

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1	39445	Varda Space Industries	Conformal Pica (C-Pica) Tech Transfer and Commercial Production	7/20/2023	7/20/2028	Funded	\$1,900,000	AFRC		Space Technology	View Signed Agreement
2	39325	Psionic, LLC	Annex to Space Technology Commercialization for Measurement and Materials Applications	9/25/2023	9/25/2026	Reimbursable	\$400,000	AFRC	SAA1-35776	Space Technology	View Signed Agreement
3	38559	California Polytechnic State University	Annex to CPSLO NASA AFRC Collaboration	6/13/2023	6/13/2024	Non-Reimbursable	\$40,972	AFRC		Technology Transfer	View Signed Agreement
4	37799	University of South Florida USF, Institute of Applied Engineering, Inc USF-IAE	Access to Space-Like Environments to Facilitate Technology Maturation Under the Flight Opportunities Program TechLeap Prize	3/27/2023	3/27/2024	Non-Reimbursable	\$692,120	AFRC		Space Technology	View Signed Agreement
5	37798	Falcon Exodynamics, Inc	Access to Space-Like Environments to Facilitate Technology Maturation Under the Flight Opportunities Program TechLeap Prize	2/21/2023	2/21/2024	Non-Reimbursable	\$692,120	AFRC		Space Technology	View Signed Agreement
6	37770	Bronco Space Club Research Lab ICON - Cal Poly Pomona	Access to Space-Like Environments to Facilitate Technology Maturation Under the Flight Opportunities Program TechLeap Prize	3/27/2023	3/27/2024	Non-Reimbursable	\$692,120	AFRC		Space Technology	View Signed Agreement
7	37338	Saint Mary's College of California	Obstacle Detection for Autonomous UAS Collaboration	12/7/2022	12/7/2025	Non-Reimbursable	\$9,427	AFRC		Technology Transfer	View Signed Agreement
8	37337	Saint Mary's College of California	NASA Saint Mary's T2X Collaboration	12/7/2022	12/7/2025	Non-Reimbursable	\$0	AFRC		Technology Transfer	View Signed Agreement
9	36917	Supernal, LLC	Annex to Participation in the NASA Advanced Air Mobility National Campaign	5/25/2022	5/25/2027	Non-Reimbursable	\$516,544	AFRC		Aeronautics	View Signed Agreement
10	36916	Supernal, LLC	Participation in the NASA Advanced Air Mobility National Campaign	5/25/2022	5/25/2027	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
11	36914	Texas A&M Engineering Experiment Station (TEES)	Access to Space-Like Environments to Facilitate Technology Maturation Under the Flight Opportunities Program	1/11/2023	1/11/2024	Non-Reimbursable	\$216,811	AFRC		Space Technology	View Signed Agreement
12	36785	The Boeing Company	Sustainable Flight Demonstrator Development and Flight Test	1/13/2023	1/13/2030	Funded	\$607,366,596	AFRC		Aeronautics	View Signed Agreement
13	36582	Overair, Inc	Annex to For Advanced Air Mobility Technology Research And Demonstration Activities	5/25/2022	5/27/2027	Non-Reimbursable	\$516,544	AFRC		Aeronautics	View Signed Agreement
14	36581	Overair, Inc	For Advanced Air Mobility Technology Research And Demonstration Activities	5/25/2022	5/25/2027	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
15	36580	Ellis & Associates	Annex to For Advanced Air Mobility Technology Research and Demonstration Activities	5/25/2022	5/25/2027	Non-Reimbursable	\$516,544	AFRC		Aeronautics	View Signed Agreement
16	36579	Ellis & Associates	For Advanced Air Mobility Technology Research and Demonstration Activities	5/25/2022	5/25/2027	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
17	36578	Electra Aero, Inc	Annex to For Advanced Air Mobility Technology Research and Demonstration Activities	5/25/2022	5/25/2027	Non-Reimbursable	\$516,544	AFRC		Aeronautics	View Signed Agreement
18	36577	Electra Aero, Inc	For Advanced Air Mobility Technology Research and Demonstration Activities	5/25/2022	5/25/2027	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
19	36576	California Polytechnic State University	BLDS Flight	12/5/2022	12/5/2023	Non-Reimbursable	\$9,552	AFRC		Aeronautics	View Signed Agreement
20	36575	California Polytechnic State University	CPSLO NASA AFRC Collaboration	12/5/2022	12/5/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
21	35377	SpinLaunch Inc.	SpinLaunch Test Flight FO Rideshare	3/17/2022	3/17/2024	Non-Reimbursable	\$65,294	AFRC		Space Technology	View Signed Agreement
22	35005	Unmanned Experts Inc	Annex to Advanced Air Mobility Technology Research Demonstration Activities - Airspace	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
23	35004	Unmanned Experts Inc	Advanced Air Mobility Technology Research Demonstration Activities	7/8/2021	7/8/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
24	35003	Joby Aviation, Inc	Annex to Participate in the NASA UAM Grand Challenge	7/8/2021	7/8/2026	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
25	35001	Raytheon Company	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Infrastructure	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
26	35000	Raytheon Company	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Infrastructure	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
27	34999	Raytheon Company	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
28	34998	Robust Analytics	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Infrastructure	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
29	34997	Robust Analytics	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
30	34996	AURA Network Systems	Annex to Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
31	34995	AURA Network Systems	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
32	34994	University of North Texas	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Infrastructure	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
33	34993	University of North Texas	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
34	34991	ARINC Incorporated	Annex to Participation in the NASA UAM Grand Challenge - Airspace	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
35	34990	SkyGrid, LLC	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Infrastructure	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
36	34989	SkyGrid, LLC	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Airspace	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
37	34988	SkyGrid, LLC	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
38	34987	OneSky Systems Inc	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Airspace	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
39	34986	OneSky Systems Inc	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
40	34985	Metron Aviation, Inc	Annex to Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
41	34984	Metron Aviation, Inc	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
42	34983	Avision, INC	Annex to Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
43	34982	Avision, Inc	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
44	34981	ANRA Technologies, LLC	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Airspace	7/6/2021	7/6/2026	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
45	34980	ANRA Technologies, LLC	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
46	34979	Wisk Aero, LLC	Annex to Participation in the NASA AAM National Campaign - Flight Annex	7/6/2021	7/6/2026	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
47	34978	Reliable Robotics Corporation	Annex to Advanced Air Mobility Technology Research and Demonstration Activities - Flight Annex	7/6/2021	7/6/2026	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
48	34977	Reliable Robotics Corporation	Advanced Air Mobility Technology Research and Demonstration Activities	7/6/2021	7/6/2026	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
49	34443	Alaka'i Technologies Corporation	Annex to Participation in the NASA AAM National Campaign	10/2/2020	10/2/2025	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
50	34442	Alaka'i Technologies Corporation	Participation in the NASA AAM National Campaign	10/2/2020	10/2/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
51	34439	Wisk Aero, LLC	AAM National Campaign - 1 Vehicle Provider Information Exchange Annex	10/22/2020	10/22/2025	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
52	34436	Wisk Aero, LLC	Participation in the NASA AAM National Campaign	10/22/2020	10/22/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
53	33843	University Enterprises Corporation at California State University San Bernardino	Non-Reimbursable Space Act Agreement For Collaborative Opportunities for Technology Development	3/1/2022	3/1/2027	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
