

A cosmic background featuring a starry field with a prominent blue and purple nebula. Several celestial bodies are visible, including a crescent moon on the left, a larger planet in the upper center, and a large, detailed reddish-brown planet (Mars) on the right side of the frame.

DOING BUSINESS AT NASA MARSHALL SPACE FLIGHT CENTER

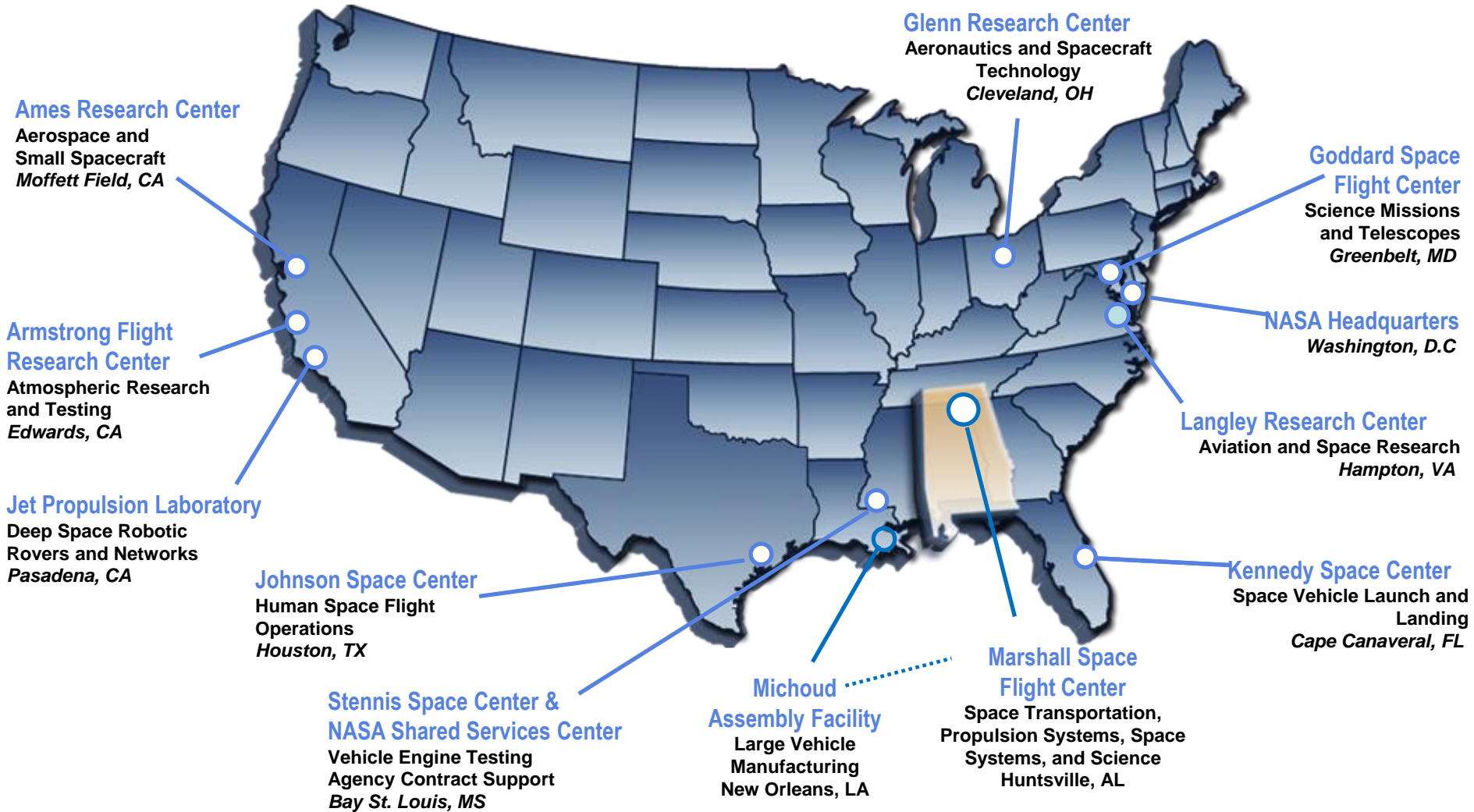
Lynn Garrison

MSFC Small Business Technical Advisor

October 20, 2016



NASA Around the Country



Supporting NASA's mission with unique engineering expertise.



