other Government agencies, except orders placed under Federal Supply Schedule contracts and awards to small, disadvantaged businesses through the SBA under section 8(a) of the Small Business Act.
5. **Modifications:** Any written alteration in the specifications, delivery point, contract period, price, quantity, or other contract requirement of an existing contract, whether accomplished by unilateral action in accordance with a contract clause or by mutual agreement of the parties to the contract. It includes (a) bilateral actions, such as supplemental agreements, and (b) unilateral actions, such as change orders, notices of termination, and notices of the exercise of an option.
6. **Competitive:** Procurements where offers are solicited from more than one responsible offeror capable of satisfying the Government's requirements wholly or partially, and the award or awards were made on the basis of price, design, or technical competition.
7. **Other Than Competitive:** Procurements where an offer was solicited and received from only one responsible offeror capable of satisfying the Government's requirements wholly or partially. (Includes contracts resulting from unsolicited proposals.)
8. **Procurement Action (Award):** Any contractual action to obtain supplies, services, or construction that increases or decreases funds, including the following:
 - Letter contracts or other preliminary notices of negotiated awards.
 - Definitive contracts, including purchase orders.
 - Orders under GSA Federal Supply Schedule contracts and basic ordering agreements and against indefinite-delivery-type contracts.
 - Intragovernmental orders.
 - Supplemental agreements, change orders, administrative changes, and terminations to existing procurements.
9. **Small Business:** For purposes of Government procurement, a small business is a profit-making concern, including its affiliates, which is independently owned and operated, is not dominant in its field, and further qualifies under the size standards criteria of the Small Business Administration. These criteria are published under title 13 of the Code of Federal Regulations, section 121.3-8, and in the Federal Acquisition Regulation, part 19, subpart 19.1. For service industries, the size standard generally is based on average annual receipts over a 3-year period, depending on the service to be procured. Generally, in the case of agricultural or manufactured products, the size standards are determined on the basis of number of employees. The applicable size standard is prescribed in each NASA solicitation.

Additional Information

Distribution of Direct NASA Procurements: Fiscal Years 2018–22

Net Value of Awards (Millions)

Type	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Business Firms	14,131.8	14,207.4	15,177.6	17,925.4	16,161.0
Education	1,341.4	1,043.2	380.7	308.9	505.4
Non-Profit	1,101.6	806.9	1,020.3	753.2	720.3
JPL	2,259.5	3,022.7	2,824.1	2,402.2	2,658.6
Government	151.4	187.4	234.5	189.2	317.0
Outside U.S.	210.8	246.7	42.0	75.8	72.2
Total	\$19,196.7	\$19,514.4	\$19,679.2	\$21,654.7	\$21,876.7

Percent of Total

Type	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Business Firms	73	73	77	83	75
Education	7	5	2	1	2
Non-Profit	6	4	5	3	3
JPL	12	16	14	11	12
Government	1	1	1	1	1
Outside U.S.	1	1	0.2	0.4	0.3
Total	100	100	100	100	100