54	33089	Bell Textron, Inc	Annex to Hybrid-Electric System Integration, Development and Testing Activities	1/15/2020	8/8/2024	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
55	33088	The Boeing Company	Grand Challenge Vehicle Provider Information Exchange Annex	2/28/2020	2/28/2025	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
56	33087	The Boeing Company	Participation in the NASA UAM Grand Challenge	2/28/2020	2/28/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
57	33085	Zeva, Inc (dba Zeva Aero)	Grand Challenge Vehicle Provider Information Exchange Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
58	33084	Zeva, Inc (dba Zeva Aero)	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
59	33081	The University of North Texas	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
60	33080	The University of North Texas	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
61	33079	Uber Technologies, Inc	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
62	33078	Uber Technologies, Inc	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
63	33076	Prodentify, LLC	Grand Challenge Vehicle Provider Information Exchange Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
64	33075	Prodentify, LLC	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
65	33073	OneSky Systems Inc	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
66	33072	OneSky Systems Inc	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
67	33065	NFT, Inc	Grand Challenge Vehicle Provider Information Exchange Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
68	33064	NFT, Inc	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
69	33063	Metron Aviation, Inc	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
70	33062	Metron Aviation, Inc	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
71	33059	GeoRq LLC	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
72	33058	GeoRq LLC	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
73	33057	Ellis & Associates	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
74	33056	Ellis & Associates	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
75	33055	Avision, Inc	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
76	33054	Avision, Inc	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
77	33039	ARINC Incorporated	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
78	33038	ARINC Incorporated	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
79	33037	ANRA Technologies, LLC	Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
80	33036	ANRA Technologies, LLC	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
81	33035	AiRXOS, Inc	Grand Challenge - Development Test Airspace Annex	3/2/2020	3/2/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
82	33034	AiRXOS, Inc	Participation in the NASA UAM Grand Challenge	3/2/2020	3/2/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
83	33033	Airmap, Inc	Participation in the NASA UAM Grand Challenge - Development Test Airspace Annex	2/3/2020	2/3/2025	Non-Reimbursable	\$678,932	AFRC		Aeronautics	View Signed Agreement
84	33032	Airmap, Inc	Participation in the NASA UAM Grand Challenge	2/3/2020	2/3/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
85	33031	Joby Aviation, Inc	Grand Challenge - Development Test Flight Annex	2/19/2020	2/19/2025	Non-Reimbursable	\$592,104	AFRC		Aeronautics	View Signed Agreement
86	33030	Joby Aviation, Inc	Participation in the NASA UAM Grand Challenge	2/19/2020	2/19/2025	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
87	32757	AeroVironment, Inc.	Small Unmanned Aircraft System (SUAS) Testing and Training	11/10/2020	11/10/2025	Reimbursable	\$116,000	AFRC		Aeronautics	View Signed Agreement
88	32339	Fenix Space, Inc.	Supporting Development of a Tow-glider Launch Platform through Aerodynamic Store Separation Analysis, Range Safety Studies, and Con-Ops Development	5/27/2020	5/27/2025	Reimbursable	\$75,552	AFRC		Aeronautics	View Signed Agreement
89	32338	Fenix Space, Inc.	Development of Tow-glider Launch Platform	5/27/2020	5/27/2025	Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
90	32161	Learjet, Inc	Business Jet Flight Test Support	5/17/2021	5/17/2026	Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
91	31694	Stratolaunch, LLC	To Support Flight Operations of the Stratolaunch Carrier Aircraft	2/13/2020	2/13/2025	Reimbursable	\$417,708	AFRC		Aeronautics	View Signed Agreement
92	31693	Stratolaunch, LLC	To Support Flight Operations of the Stratolaunch Carrier Aircraft	2/13/2020	2/13/2025	Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
93	30150	Federal Aviation Administration	Collaboration between NASA and FAA on the Development of Autonomous Systems Guidelines for More Efficient Process to Gain Certification.	6/26/2019	6/26/2024	Non-Reimbursable	\$350,444	AFRC		Aeronautics	View Signed Agreement
94	30149	Federal Aviation Administration	Non-Reimbursable Umbrella between NASA AFRC and FAA for Development of Flight Safety and Autonomous System Technologies and Processes	6/26/2019	6/26/2024	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
95	27967	AeroVironment, Inc	Unmanned Aircraft Systems (UAS) Testing	11/14/2018	11/14/2023	Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
96	26974	Bell Textron, Inc	Hybrid-Electric System Integration, Development and Testing Activities	8/8/2019	8/8/2024	Non-Reimbursable	\$0	AFRC		Aeronautics	View Signed Agreement
97	39747	RMV Technology Group, LLC	Annex One to Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and RMV Technology for Demand Services	9/29/2023	6/28/2024	Reimbursable	\$2,659	ARC	SAA2-403790-1	Institutional and Mission Support	View Signed Agreement
98	39746	RMV Technology Group, LLC	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and RMV Technology for Demand Services	9/29/2023	9/28/2024	Reimbursable	\$0	ARC	SAA2-403790	Institutional and Mission Support	View Signed Agreement
99	39720	VASPER SYSTEMS CALIFORNIA, LLC	Annex One to Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Vasper, LLC for Vasper Utilities	9/29/2023	6/28/2024	Reimbursable	\$20,700	ARC	SAA2-403788-1	Institutional and Mission Support	View Signed Agreement
100	39719	VASPER SYSTEMS CALIFORNIA, LLC	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Vasper, LLC for Vasper Utilities	9/29/2023	9/28/2024	Reimbursable	\$0	ARC	SAA2-403788	Institutional and Mission Support	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
101	39333	Delphire, Inc.	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Delphire, Inc to Analyze and Collaborate on Wildfire Management Technology	9/26/2023	9/25/2025	Non-Reimbursable	\$46,825	ARC	SAA2-403775	Aeronautics	View Signed Agreement
102	39063	Martina Dimoska	Annex One under Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Martina Dimoska for Space Apps Challenge	9/5/2023	9/4/2024	Non-Reimbursable	\$30,687	ARC	SAA2-403770-1	Science, Education and/or Public Engagement	View Signed Agreement
103	39062	Martina Dimoska	Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Martina Dimoska for Space Apps Challenge	9/5/2023	9/4/2028	Non-Reimbursable	\$0	ARC	SAA2-403770	Science, Education and/or Public Engagement	View Signed Agreement
104	39049	Rocket Lab USA	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Rocket Lab USA for Space Science, Earth Science, and Engineering Research	6/20/2023	8/19/2027	Non-Reimbursable	\$458,758	ARC	SAA2-403750	Space Technology	View Signed Agreement
105	38963	The Boeing Company	Annex Five to Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and the Boeing Company for Wind Tunnel Testing	7/10/2023	7/9/2024	Reimbursable	\$4,716,000	ARC	SAA2-403460-5	Aeronautics	View Signed Agreement
106	38952	REGENTS OF THE UNIVERSITY OF MINNESOTA	Reimbursable Space Act Agreement between NASA ARC and Regents of the University of Minnesota for Re-Entry Flight System	8/14/2023	5/13/2024	Reimbursable	\$290,598	ARC	SAA2-403617	Space Technology	View Signed Agreement
107	38728	Relativity Space, Inc.	Annex One under Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Relativity Space for Support of Re-Entry Capsule	8/16/2023	8/15/2026	Reimbursable	\$601,424	ARC		Space Technology	View Signed Agreement
108	38726	Relativity Space, Inc.	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Relativity Space for Support of Re-Entry Capsule	8/16/2023	8/15/2028	Reimbursable	\$0	ARC	SAA2-403760	Space Technology	View Signed Agreement