Marshall at a Glance



\$2.5 billion
budget in fiscal year 2015



6th largest
employer in the Huntsville -
Madison county area



> 5,500
employees at Marshall
(2,500 civil service employees in
fiscal year 2014)



4.5 million
square feet of space occupied
in Huntsville



MAF
2.2M square feet of
manufacturing space at
Michoud Assembly Facility in
New Orleans

Marshall is an engine of opportunity for its community and beyond.



MSFC FY 2012 - 2015 Small Business Direct Dollar Achievements

CATEGORIES	FY2012	FY2013	FY2014	FY2015
Proc. \$	\$1,958.5M	\$1,725.8M	\$1,844.5M	\$1,887.8M
SB % Goals	7.5%	7.6%	9.8%	11.8%
SB \$	\$257.1M	\$306.6M	\$293.5M	\$270.2M
SB % Achieved	13.1%	17.8%	15.9%	14.3%
SDB % Goals	2.3%	2.4%	3.6%	4.7%
SDB \$	\$101.7M	\$113.0M	\$111.6M	\$117.7M
SDB % Achieved	5.2%	6.5%	6.1%	6.2%
WOSB % Goals	1.5%	1.5%	1.1%	1.7%
WOSB \$	\$55.2M	\$72.2M	\$64.8M	\$68.0M
WOSB % Achieved	2.8%	4.2%	3.5%	3.6%
HUBZone SB % Goals	0.2%	0.2%	0.3%	0.3%
HUBZone SB \$	\$41.3M	\$50.8M	\$42.4M	\$35.7M
HUBZone SB % Achieved	2.1%	2.9%	2.3%	1.9%
SDVO SB % Goals	1.0%	1.1%	1.0%	1.7%
SDVO SB \$	\$23.1M	\$31.6M	\$36.3M	\$42.7M
SDVO SB % Achieved	1.2%	1.8%	2.0%	2.3%



MSFC FY 2015 Top 20 Small Business Prime Contracts

#	PRIME	CONTRACT #	CONTRACT TITLE	CLASS.	\$ OBLIGATED
1.	Dynetics	NNM10AA03C	IT Services	SB	\$ 56.0M
2.	IPC	NNM08AA20C	Engineering Technician & Trade	SDB-WOSB-8(a)-HZ	\$ 34.8M
3.	COLSA	NNM12AA10C	Huntsville Operations Support Center	SDVO SB	\$ 26.0M
4.	Bastion	NNM07AA74C	Safety & Mission Assurance	SDB	\$ 25.1M
5.	Al-Razaq Computing Services	NNM11AA30C	Acquisition & Business Support Services	SDB	\$ 11.8M
6.	MTS	NNM13AA67T	Project Coordination	VOSB	\$ 9.8M
7.	Victory Solutions	NNM13AA66T	Configuration & Data Mgmt.	WOSB-SDVO SB	\$ 9.7M
8.	Excalibur Associates	NNM12AA08C	Protective Services	VOSB	\$ 9.0M
9.	MTS	NNM14AA02T	Subject Matter Expertise	VOSB	\$ 8.5M
10.	MTS	NNM13AA65T	Project Planning & Control	VOSB	\$ 6.9M



MSFC FY 2015 Top 20 Small Business Prime Contracts (Cont.)