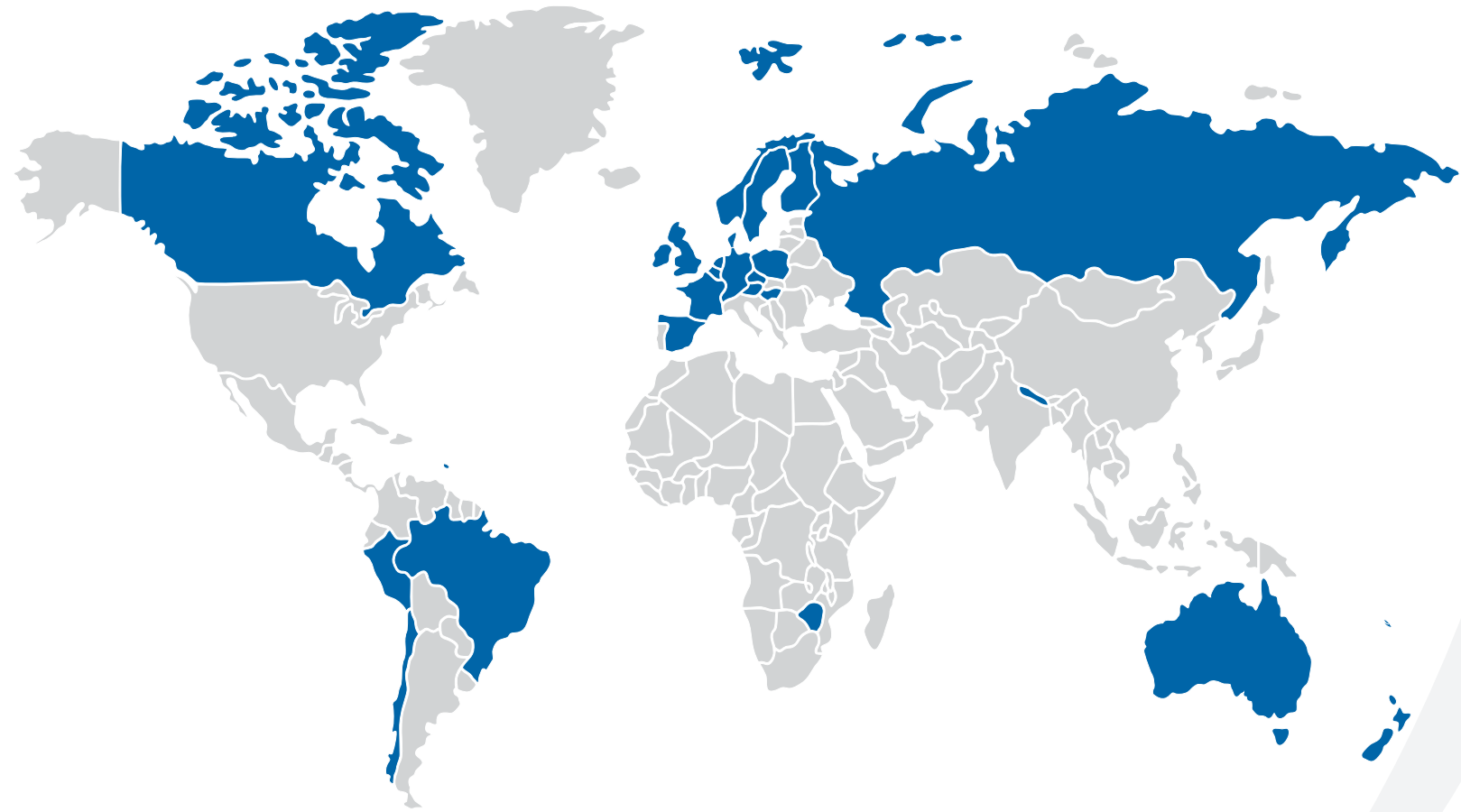


An enormous mosaic of Stephan's Quintet is the largest image to date from NASA's James Webb Space Telescope, covering about one-fifth of the Moon's diameter. It contains over 150 million pixels and is constructed from almost 1,000 separate image files. The visual grouping of five galaxies was captured by Webb's Near-Infrared Camera (NIRCam) and Mid-Infrared Instrument (MIRI).

Photographer: NASA, ESA, CSA, and STScI

Awards with Performance Outside of U.S.

During FY22, NASA placed \$71.5 million in awards for work being performed outside the United States. This work is being performed in 27 countries.



CLOSING AND APPENDIX

Place of Performance		Total Dollars	Total Actions
Spain (ESP)		\$25,100,589.62	16
Russia (RUS)		\$21,880,600.00	18
Netherlands (NLD)		\$7,017,372.52	14
Canada (CAN)		\$6,390,545.70	74
France (FRA)		\$2,836,834.55	9
Australia (AUS)		\$2,618,450.08	21
Norway (NOR)		\$2,505,615.04	12
Brazil (BRA)		\$520,527.95	5
Swaziland (SWZ)		\$478,563.00	3
Germany (DEU)		\$448,729.14	17
United Kingdom (GBR)		\$410,135.63	26
Peru (PER)		\$163,063.94	4
New Zealand (NZL)		\$154,110.00	2
Chile (CHL)		\$138,283.00	3
Poland (POL)		\$135,000.00	1
Switzerland (CHE)		\$126,605.00	5
Denmark (DNK)		\$57,098.00	5
Austria (AUT)		\$40,787.00	1
Sweden (SWE)		\$29,170.00	3
Ireland (IRL)		\$26,026.00	1
Barbados (BRB)		\$14,505.73	1
Belgium (BEL)		\$500.00	1
Total		\$71,499,709.46	255*

*Total number includes 5 zero-dollar actions from places of performance: French Polynesia (1), Nepal (1), Slovenia (1), and Finland (2).



NASA's Space Launch System (SLS) rocket with the Orion spacecraft aboard is seen atop the mobile launcher at Launch 39B at NASA's Kennedy Space Center in Florida.

Photo credit: Kennedy Space Center



This photograph of Earth was taken from the National Aeronautics and Space Administration's (NASA) Apollo 13 spacecraft during its trans-Earth journey home on April 17, 1970. The most visible land mass includes southwestern United States and northwestern Mexico.

Photo credit: JSC

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