109	38721	Lunar Resources, Inc.	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Lunar Resources, Inc. for In-Situ Resource Utilization (ISRU) Processing of Automated Reconfigurable Mission Adaptive Digital Assembly Systems (ARMADAS) Structural Parts	6/23/2023	12/22/2024	Non-Reimbursable	\$81,467	ARC	SAA2-403759	Human Exploration and Operations	View Signed Agreement
110	38661	SKYCORP, INC	Reimbursable Space Act Agreement between NASA Ames Research Center and Skycorp, Inc. for Testing Support at the Engineering Evaluation Laboratory	5/2/2023	9/30/2024	Reimbursable	\$18,994	ARC	SAA2-403752	Science	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
111	38467	Small Payload Ride Share Association	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Small Spacecraft Ride Share Association for Co-Hosting the Annual Small Payload Ride Share Symposium	3/24/2023	3/23/2024	Non-Reimbursable	\$16,666	ARC	SAA2-403747	Science	View Signed Agreement
112	38410	SOUTHWEST AIRLINES COMPANY	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Southwest Airlines for Digital Information Platform (DIP) Flight Operators Partnerships	3/21/2023	3/20/2028	Non-Reimbursable	\$2,502,449	ARC	SAA2-403745	Aeronautics	View Signed Agreement
113	38397	The Boeing Company	Annex Four under Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and The Boeing Company for Wind Tunnel Testing	7/7/2023	7/6/2024	Reimbursable	\$9,679,009	ARC	SAA2-403460-4	Aeronautics	View Signed Agreement
114	38344	NISSAN NORTH AMERICA, INC	Annex Three to the Reimbursable Space Act Umbrella Agreement with Nissan North America, Inc for Development and Validation of Open-Source Software Tools for Material Informatics	8/11/2023	6/10/2025	Reimbursable	\$369,700	ARC	SAA2-403545-3	Space Technology	View Signed Agreement
115	38277	JOBY AVIATION, INC	Annex Two to Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Joby Aviation for High-Rate Composite Component Manufacturing	7/5/2023	7/4/2025	Non-Reimbursable	\$1,361,650	ARC	SAA2-403660	Aeronautics	View Signed Agreement
116	38192	AMERICAN AIRLINES, INC	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and American Airlines for Digital Information Platform (DIP) Flight Operators Partnership	1/31/2023	1/30/2028	Non-Reimbursable	\$2,502,449	ARC	SAA2-403741	Aeronautics	View Signed Agreement
117	38086	Virgin Orbit	Annex Eight to the Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Virgin Orbit, LLC for Analysis and Simulation of Transport Aircraft as a Launch Platform	3/2/2023	3/1/2024	Reimbursable	\$115,689	ARC	SAA2-403586-8	Aeronautics	View Signed Agreement
118	38017	Lockheed Martin	Annex Two to the Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Lockheed Martin Corporation for Wind Tunnel Testing	2/10/2023	2/9/2024	Reimbursable	\$6,081,280	ARC	SAA2-403738-2	Aeronautics	View Signed Agreement
119	37980	Delta Air Lines	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Delta Airlines for Digital Information Platform (DIP) Flight Operators Partnership	1/6/2023	1/5/2028	Non-Reimbursable	\$2,502,449	ARC	SAA2-403736	Aeronautics	View Signed Agreement
120	37979	JetBlue Airways	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and JetBlue Airlines for Digital Information Platform Flight Operators Partnership	1/4/2023	1/3/2028	Non-Reimbursable	\$2,502,449	ARC	SAA2-403734	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
121	37812	ATA Engineering	Reimbursable Space Act Agreement between NASA Ames Research Center and ATA Engineering for Validation of a Fluid-Structure Material Interaction (FSMI) Modeling and Simulation Toolset at the NASA Ames Interaction Heating Facility (IHF)	6/28/2023	6/27/2024	Reimbursable	\$397,392	ARC	SAA2-403729	Science	View Signed Agreement
122	37746	Ventura Prototypes	Reimbursable Space Act Agreement between NASA Ames Research Center and Ventura Prototypes for Evaluation of Sensor for Use in Flu Detection	11/16/2022	11/15/2024	Reimbursable	\$43,043	ARC	SAA2-403728	Space Technology	View Signed Agreement
123	37710	Aerostar International LLC	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Aerostar International, LLC for Collaborative Evaluation of Prototype NASA Research Upper Class E Traffic Management (ETM) System	4/18/2023	4/17/2028	Non-Reimbursable	\$1,242,127	ARC	SAA2-403727	Aeronautics	View Signed Agreement
124	37697	University of Georgia	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and University of Georgia for Robust 3D Modeling via Neural Radiance Fields	2/15/2023	8/14/2024	Non-Reimbursable	\$122,644	ARC	SAA2-403726	Human Exploration and Operations, Space Technology	View Signed Agreement
125	37685	Impulse Space	Annex One under Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Impulse Space for Support of Re-Entry Capsule	11/16/2022	11/15/2023	Reimbursable	\$31,023	ARC	SAA2-403725-1	Space Technology	View Signed Agreement
126	37684	Impulse Space	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Impulse Space for Support of Re-Entry Capsule	11/16/2022	11/15/2027	Reimbursable	\$0	ARC	SAA2-403725	Space Technology	View Signed Agreement
127	37669	Northrop Grumman Corporation	Annex Five to the Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Northrop Grumman Corporation for Wind Tunnel Testing	11/30/2022	11/29/2024	Reimbursable	\$6,300,000	ARC	SAA2-403514-5	Aeronautics	View Signed Agreement
128	37637	Blue Origin, LLC	Annex Nine to Reimbursable Umbrella Space Act Agreement Between the National Aeronautics and Space Administration Ames Research Center and Blue Origin, LLC to Support Blue Origin Commercial Space Transportation Development	10/11/2022	4/13/2024	Reimbursable	\$3,924,000	ARC	SAA2-403403-9	Human Exploration and Operations, Space Technology	View Signed Agreement
129	37602	Aeva, Inc	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Aeva, Inc for Frequency Modulated Continuous Wave LiDAR Testing and Evaluation	4/27/2023	4/26/2024	Non-Reimbursable	\$7,213	ARC	SAA2-403724	Human Exploration and Operations	View Signed Agreement
130	37415	Joby Aero, Inc	Annex One under Non-Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Joby Aero, Inc for Research, Development, Testing, and Evaluation of an Urban Air Mobility (UAM) System	12/20/2022	12/19/2027	Non-Reimbursable	\$322,807	ARC	SAA2-403721-1	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
131	37414	Joby Aero, Inc	Non-Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Joby Aero, Inc for Research, Development, Testing, and Evaluation of an Urban Air Mobility (UAM) System	12/20/2022	12/19/2027	Non-Reimbursable	\$0	ARC	SAA2-403721	Aeronautics	View Signed Agreement
132	37381	Agscent USA	Reimbursable Space Act Agreement between NASA Ames Research Center and Agscent USA for Transfer of Know How and Optimization of Sensors for the Purpose of Commercializing Nanosensor Array for Livestock Diagnostics	10/20/2022	2/29/2024	Reimbursable	\$301,244	ARC	SAA2-403720	Space Technology	View Signed Agreement
133	37314	Xwing, Inc.	Annex One under Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Xwing, Inc for Developing Processes and Procedures that Safely Enable Increasingly-Autonomous Aviation in the National Airspace	9/27/2022	9/26/2025	Non-Reimbursable	\$1,078,213	ARC	SAA2-403718-1	Aeronautics	View Signed Agreement
134	37306	Xwing, Inc.	Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Xwing, Inc for Developing Processes and Procedures that Safely Enable Increasingly-Autonomous Aviation in the National Airspace	9/27/2022	9/26/2027	Non-Reimbursable	\$0	ARC	SAA2-403718	Aeronautics	View Signed Agreement
135	37254	Autonomy Association International, Inc	Annex One under Non-Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Autonomy Association International for Collaborative Research in the Application of NASA Aeronautics Technologies, Facilities, and Services	9/7/2022	9/30/2023	Non-Reimbursable	\$235,122	ARC	SAA2-403715-1	Aeronautics	View Signed Agreement
136	37253	Autonomy Association International, Inc	Non-Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Autonomy Association International for Collaborative Research in the Application of NASA Aeronautics Technologies, Facilities, and Services	9/7/2022	9/6/2027	Non-Reimbursable	\$0	ARC	SAA2-403715	Aeronautics	View Signed Agreement
137	37252	Raytheon Defense Systems	Reimbursable Space Act Agreement between NASA Ames Research Center and Raytheon Defense Systems for Enhanced Heating Sample Testing at the NASA Ames Interaction Heating Facility (IHF) Laser Enhanced Arc Jet Facility (LEAF)	7/14/2023	7/13/2025	Reimbursable	\$950,183	ARC	SAA2-403714	Space Technology	View Signed Agreement