#	PRIME	CONTRACT #	CONTRACT TITLE	CLASS.	\$ OBLIGATED
11.	KAYA & Associates	NNM11AA39C	A&E Design Support	SDB-8(a)	\$ 6.8M
12.	Analytical Services	NNM12AA53C	Strategic Analysis & Communications	SB	\$ 6.0M
13.	Deltha-Critique	NNM08AA28C	Administrative Services	SDB-8(a)	\$ 4.9M
14.	AQuate	NNM13AA21C	Custodial & Refuse Collection	SDB-SDVO SB-8(a)	\$ 4.3M
15.	Aetos Systems	NNM14AA15C	Human Capital	SDB-WOSB-8(a)	\$ 4.3M
16.	HPM	NNM13AA80C	Environmental & Occupational Health	SDB-WOSB	\$ 4.0M
17.	Aetos Systems	NNM14AA20C	Utility Control	SDB-WOSB-8(a)	\$ 1.6M
18.	Victory Solutions	NNM13AA64T	Cost Estimation & Analysis	WOSB-SDVO SB	\$ 1.3M
19.	Chugach	NNM11AA31C	Grounds Maintenance	SDB-8(a)	\$ 1.1M
20.	Optical Sciences	NNM14AA09C	Engineering Support	SB	\$ 1.1M
	Total:				\$233.0M



MSFC FY14-FY16 Small Business Direct & Subcontracting Cumulative Achievements

CATEGORIES	FY 2014 \$ ACHIEVED	FY 2014 % ACHIEVED	FY 2015 \$ ACHIEVED	FY 2015 % ACHIEVED	FY 2016 \$ ACHIEVED	FY 2016 % ACHIEVED
Available \$	\$1,844.5M		\$1,889.4M		\$1,134.2M	
SB	\$644.2M	34.9%	\$549.2M	29.1%	\$343.9M	30.3%
SDB	\$185.3M	10.0%	\$165.1M	8.9%	\$115.8M	10.2%
WOSB	\$158.4M	8.6%	\$142.4M	7.5%	\$109.4M	9.6%
HUBZone SB	\$55.8M	3.0%	\$44.3M	2.3%	\$15.0M	1.3%
SDVO SB	\$57.4M	3.1%	\$63.3M	3.4%	\$47.6M	4.2%

FY 2016 Achievements through March 31, 2016.



When Pursuing Competitive Acquisitions

- Start the marketing process 18 to 24 months prior to the period of performance expiration date.
- Let the SBS know of your interest.
- Review the Performance Work Statement (if available).
- Ask questions.
- Respond to Sources Sought Notices.
- Closely review draft request for proposals.
- Attend industry briefings and participate in site visits.



24-Month Acquisition Forecast

POP EXPIRES	INCUMBENT	CONTRACT	TITLE	NAICS CODE	POTENTIAL VALUE	PREVIOUS COMPETITION
02/28/2017	Multiple awardees	Multiple BPAs	Misc. Construction Projects (Less \$25k)	236220	\$10M	SB Set-Aside
03/31/2017	COLSA Corporation	NNM12AA10C	Huntsville Operation Support Center Services	541712	\$131M	SB Set-Aside
05/31/2017	CH2M	NNM10AA17C	A&E Services for Environmental Engineering	541330	\$89M	Full & Open
06/23/2017	GMC-Merrick JV, LLP	NNM12AA49C	A&E Services for Miscellaneous Studies & Design Tasks	541330	\$10M	Full & Open
09/30/2017	Analytical Services, Inc.	NNM12AA53C	Strategic Analysis & Communication Support Services	541712	\$52M	GSA SB Reserve
02/28/2018	Teledyne Brown Engineering	NNM13AA29C	Mission Operations & Integration	541712	\$150M	Full & Open
09/03/2018	Multiple	Multiple	Construction IDIQs (\$25K to \$5M)	236220	\$5M	SB Set-Aside
10/31/2018	HPM Corporation	NNM13AA80C	Environmental Engineering & Occupational Health Support Services	621999	\$33M	SB Set-Aside



MSFC In or Nearing Competitions

REQUIREMENT	INCUMBENT	PREVIOUS COMPETITION	CURRENT COMPETITION
Acquisition & Business Support	Al-Razaq Computing Services	SB set-aside	WOSB set-aside
Engineering Science Services & Skills Capabilities Augmentation	Jacobs	Full & Open	Full & Open
Facility Engineering Design & Inspection Services	KAYA Associates	8(a) competition	8(a) competition
Environmental Services	Great Southern	SB set-aside	SB set-aside
Facility Operations & Maintenance Support Services	URS	Full & open	Full & open
MSFC Logistics Services	CH2M	Full & Open	GSA SB Set-Aside
Protective Services at MSFC & MAF	Excalibur Associates	GSA SB reserve	GSA SB set-aside
Safety & Mission Support Services	Bastion Technologies	SB set-aside	SB set-aside