138	37080	Rigetti Computing	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Rigetti Computing for Assess a Gate-Based Quantum Computing Processor for Meeting Complex Computing Challenges	2/8/2023	2/7/2028	Non-Reimbursable	\$46,464	ARC	SAA2-403707	Aeronautics	View Signed Agreement
139	37027	Google, LLC	Reimbursable Space Act Agreement between NASA Ames Research Center and Google, LLC for Calibration and Noise Characterization Approaches for Quantum Hardware	2/24/2023	2/23/2026	Reimbursable	\$900,000	ARC	SAA2-403706	Science	View Signed Agreement
140	36965	Naval Information Warfare Center Pacific	Annex Two under Non-Reimbursable Umbrella Interagency Agreement between NASA ARC and Naval Information Warfare Center for Small Satellite Advanced Technologies	8/19/2022	8/18/2024	Non-Reimbursable	\$131,582	ARC	SAA2-403694-2	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
141	36817	UNITED AIRLINES	Annex One under NonReimbursable Space Act Umbrella Agreement between NASA Ames Research Center and United Airlines for Collaborative Research to Improve Aviation Safety	4/24/2023	4/23/2028	Non-Reimbursable	\$855,519	ARC		Aeronautics	View Signed Agreement
142	36816	UNITED AIRLINES	NonReimbursable Space Act Umbrella Agreement between NASA Ames Research Center and United Airlines for Collaborative Research to Improve Aviation Safety	4/24/2023	4/23/2028	Non-Reimbursable	\$0	ARC	SAA2-403698	Aeronautics	View Signed Agreement
143	36780	In Orbit Aerospace	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and In Orbit Aerospace for Support of a Re-Entry Capsule	6/21/2022	6/20/2027	Reimbursable	\$0	ARC	SAA2-403697	Space Technology	View Signed Agreement
144	36626	Naval Information Warfare Center Pacific	Annex One under Non-Reimbursable Umbrella Interagency Agreement between NASA ARC and Naval Information Warfare Center for Small Satellite Advanced Technologies	8/19/2022	8/18/2024	Non-Reimbursable	\$574,330	ARC	SAA2-403694-1	Space Technology	View Signed Agreement
145	36625	Naval Information Warfare Center Pacific	Non-Reimbursable Umbrella Interagency Agreement between NASA ARC and Naval Information Warfare Center for Small Satellite Advanced Technologies	8/19/2022	8/18/2027	Non-Reimbursable	\$0	ARC	SAA2-403694	Space Technology	View Signed Agreement
146	36607	Ohio Department of Transportation	Annex Three under NonReimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Ohio Department of Transportation for Advanced Air Mobility Technology Research and Demonstration Activities	6/14/2022	3/31/2025	Non-Reimbursable	\$418,707	ARC	SAA2-403693-3	Aeronautics	View Signed Agreement
147	36573	LAWRENCE LIVERMORE NATIONAL SECURITY, LLC	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Lawrence Livermore National Security, LLC for Small Satellite Pathfinder Technology Demonstrator Monolithic Optics Payload	7/13/2022	7/12/2025	Non-Reimbursable	\$2,160,128	ARC	SAA2-403692	Space Technology	View Signed Agreement
148	36552	Zipline	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Zipline for Operation of Autonomous Fleets in US Airspace	6/27/2022	6/26/2024	Non-Reimbursable	\$1,301,427	ARC	SAA2-403691	Aeronautics	View Signed Agreement
149	36546	United States Space Force, Space Systems Command (SSC)	Non-Reimbursable Interagency Agreement between NASA ARC and United States Space Force for Development and Demonstration of the DiskSat System	1/10/2023	1/9/2026	Non-Reimbursable	\$3,023,229	ARC	SAA2-403690	Space Technology	View Signed Agreement
150	36263	Ohio Department of Transportation	Non-Reimbursable Annex Two under Umbrella Agreement (No. 34682) between NASA Ames Research Center and Ohio Department of Transportation for Advanced Air Mobility Technology Research and Demonstration Activities	5/11/2022	5/11/2025	Non-Reimbursable	\$2,539,780	ARC	SAA2-403685-2	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
151	36226	Canopy Aerospace	Annex One under Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Canopy Aerospace for Thermal Protection System Technology Transfer	4/5/2022	4/5/2025	Reimbursable	\$930,000	ARC	SAA2-403683-1	Space Technology	View Signed Agreement
152	36225	Canopy Aerospace	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Canopy Aerospace for Thermal Protection System Technology Transfer	4/5/2022	4/5/2027	Reimbursable	\$0	ARC	SAA2-403683	Space Technology	View Signed Agreement
153	36212	The University of California at Berkeley	Annex One to Non-reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and University of California at Berkeley for Space Exploration, Science and Engineering Research, and STEM Initiatives	2/22/2022	2/22/2027	Non-Reimbursable	\$17,962	ARC	SAA2-403507-1	Aeronautics	View Signed Agreement
154	36125	Naval Information Warfare Center Pacific	NonReimbursable Space Act Agreement between NASA Ames Research Center and Naval Information Warfare Center Pacific for NIWC Pacific/NASA Robotics Technology Initiative	8/3/2022	8/2/2027	Non-Reimbursable	\$32,055	ARC	SAA2-403681	Science	View Signed Agreement
155	35946	AIRT, Inc.	Annex One under Non-Reimbursable Umbrella Space Act Agreement between NASA Ames and AIRT, Inc (D/B/A Droneresponders) for Developing Safety Processes and Procedures to Enable Highly-Automated Aviation for Emergency Response in the National Airspace	4/20/2022	4/20/2025	Non-Reimbursable	\$2,911,122	ARC	SAA2-403675-1	Aeronautics	View Signed Agreement
156	35945	AIRT, Inc.	Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and AIRT, Inc (D/B/A Droneresponders) for Developing Safety Processes and Procedures to Enable Highly-Automated Aviation for Emergency Response in the National Airspace	4/20/2022	4/20/2027	Non-Reimbursable	\$0	ARC	SAA2-403675	Aeronautics	View Signed Agreement
157	35883	Arrow Tech Associates	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Arrow Tech Associates for Wind Tunnel Testing	3/9/2022	3/9/2027	Reimbursable	\$0	ARC	SAA2-403674	Aeronautics	View Signed Agreement
158	35849	KAI, LLC	Reimbursable Space Act Agreement between NASA Ames and Kai, LLC for Modeling and Characterization of Low Density Flexible Thermal Protection Materials for Hypersonic Vehicles	7/26/2022	7/25/2024	Reimbursable	\$183,386	ARC	SAA2-403672	Space Technology	View Signed Agreement
159	35785	Varda Space Industries	Annex 1 under Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Varda Space Industries for Support of a Re-Entry Capsule	12/28/2021	3/30/2024	Reimbursable	\$502,777	ARC	SAA2-403669-1	Space Technology	View Signed Agreement
160	35784	Varda Space Industries	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Varda Space Industries for Support of a Re-Entry Capsule	12/28/2021	12/28/2026	Reimbursable	\$0	ARC	SAA2-403669	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
161	35782	Inversion Space	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Inversion Space for Support of a Re-Entry Capsule	2/25/2022	2/25/2027	Reimbursable	\$0	ARC	SAA2-403668	Space Technology	View Signed Agreement
162	35739	Northrop Grumman Systems Corporation	Annex 1 under Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Northrop Grumman Systems Corporation for Unmanned Aircraft Systems for Cargo Transportation	5/11/2022	2/29/2024	Non-Reimbursable	\$126,000	ARC	SAA2-403666-1	Aeronautics	View Signed Agreement
163	35738	Northrop Grumman Systems Corporation	Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Northrop Grumman Systems Corporation for Unmanned Aircraft Systems for Cargo Transportation	5/11/2022	5/11/2027	Non-Reimbursable	\$0	ARC	SAA2-403666	Aeronautics	View Signed Agreement
164	35730	Department of Defense Space Test Program	Non-Reimbursable Interagency Agreement between NASA Ames Research Center and Department of Defense Space Test Program for Demonstration of Small Spacecraft Technologies	3/24/2022	3/24/2027	Non-Reimbursable	\$1,583,848	ARC	SAA2-403665	Space Technology	View Signed Agreement
165	35649	JOBY AVIATION, INC	Annex 1 under Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Joby Aviation for High-Rate Composite Component Manufacturing	6/3/2022	6/2/2024	Non-Reimbursable	\$1,070,633	ARC	SAA2-403660-1	Aeronautics	View Signed Agreement
166	35648	JOBY AVIATION, INC	Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Joby Aviation for High-Rate Composite Component Manufacturing	6/3/2022	6/2/2027	Non-Reimbursable	\$0	ARC	SAA2-403660	Aeronautics	View Signed Agreement
167	35577	Lawrence Livermore National Security, LLC	Annex Three under Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Lawrence Livermore National Security, LLC for Aerospace Research and Testing Activities	9/2/2022	9/2/2024	Reimbursable	\$310,907	ARC	SAA2-403582-3	Aeronautics	View Signed Agreement
168	35574	LAWRENCE LIVERMORE NATIONAL LABORATORY, LLC	NonReimbursable Space Act Agreement between NASA ARC and Lawrence Livermore National Security, LLC for Supporting High Performance Computing systems	12/15/2021	12/15/2026	Non-Reimbursable	\$30,797	ARC	SAA2-403658	Science	View Signed Agreement
169	35475	Northrop Grumman Corporation	Non-Reimbursable Space Act Agreement Between NASA Ames Research Center and the Northrop Grumman Corporation for Prognostics and Health Management	1/17/2023	1/16/2025	Non-Reimbursable	\$10,332	ARC	SAA2-403657	Aeronautics	View Signed Agreement
170	35422	UNITED AIRLINES	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and United Airlines for Digital Information Platform (DIP) Flight Operators Partnership	1/4/2023	1/3/2028	Non-Reimbursable	\$2,502,449	ARC	SAA2-403735	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
171	35404	Radian Aerospace	Annex One under Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Radian Aerospace, Inc. for Supporting Radian Aerospace Commercial Hypersonic Vehicle Development	12/28/2021	12/28/2024	Reimbursable	\$630,493	ARC	SAA2-403654-1	Human Exploration and Operations	View Signed Agreement
172	35403	Radian Aerospace	Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Radian Aerospace, Inc. for Supporting Radian Aerospace Commercial Hypersonic Vehicle Development	12/28/2021	12/28/2026	Reimbursable	\$0	ARC	SAA2-403654	Human Exploration and Operations	View Signed Agreement
173	35300	Stratolaunch, Inc.	Annex One under Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Stratolaunch, LLC for Supporting Stratolaunch Commercial Hypersonic Vehicle Development	3/1/2022	3/1/2025	Reimbursable	\$980,000	ARC	SAA2-403646-1	Human Exploration and Operations	View Signed Agreement
174	35299	Stratolaunch, Inc.	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Stratolaunch, LLC for Supporting Stratolaunch Commercial Hypersonic Vehicle Development	3/1/2022	3/1/2027	Reimbursable	\$0	ARC	SAA2-403646	Human Exploration and Operations	View Signed Agreement
175	35291	The Boeing Company	Annex One under Non-Reimbursable Umbrella Space Act Agreement between NASA ARC and The Boeing Company to Explore Aircraft Autonomy and Autonomous Systems	5/25/2022	5/24/2024	Non-Reimbursable	\$125,828	ARC	SAA2-403647-1	Aeronautics	View Signed Agreement
176	35290	The Boeing Company	Non-Reimbursable Umbrella Space Act Agreement between NASA ARC and The Boeing Company to Explore Aircraft Autonomy and Autonomous Systems	5/25/2022	5/24/2027	Non-Reimbursable	\$0	ARC	SAA2-403647	Aeronautics	View Signed Agreement
177	35266	Dallas/Fort Worth International Airport Board	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Dallas/Fort Worth International Airport Board for Data Sharing for NextGen Research and Development	9/29/2021	9/29/2026	Non-Reimbursable	\$338,769	ARC	SAA2-403645	Aeronautics	View Signed Agreement
178	34898	DYNETICS CORP	Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and the Dynetics, Inc. for Wind Tunnel Testing	10/12/2021	10/12/2026	Reimbursable	\$0	ARC	SAA2-403636	Aeronautics	View Signed Agreement
179	34811	Skydio, Inc.	Non-Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and the Skydio Inc. for Autonomous UAS Technology Research and Development	9/1/2021	9/1/2026	Non-Reimbursable	\$0	ARC	SAA2-403630	Aeronautics	View Signed Agreement
180	34677	Microsoft Corporation	Non-Reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and Microsoft Corporation for Cloud-Base Simulation Platform Prototype	7/16/2021	7/16/2026	Non-Reimbursable	\$0	ARC	SAA2-403624	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
181	34539	The Boeing Company	Non-Reimbursable Space Act Agreement between NASA ARC and Boeing Company for Computational Assessment and Wind Tunnel Data Correlation for a Low Boom Demonstrator Concept	9/27/2021	9/27/2024	Non-Reimbursable	\$45,541	ARC	SAA2-403620	Aeronautics	View Signed Agreement
182	34521	Avision, Inc.	Nonreimbursable Space Act Agreement between NASA Ames Research Center and Avision, Inc for Scalable Traffic Management for Emergency Response Operations (STEReO)	4/27/2021	4/27/2026	Non-Reimbursable	\$1,273,460	ARC	SAA2-403618	Aeronautics	View Signed Agreement
183	34520	AMERICAN AIRLINES, INC	Nonreimbursable Space Act Agreement between NASA ARC and American Airlines, Inc for Human Factors Research	12/28/2021	12/28/2026	Non-Reimbursable	\$2,940,419	ARC	SAA2-403621	Aeronautics	View Signed Agreement
184	34515	University of Minnesota	Annex One under Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and The University of Minnesota for Space Exploration, Science, and Engineering Research, and STEM Initiative	7/12/2022	7/11/2024	Reimbursable	\$150,000	ARC	SAA2-403617-1	Space Technology	View Signed Agreement
185	34514	University of Minnesota	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and The University of Minnesota for Space Exploration, Science, and Engineering Research, and STEM Initiative	7/12/2022	7/11/2027	Reimbursable	\$0	ARC	SAA2-403617	Space Technology	View Signed Agreement
186	34471	General Electric Company	Annex One under Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and General Electric Company for Safety Assurance of Flight Critical Systems	5/20/2021	5/20/2024	Non-Reimbursable	\$475,075	ARC	SAA2-403615-1	Aeronautics	View Signed Agreement
187	34470	General Electric Company	Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and General Electric Company for Safety Assurance of Flight Critical Systems	5/20/2021	5/20/2026	Non-Reimbursable	\$0	ARC	SAA2-403615	Aeronautics	View Signed Agreement
188	34243	Founder Institute, Incorporated	Annex Two to Nonreimbursable Space Act Umbrella Agreement between the National Aeronautics and Space Administration Ames Research Center and Founder Institute, Incorporated for Phase 2 - Founder Institute Advanced Technology Accelerator Program	5/20/2021	11/19/2024	Non-Reimbursable	\$21,502	ARC	SAA2-403517-2	Space Technology	View Signed Agreement
189	34095	Chabot Space & Science Center	Annex One to Non-Reimbursable Umbrella Interagency Agreement between NASA ARC and the Chabot Space and Science Center for Framework on Regional Partnership	2/8/2021	2/8/2026	Non-Reimbursable	\$2,264,336	ARC	SAA2-403607-1	Education and/or Public Engagement	View Signed Agreement
190	34094	Chabot Space & Science Center	Non-Reimbursable Umbrella Interagency Agreement between NASA Ames Research Center and the Chabot Space and Science Center for Framework on Regional Partnership	2/8/2021	2/8/2026	Non-Reimbursable	\$0	ARC	SAA2-403607	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
191	33288	Rocket Lab USA	Non-Reimbursable Umbrella Space Act Agreement between NASA ARC and Rocket Lab for Space Science, Earth Science, and Engineering Research	10/14/2020	10/14/2025	Non-Reimbursable	\$0	ARC	SAA2-403591	Human Exploration and Operations, Science, Space Technology	View Signed Agreement
192	33215	United States Forest Service	Non-Reimbursable Interagency Agreement between NASA Ames Research Center and United States Forest Service for Scalable Traffic Management for Emergency Response Operations (STEREO)	5/11/2021	5/11/2026	Non-Reimbursable	\$1,869,333	ARC	SAA2-403590	Aeronautics	View Signed Agreement
193	33148	Stanford Blood Center	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and Stanford Blood Center for Blood Drives	10/6/2020	10/6/2025	Non-Reimbursable	\$12,568	ARC	SAA2-403588	Education and/or Public Engagement	View Signed Agreement
194	33082	Virgin Orbit	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Virgin Orbit, LLC for Supporting the Maturation of Virgin Orbit's Air-Launched Vehicle System	10/6/2020	10/6/2025	Reimbursable	\$0	ARC	SAA2-403586	Human Exploration and Operations	View Signed Agreement
195	33060	Sentinel Healthcare Corporation	Nonreimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Sentinel Healthcare for a Data-Driven Pandemic Response Management System (COVID-19)	9/8/2020	9/8/2025	Non-Reimbursable	\$0	ARC	SAA2-403585	Space Technology	View Signed Agreement