FOIA Requests

Performance work statements may be requested in writing from:

NASA, George C. Marshall Space Flight Center
Freedom of Information Act Office
Judi Hollingsworth, CS20
MSFC, AL 35812
(256) 544-1837
foia@msfc.nasa.gov



Doorways To The MSFC Marketplace

- Marshall Small Business Alliance (MSBA)
- Business Forums
- NASA Industry Days



Small Business Resources and Marketing Tools

Small Business Resources and Marketing Tools

- “Doing Business at MSFC” web site: http://ec.msfc.nasa.gov/doing_business/
- Acquisition planning tool: http://ec.msfc.nasa.gov/doing_business/index.php?apt
- Acquisition forecast tool: <http://www.hq.nasa.gov/office/procurement/forecast/>
- Small Business Marketing Guide

Vendor Registration Sites

- NASA Vendor Data Base found at: http://osbp.nasa.gov/vendor_database.html
- MSFC Small Business Directory found at: <https://ec.msfc.nasa.gov/cgi-bin/sbd/sbdp.cgi>
- System for Award Management at: <https://www.sam.gov/portal/public/SAM/>
- SBA Dynamic Small Business Search Site: http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm



MSFC Small Business Program Contacts

CONTACT	TITLE	EMAIL	PHONE
David Brock	Small Business Specialist	david.e.brock@nasa.gov	256-544-0267
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Lynn Garrison	Small Business Technical Advisor	virginia.b.garrison@nasa.gov	256-544-6719
Doug Gerard	SBA PCR	douglas.gerard@sba.gov	256-544-0681

Location: Bldg. 4200/Rm. 228C
Office hours: 7:00 a.m. – 4:30 p.m. (CST)

A space-themed background featuring a large, detailed view of Earth on the right side, showing continents and clouds. In the upper center, a crescent moon is visible against a dark blue starry sky. The Milky Way galaxy is faintly visible in the background, adding depth to the cosmic scene.

Small **B**usiness **I**nnovation **R**esearch (SBIR)
Small **B**usiness **T**echnology **T**ransfer (STTR)
Programs



NASA SBIR/STTR Programs

- Congressionally-mandated programs set-aside for small high tech companies and research institutions
- Fund research, development, and demonstration of innovative technologies that fulfill NASA needs as described in the annual solicitations and have significant potential for successful commercialization.
- Potential source of seed funding for the development of small business and research institution innovations.
- FY16 Award Budget: \$185M
 - SBIR is 3.0% of R&D in FY16; In FY17, NASA will increase the SBIR investment to 3.2%
 - STTR is .45% of R&D in FY16



Eligibility Requirements

Small Business Innovation Research (SBIR)

- 1 Organized for-profit U.S. business
- 2 At least 51% U.S. owned by individuals and independently operated
- 3 500 or fewer employees
- 4 PI's primary employment with small business during project
- 5 Intellectual Property Agreement

Small Business Technology Transfer (STTR)

- 1 Formal Cooperative R&D Effort with a U.S. Research Institution
- 2 Minimum 40% by small business, 30% by U.S. Research Institution
- 3 Small business is Prime, PI can be from SBC or Research Institution
- 4 Other SBIR Requirements Apply



Structure of the Programs



Phase I: **Concept**

- Award Guideline: \$125K
- Duration: 6 months (SBIR)
12 months (STTR)



Phase II: **Full Research, R&D to Prototype**

- Award Guideline: \$750K
- Duration: 24 months
 - Phase II-E



Phase III: **Commercialization/Infusion**

- Non-SBIR/STTR funds
 - Contract from NASA program, other agency, prime contractor



Contact Information

● NASA SBIR/STTR Program

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For more information, go to: www.sbir.nasa.gov

**PY2017 Solicitation opens approx. Nov. 12, 2016,
and closes approx. Jan. 28, 2017**



SBIR/STTR UAV Technical Areas

2016 Solicitation

A3.02: Autonomy of the National Airspace Systems (NAS)