196	32993	Lawrence Livermore National Security, LLC	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Lawrence Livermore National Security, LLC for Aerospace Research and Testing Activities	1/13/2021	1/13/2026	Reimbursable	\$0	ARC	SAA2-403582	Science, Space Technology	View Signed Agreement
197	32992	Purdue University	Annex One under Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Purdue University for Research and Development in Aerospace, Earth Science, and Aviation Systems	12/15/2020	12/15/2025	Non-Reimbursable	\$96,476	ARC	SAA2-403581-1	Aeronautics	View Signed Agreement
198	32991	Purdue University	Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Purdue University for Research and Development in Aerospace, Earth Science, and Aviation Systems	12/15/2020	12/15/2025	Non-Reimbursable	\$0	ARC	SAA2-403581	Aeronautics, Science	View Signed Agreement
199	32905	California Polytechnic State University	Annex One to Non-reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and California Polytechnic State University for Space Exploration, Science and Engineering Research, and STEM Initiatives	6/20/2021	6/20/2024	Non-Reimbursable	\$96,152	ARC	SAA2-403539-1	Space Technology	View Signed Agreement
200	32865	California Department of Forestry and Fire Protection	Non-Reimbursable Space Act Agreement between NASA Ames Research Center and California Department of Forestry and Fire Protection (CAL FIRE) for Scalable Traffic Management for Emergency Response Operation (STEREO)	4/5/2021	4/5/2026	Non-Reimbursable	\$1,892,439	ARC	SAA2-403576	Aeronautics, Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
201	32699	University of Colorado Boulder	Annex 1 to the Non-Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and University of Colorado for Exploration, Development, and Testing of High Temperature Materials for Hypersonics	4/19/2021	4/19/2026	Non-Reimbursable	\$186,242	ARC	SAA2-403529-1	Space Technology	View Signed Agreement
202	32613	Khaled bin Sultan Living Oceans Foundation	Non-Reimbursable Space Act Agreement between NASA Ames and Khaled bin Sultan Living Oceans Foundation for Sharing Data to Improve Benthic Habitat Map	5/15/2021	5/15/2026	Non-Reimbursable	\$126,200	ARC	SAA2-403568	Science	View Signed Agreement
203	32577	Delta Air Lines, Inc.	Non-Reimbursable Space Act Agreement between NASA Ames and Delta Airlines, Inc. for Human Factors Fatigue Research	11/24/2020	11/24/2025	Non-Reimbursable	\$740,892	ARC	SAA2-403566	Aeronautics	View Signed Agreement
204	32574	VERDIGRIS TECHNOLOGIES, INC	Nonreimbursable Space Act Agreement between Verdigris Technologies, Inc. and NASA Ames Research Center for Advanced Sensing and Health Management for Sustainable Habitats	1/27/2021	1/27/2026	Non-Reimbursable	\$189,758	ARC	SAA2-403565	Human Exploration and Operations	View Signed Agreement
205	32524	San Jose State University	Annex One under Non-reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and San Jose State University for Space Exploration, Science and Engineering Research, and STEM Initiatives	2/18/2021	2/18/2026	Non-Reimbursable	\$95,926	ARC	SAA2-403536-1	Aeronautics, Education and/or Public Engagement	View Signed Agreement
206	32521	Gulfstream Aerospace Corporation	Reimbursable Umbrella Space Act Agreement between NASA Ames and Gulfstream Aerospace Corporation for Wind Tunnel Testing	8/15/2021	8/15/2026	Reimbursable	\$0	ARC	SAA2-403564	Aeronautics	View Signed Agreement
207	32517	MOFFETT FIELD HISTORICAL SOCIETY	Reimbursable Space Act Agreement between NASA Ames Research Center and Moffett Field Historical Society to Support the History of Moffett Field	6/29/2020	6/29/2025	Reimbursable	\$282,542	ARC	SAA2-403562	Education and/or Public Engagement	View Signed Agreement
208	32345	County of Santa Clara Office of the Sheriff	Reimbursable Space Act Agreement between NASA Ames and the County of Santa Clara Office of the Sheriff for Utilization of Moffett Field for Law Enforcement and Emergency Response Capabilities	10/1/2020	9/30/2025	Reimbursable	\$52,443	ARC	SAA2-403555	Institutional and Mission Support	View Signed Agreement
209	32295	American Airlines	Annex One under Nonreimbursable Umbrella Space Act Agreement between NASA Ames Research Center and American Airlines for Collaborative Research to Improve Aviation Safety	3/1/2021	3/1/2024	Non-Reimbursable	\$1,789,221	ARC	SAA2-403551-1	Aeronautics	View Signed Agreement
210	32294	American Airlines	NONREIMBURSABLE SPACE ACT UMBRELLA AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER AND AMERICAN AIRLINES FOR COLLABORATIVE RESEARCH TO IMPROVE AVIATION SAFETY	3/1/2021	3/1/2026	Non-Reimbursable	\$0	ARC	SAA2-403551	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
211	32210	SAN JOSE STATE UNIVERSITY	Non-reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and San Jose State University for Space Exploration, Science and Engineering Research, and STEM Initiatives	2/18/2021	2/18/2026	Non-Reimbursable	\$0	ARC	SAA2-403536	Aeronautics, Human Exploration and Operations, Science, Space Technology	View Signed Agreement
212	32209	California Polytechnic State University	Non-reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and California Polytechnic State University for Space Exploration, Science and Engineering Research, and STEM Initiatives	6/20/2021	6/20/2026	Non-Reimbursable	\$0	ARC	SAA2-403539	Aeronautics, Human Exploration and Operations, Science, Space Technology	View Signed Agreement
213	32187	LOCKHEED MARTIN	Reimbursable Space Act Agreement between NASA ARC and Lockheed Martin Corporation for Enhanced Heating Sample Testing at the NASA Ames IHF-LEAF	5/1/2020	10/31/2024	Reimbursable	\$2,457,134	ARC	SAA2-403549	Human Exploration and Operations, Space Technology	View Signed Agreement
214	31973	NISSAN NORTH AMERICA, INC	Annex 1 between NASA ARC and Nissan North America for Distributed Robotics Technology and Integrated Systems	6/12/2020	6/11/2025	Reimbursable	\$2,168,404	ARC	SAA2-403545-1	Space Technology	View Signed Agreement
215	31972	NISSAN NORTH AMERICA, INC	Reimbursable Umbrella Space Act Agreement between NASA ARC and Nissan North America for Research and Development in Robotic Technologies	6/12/2020	6/12/2025	Reimbursable	\$0	ARC	SAA2-403545	Human Exploration and Operations	View Signed Agreement
216	31897	Arizona State University	Annex One to NRUSAA between NASA ARC and Arizona State University for Technology Transfer Academia Infusion	5/22/2020	5/21/2025	Non-Reimbursable	\$62,883	ARC	SAA2-403530-1	Technology Transfer	View Signed Agreement
217	31896	Arizona State University	Non-reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Arizona State University for Space Exploration, Science and Engineering Research, and STEM Initiatives	5/21/2020	5/21/2025	Non-Reimbursable	\$0	ARC	SAA2-403530	Aeronautics, Human Exploration and Operations, Science, Space Technology, Education and/or Public Engagement, Technology Transfer	View Signed Agreement
218	31890	UNIVERSITY OF COLORADO BOULDER	Non-reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and the University of Colorado at Boulder for Space Exploration, Science and Engineering Research, and STEM Initiatives	4/19/2021	4/19/2026	Non-Reimbursable	\$0	ARC	SAA2-403529	Aeronautics, Human Exploration and Operations, Science, Space Technology	View Signed Agreement
219	31848	SPACE SYSTEMS LORAL, LLC	Annex 1 to Nonreimbursable Umbrella Space Act Agreement between NASA ARC and Space Systems Loral for Robotic and Spacecraft Technology Research	4/16/2020	4/16/2025	Non-Reimbursable	\$62,229	ARC	SAA2-403528-1	Space Technology	View Signed Agreement
220	31847	SPACE SYSTEMS LORAL, LLC	Reimbursable Umbrella Space Act Agreement between NASA ARC and Space Systems Loral for Robotic and Spacecraft Technology Research	4/16/2020	4/16/2025	Non-Reimbursable	\$0	ARC	SAA2-403528	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
221	31788	STATE OF CALIFORNIA, Department of Parks	Reimbursable Space Act Agreement between NASA Ames Research Center and State of California, Department of Parks, Division of Boating and Waterways for Utilization of Remote Sensing Tools in Aquatic Weed Management in the California Delta	2/19/2021	2/19/2024	Reimbursable	\$1,765,344	ARC	SAA2-403526	Science	View Signed Agreement
222	31447	Founder Institute, Incorporated	Nonreimbursable Space Act Umbrella Agreement between the National Aeronautics and Space Administration Ames Research Center and Founder Institute, Incorporated for the Fostering of Space Entrepreneurship	11/19/2019	11/19/2024	Non-Reimbursable	\$0	ARC	SAA2-403517	Technology Transfer	View Signed Agreement
223	31359	Northrop Grumman Corporation	REIMBURSABLE SPACE ACT UMBRELLA AGREEMENT No.31359/SAA2-403514 BETWEEN NASA ARC AND NORTHROP GRUMMAN CORPORATION FOR WIND TUNNEL TESTING	1/20/2020	1/20/2025	Reimbursable	\$0	ARC	SAA2-403514	Aeronautics	View Signed Agreement
224	31057	The University of California at Berkeley	Non-reimbursable Space Act Umbrella Agreement between NASA Ames Research Center and University of California at Berkeley for Space Exploration, Science and Engineering Research, and STEM Initiatives	2/22/2022	2/22/2027	Non-Reimbursable	\$0	ARC	SAA2-403507	Space Technology	View Signed Agreement
225	31044	NTT Research, Inc.	Reimbursable Space Act Agreement between the National Aeronautics and Space Administration Ames Research Center and NTT Research, Inc. to Benchmark Coherent Ising Machines	11/12/2019	11/12/2024	Reimbursable	\$750,000	ARC	SAA2-403506	Science	View Signed Agreement
226	30884	San Francisco International Airport	Reimbursable Umbrella Space Act Agreement between The National Aeronautics and Space Administration Ames Research Center and San Francisco International Airport City and County of San Francisco for Research and Technologies for Increasing Airport Surface Capacity and Airfield Efficiency.	7/2/2019	7/2/2024	Reimbursable	\$0	ARC	SAA2-403426	Aeronautics	View Signed Agreement
227	30834	Advanced Technologies Group, Inc.	Reimbursable Umbrella Space Act Agreement between NASA ARC and Advanced Technologies Group, Inc. for Wind Tunnel Testing	12/20/2019	12/20/2024	Reimbursable	\$0	ARC	SAA2-403500	Aeronautics	View Signed Agreement
228	30729	UNIVERSITY OF WASHINGTON	Reimbursable Space Act Umbrella Agreement between the National Aeronautics and Space Administration Ames Research Center and the University of Washington for Hardware Development and Testing	8/27/2019	8/27/2024	Reimbursable	\$0	ARC	SAA2-403496	Space Technology	View Signed Agreement
229	30452	Leland Stanford Junior University	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Leland Stanford Junior University for Aerospace Technology Research, Testing, and Development	12/16/2020	12/16/2025	Reimbursable	\$0	ARC	SAA2-403497	Education and/or Public Engagement	View Signed Agreement
230	30244	GE Flight Efficiency Services, Inc.	Non-Reimbursable Space Act Umbrella Agreement Between the National Aeronautics and Space Administration Ames Research Center and GE Flight Efficiency Services, Inc. for Collaborative Development and Use of NASA ATM-X Testbed for Integrated ATM Research	9/12/2019	9/12/2024	Non-Reimbursable	\$0	ARC	SAA2-403486	Aeronautics	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
231	29398	SkyTran Inc.	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Skytran, Inc. for Personal Rapid Transport System	7/2/2021	7/2/2026	Reimbursable	\$0	ARC	SAA2-403462	Aeronautics	View Signed Agreement
232	29380	The Boeing Company	Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and the Boeing Company for Wind Tunnel Testing	4/27/2020	4/27/2025	Reimbursable	\$0	ARC	SAA2-403460	Aeronautics	View Signed Agreement
233	27616	Blue Origin, LLC	Reimbursable Umbrella Space Act Agreement Between the National Aeronautics and Space Administration Ames Research Center and Blue Origin, LLC to Support Blue Origin Commercial Space Transportation Development	7/13/2018	4/13/2024	Reimbursable	\$0	ARC	SAA2-403403	Human Exploration and Operations	View Signed Agreement
234	39228	Telepath Systems	2023 NASA Glenn Aviation Day	8/11/2023	8/11/2024	Non-Reimbursable	\$168,447	GRC	SAA3-1775	Aeronautics	View Signed Agreement
235	39162	Martina Dimoska	Annex No. 2 under SAA2-403770 Umbrella Agreement in Support of 2023 International Space Apps Challenge	9/8/2023	9/8/2024	Non-Reimbursable	\$3,332	GRC	SAA2-403770-02	Science	View Signed Agreement
236	38960	geCKo Materials, PBC	Annex No. 02 to SAA8-2338858 for Space Environmental Effects and Materials Testing-Atomic Oxygen	7/28/2023	7/28/2024	Reimbursable	\$13,514	GRC	SAA8-2338858-02	Space Technology	View Signed Agreement
237	38937	National Institute of Standards and Technology	Quantum Metrology Research Between GRC and NIST	9/18/2023	9/18/2025	Non-Reimbursable	\$25,478	GRC	SAA3-1771	Human Exploration and Operations, Science	View Signed Agreement
238	38891	The Ohio State University	Aerospace Materials Research and Characterization	8/7/2023	8/7/2025	Non-Reimbursable	\$83,235	GRC	SAA3-1768	Aeronautics	View Signed Agreement
239	38871	Northrop Grumman	Annex No. 04 under SAA3-1724 for Support for Flight Cathode Heater and Thruster Acceptance Testing	8/15/2023	8/15/2025	Reimbursable	\$281,349	GRC	SAA3-1724-04	Science, Space Technology	View Signed Agreement
240	38776	The Boeing Company	Annex to Aerospace Research Development	8/7/2023	8/7/2025	Non-Reimbursable	\$32,056	GRC	SAA1-35361-04	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
241	38680	gravityLab LLC	Partial-g Investigations in LEO using Microsatellites	9/6/2023	9/6/2027	Non-Reimbursable	\$376,872	GRC	SAA3-1766	Human Exploration and Operations, Science	View Signed Agreement
242	38482	BLUE ORIGIN, LLC	Annex No. 34 to SAA-EA-20-29343 for Development and Production of GRX-810 Powder	5/5/2023	5/5/2024	Reimbursable	\$19,085	GRC	SAA-EA-20-29343-34	Space Technology	View Signed Agreement
243	38385	Miami University	The Conservation Genetic Assessment Of Smooth Greensnakes (Opheodrys vernalis) At NASA Glenn Research Center (GRC) At Neil A. Armstrong Test Facility (GRC-ATF)	6/26/2023	6/24/2028	Non-Reimbursable	\$19,610	GRC	SAA3-1759	Institutional and Mission Support	View Signed Agreement
244	38254	The Regents of the University of Colorado	Annex 2 under SAA3-1753 Multi-Asteroid eXplorer (MAX) Electric Propulsion String Compatibility Testing	9/4/2023	9/4/2024	Reimbursable	\$310,485	GRC	SAA3-1753-02	Space Technology	View Signed Agreement
245	38241	BLUE ORIGIN, LLC	Annex to SAA3-1609, Cargo Lander Fuel Cell Testing	5/1/2023	5/1/2024	Reimbursable	\$413,467	GRC	SAA3-1609-03	Space Technology	View Signed Agreement
246	38094	LOCKHEED MARTIN	Lunar Spring Tire Testing at GRC	3/13/2023	3/13/2026	Reimbursable	\$589,838	GRC	SAA8-2134592-08	Space Technology	View Signed Agreement
247	38078	The Regents of the University of Colorado	Annex No. 1 under SAA3-1753 Multi-Asteroid eXplorer (MAX) Mission Support Umbrella Agreement for the Regents of the University of Colorado	8/3/2023	8/3/2024	Reimbursable	\$171,054	GRC	SAA3-1753-01	Science	View Signed Agreement
248	38077	The Regents of the University of Colorado	Multi-Asteroid eXplorer (MAX) Mission Support Umbrella Agreement for the Regents of the University of Colorado	8/3/2023	8/1/2028	Reimbursable	\$0	GRC	SAA3-1753	Science	View Signed Agreement
249	37847	Space Exploration Technologies Corp.	Annex Number 3 to SpaceX Umbrella Agreement SAA3-1708	12/16/2022	12/16/2023	Reimbursable	\$72,409	GRC	SAA3-1708-03	Human Exploration and Operations	View Signed Agreement
250	37690	Teraphysics Corporation	Characterization of Microfabricated E-Band Helical Traveling-Wave Tube Amplifier	2/13/2023	8/13/2024	Non-Reimbursable	\$72,548	GRC	SAA3-1748	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
251	37686	Northrop Grumman	Annex 2 under Umbrella Agreement SAA3-1724 Supporting Development of Northrop Grumman's 1 kW Hall-Effect Thruster	2/20/2023	2/20/2024	Reimbursable	\$215,111	GRC	SAA3-1724-02	Science	View Signed Agreement
252	37541	Lunar Resources, Inc	Developing, Implementing, and Operating Lunar In-Situ Photovoltaic Power Grids	3/15/2023	3/15/2025	Non-Reimbursable	\$479,092	GRC	SAA3-1756	Human Exploration and Operations	View Signed Agreement
253	37484	General Electric Company	Burner Rig Material Durability	2/26/2023	2/26/2024	Reimbursable	\$94,287	GRC	SAA3-1747	Aeronautics	View Signed Agreement
254	37391	Microsoft Corporation	Lithium-Ion (Li) Battery Testing	7/16/2023	7/16/2027	Non-Reimbursable	\$643,981	GRC	SAA3-1745	Human Exploration and Operations, Space Technology	View Signed Agreement
255	37298	GENERAL ELECTRIC COMPANY	Evaluation of Alternative Fuels on Contrail Formation in the GRC Particulate Aerosol Laboratory (PAL)	4/25/2023	4/25/2025	Reimbursable	\$215,066	GRC	SAA3-1744	Aeronautics	View Signed Agreement
256	37157	Ohio Department of Transportation	Annex No. 05 for Advanced Air Mobility Technology Research and Demonstration Activities	12/23/2022	12/23/2024	Non-Reimbursable	\$62,654	GRC	SAA3-34682-05	Aeronautics	View Signed Agreement