Develop concepts or technologies focused on increasing the efficiency of the air transportation system within the mid-term operational paradigm (2025-2035 time frame), in areas that would culminate in autonomy products to improve mobility, scalability, efficiency, safety, and cost-competitiveness. Proposals in the followings areas in product-oriented research and development are sought... (ARC)

T15.02: Aeronautical Communications, Navigation, Surveillance and Information (CNSI) Systems for UAS

Desired focus areas include: CNSI operations technologies supporting unmanned vehicle integration into the national and global airspace systems, including advanced civil aviation air traffic control systems (including **UAV** traffic management), air traffic management, and airspace operations... (AFRC)



SBIR/STTR UAV Technical Areas

On-going Work

Kennedy Space Center (KSC)

- “Free Flyer”-Use on other planets/moons to help prospect for important minerals that can be used to create oxygen, rocket fuel or building materials. Under the Small Business Technology Transfer (STTR) Program, small business working with a research institution, helped design autonomous guidance and navigation software for free flyers to allow them to help map out their environments and make decisions



Unmanned Aerial Systems(UAS) ARC (cont'd)

Ames Research Center (ARC)

- NASA Frontier Development Lab – Works with groups (through challenges) to advance UAV technology to speed up the process of finding, retrieving and analyzing asteroid fragments, before they reach the ground



Unmanned Autonomous Vehicle (UAV) AFRC

Armstrong Flight Research Center (AFRC)

- Tools on back of UAVs- to detect methane leaks. Small UAVs have improved traditional inspection of natural-gas pipeline networks to enhance safety, improve location accuracy.
- Global Hawk – UAS for high-altitude, long-duration Earth Science missions. Ability to fly long distances; remain aloft for extended periods of time; carry large payloads; measure, monitor and observe remote locations of Earth not feasible or practical with piloted aircraft. Being used by Ames Research Center Science Information Technology's Hurricane and Severe Storm Sentinel (HS3)- five-year combined mission with agency, industry and academic entities investigating processes that underlie hurricane formation and intensification in Atlantic Ocean basin



Unmanned Aerial Systems (UAS) LaRC

Research at Langley Research Center (LaRC)

- Vehicle Centric
 - Autonomous Operations
 - Health Monitoring and Prognostics
 - Mission (Capability) Driven Airframe Design
 - Flight Dynamics and Controls
- Airspace Integration
 - UAS in the Nat'l Airspace
 - UAS Traffic Management
 - Sense and Avoid
 - Contingency Operations
 - Certification



Unmanned Aerial Systems (UAS)

LaRC (cont'd)

- Research Payload Platform
 - Atmospheric Science
 - Wildfire Detection
 - Acoustic Signatures
- Greased Lightning (GL-10) – Design, develop and test-fly a quiet vertical take-off and landing aircraft that can transition to efficient horizontal flight. Airframe is being modified for autonomous flight control and hybrid electric motor.



Unmanned Aerial Systems (UAS)

LaRC (cont'd)

- Learn 2 Fly - Demo aspect of a Self-Learning airplane through drop tests of a lightweight foam glider from a tethered balloon
- Plans: UAS used for remote sensing- Develop transformational way for unmanned airborne platforms to affordably contribute to earth science and foundational research and engineering support
- UAS Traffic Management (UTM) – Develop air traffic management system for low-altitude small UAS operations within five years
- Delivery of pharmaceuticals and medical supplies to a Remote Area Medical (RAM) Clinic in Virginia

LaRC is planning to build an autonomy incubator and continues to work to further develop and improve the materials, capabilities, safety and efficiency of UASs.



Unmanned Aerial Vehicles (UAV) MSFC

- Formation Flying System for Unmanned Aerial Vehicles (UAVs) and Satellites

Using a distributed mesh network communication architecture, this system facilitates formation flying by providing a framework for the exchange of information among multiple vehicles. By exchanging pertinent data, various vehicles can perform as a single formation deployment shape without direct control from the ground. The technology's generic design affords applicability to an array of vehicle types, including UAVs and satellites.

<https://software.nasa.gov/software/MFS-33193-1>



UAV Points of Contact

Armstrong Flight Research Center

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