257	37141	Wright Electric, LLC	NEAT Wright Electric Motor Test	6/8/2023	6/8/2026	Non-Reimbursable	\$1,638,899	GRC	SAA3-1742	Aeronautics	View Signed Agreement
258	37051	Massachusetts Institute of Technology	Evaluation of Radiation Hardiness of Silicon Carbide Piezoresistive Pressure Sensors	3/15/2023	3/15/2025	Non-Reimbursable	\$10,188	GRC	SAA3-1746-01	Space Technology	View Signed Agreement
259	37050	Massachusetts Institute of Technology	Evaluation of Radiation Effects on NASA GRC Silicon Carbide Microsystems and Physical Sensors	3/15/2023	3/13/2028	Non-Reimbursable	\$0	GRC	SAA3-1746	Space Technology	View Signed Agreement
260	36925	The University of Akron	Graduate Traineeship on Advances in Materials Science Using Machine Learning	9/28/2022	9/27/2027	Non-Reimbursable	\$124,156	GRC	SAA3-1739	Aeronautics	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
261	36691	SolarSpace LLC	Licensee Consultation to Convert Concentrated Solar Power into Energy via Thermoacoustics	7/9/2022	7/9/2024	Reimbursable	\$8,519	GRC	SAA3-1733	Aeronautics	View Signed Agreement
262	36568	Inmarsat Government, Inc.	Communications Services Project Funded Space Act Agreement for Inmarsat Government, Inc.	5/31/2022	5/30/2027	Funded	\$28,628,731	GRC	NNC2236568	Space Technology	View Signed Agreement
263	36567	Telesat U.S. Services, LLC	Communications Services Project Funded Space Act Agreement for Telesat U.S. Services, LLC	5/31/2022	5/30/2027	Funded	\$30,654,565	GRC	NNC2236567	Space Technology	View Signed Agreement
264	36565	KGS, LLC	Communications Services Project Funded Space Act Agreement for KGS, LLC.	5/31/2022	5/30/2027	Funded	\$67,000,000	GRC	NNC2236565	Space Technology	View Signed Agreement
265	36564	Space Exploration Technologies, Corp.	Communications Services Project Funded Space Act Agreement for Space Exploration Technologies, Corp.	5/31/2022	5/30/2027	Funded	\$69,955,973	GRC	NNC2236564	Space Technology	View Signed Agreement
266	36563	SES Government Solutions, Inc.	Communications Services Project	5/31/2022	5/30/2027	Funded	\$28,963,792	GRC	NNC2236563	Space Technology	View Signed Agreement
267	36547	Viasat, Inc.	Communications Services Project	5/31/2022	5/30/2027	Funded	\$53,345,718	GRC	NNC2236547	Space Technology	View Signed Agreement
268	36507	Aerojet Rocketdyne, Inc.	Annex No. 7 under SAA3-1639 Upper Stage Engine Manufacturing, Testing, and Evaluation Umbrella Agreement for Aerojet Rocketdyne, Inc.	6/4/2022	6/4/2024	Reimbursable	\$567,288	GRC	SAA3-1639-7	Space Technology	View Signed Agreement
269	36406	UNIVERSITY OF ARIZONA	Perovskite Stress Analysis for Lunar Applications	7/31/2022	7/31/2025	Non-Reimbursable	\$24,044	GRC	SAA3-1725	Space Technology	View Signed Agreement
270	36355	RELATIVITY SPACE, INC.	Production of Alumina Strengthened Cu Alloy	2/20/2023	2/20/2025	Non-Reimbursable	\$46,915	GRC	SAA3-1723-01	Space Technology	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
271	36354	RELATIVITY SPACE, INC.	Exploration of Oxide Dispersion Strengthened Copper Alloys	2/20/2023	2/20/2027	Non-Reimbursable	\$0	GRC	SAA3-1723	Aeronautics, Space Technology	View Signed Agreement
272	36347	Case Western Reserve University	Quantum Metrology Development for Spin-Based Solid-State Devices	12/22/2022	12/22/2023	Non-Reimbursable	\$20,719	GRC	SAA3-1728	Human Exploration and Operations	View Signed Agreement
273	36308	Nanopath, Inc.	Electromagnetic Simulations for Device Designs of Optical Sensing Substrates	4/11/2022	4/11/2024	Reimbursable	\$21,754	GRC	SAA3-1722	Aeronautics	View Signed Agreement
274	36290	Radian Aerospace Incorporated	Commercial Space Transport and Aircraft Components Research and Development Activities	8/28/2022	8/27/2027	Reimbursable	\$0	GRC	SAA3-1726	Aeronautics, Human Exploration and Operations, Science, Space Technology, Technology Transfer	View Signed Agreement
275	36156	NATIONAL TECHNOLOGY AND ENGINEERING SOLUTIONS OF SANDIA, LLC	Engineering and Testing Services	1/18/2022	1/18/2026	Reimbursable	\$343,879	GRC	SAA3-1702	Aeronautics, Space Technology	View Signed Agreement
276	36061	ASTROBOTIC TECHNOLOGY, INC	Annex No. 07 to SAA8-1930516 for VIPER Egress Test	5/5/2022	5/5/2024	Reimbursable	\$35,885	GRC	SAA8-1930516-07	Science	View Signed Agreement
277	36027	Space Exploration Technologies Corp.	Annex No. 2 under SAA3-1708 to Spaceflight and Spaceflight Hardware Related Analysis, Services, Testing, and Expertise	9/4/2022	9/4/2025	Reimbursable	\$2,511,605	GRC	SAA3-1708-2	Space Technology	View Signed Agreement
278	36021	Northrop Grumman	Sub-Kilowatt HCT Long Duration Wear Test (LDWT)	12/10/2022	12/10/2024	Reimbursable	\$608,412	GRC	SAA3-1724-01	Science	View Signed Agreement
279	36020	Northrop Grumman	Electric Propulsion System Development, Fabrication, and Testing	12/19/2022	12/18/2027	Reimbursable	\$0	GRC	SAA3-1724	Aeronautics, Science	View Signed Agreement
280	36011	Wichita State University	Development of Multi-Functional Liner Concepts for Improvement of Turbofan Engines	5/7/2023	5/7/2025	Non-Reimbursable	\$3,202	GRC	SAA3-1717	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
281	35885	University of Dayton Research Institute	Characterization Testing of Coefficient of Friction and Wear in Bolted Joints	12/13/2022	12/13/2024	Reimbursable	\$194,361	GRC	SAA3-1719	Aeronautics	View Signed Agreement
282	35746	SIKORSKY AIRCRAFT CORP	Dynamic Crush and Impact Testing and Modeling of Woven IM7/8552 Composite Material	2/23/2022	2/23/2024	Non-Reimbursable	\$89,891	GRC	SAA3-1712	Aeronautics	View Signed Agreement
283	35681	UNIVERSITY OF PITTSBURGH	Calculation of EBC Thermal Dynamic Properties from Machine-Learning Derived Atomistic Potentials	3/24/2022	3/24/2024	Non-Reimbursable	\$11,747	GRC	SAA3-1709	Science	View Signed Agreement
284	35262	Space Exploration Technologies Corp.	SPACEFLIGHT AND SPACEFLIGHT HARDWARE RELATED ANALYSIS, SERVICES, TESTING, AND EXPERTISE	9/21/2021	9/21/2026	Reimbursable	\$0	GRC	SAA3-1708	Human Exploration and Operations	View Signed Agreement
285	35235	Miami Valley Career Technical Center	NASA HUNCH (High school students United with NASA to Create Hardware)	6/9/2022	6/8/2027	Non-Reimbursable	\$114,496	GRC	SAA3-1707	Human Exploration and Operations	View Signed Agreement
286	35124	Federal Reserve Bank of Cleveland	SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) OUTREACH BETWEEN NASA GRC AND CLEVELAND FED	2/24/2022	2/24/2027	Non-Reimbursable	\$0	GRC	SAA3-1699	Education and/or Public Engagement	View Signed Agreement
287	35018	AURA Network Systems	Annex 2 to Advanced Air Mobility Technology Research and Demonstration Activities with AURA Network Systems (2021 ARMD ACO Award)	7/6/2021	7/6/2026	Non-Reimbursable	\$650,975	GRC	GRC PAM NO 35018	Aeronautics	View Signed Agreement
288	34776	Federal Aviation Administration	High Ice Water Content Flight Campaign in High Aerosol Concentrations Collaboration Between NASA GRC AND FAA (Non-Reimbursable Activities)	3/26/2022	3/26/2027	Non-Reimbursable	\$1,510,502	GRC	SAA3-1696	Aeronautics	View Signed Agreement
289	34618	University Circle, Incorporated	University Circle Incorporated Future Connections Partnership	7/29/2022	7/28/2027	Non-Reimbursable	\$77,257	GRC	SAA3-1705	Education and/or Public Engagement	View Signed Agreement
290	34317	UNIVERSITY OF NOTRE DAME	Collaborative Research for Fan Noise Generation and Propagation on Advanced Noise Control Fan (ANCF)	5/26/2021	5/26/2026	Non-Reimbursable	\$80,095	GRC	SAA3-1688	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
291	34260	Wright Electric, Inc.	NASA/Wright Electric Power Electronic Technologies for Electrified Aircraft Propulsion (EAP)	7/12/2022	7/12/2024	Non-Reimbursable	\$202,458	GRC	SAA3-1704	Aeronautics	View Signed Agreement
292	33985	ASM International	Artificial Intelligence (AI)/Machine Learning (ML) Enhanced Toolkit to Establish Processing, Structure, Property, Performance (PSPP) Relationships to Accelerate Alloy Development and Increase Performance	1/2/2022	1/2/2025	Non-Reimbursable	\$162,576	GRC	SAA3-1683	Aeronautics	View Signed Agreement
293	33936	JumpStart, Inc.	Commercialization of NASA GRC Technology Efforts with JumpStart, Inc.	4/1/2021	4/1/2026	Non-Reimbursable	\$43,342	GRC	SAA3-1678	Space Technology, Technology Transfer	View Signed Agreement
294	33924	THE BOEING COMPANY	Development of Ultra-High-Performance Metallic Turbine Blades for Extreme Environments	2/13/2023	8/13/2026	Reimbursable	\$195,831	GRC	SAA3-1680	Aeronautics	View Signed Agreement
295	33903	Innoveering, LLC.	Hardware and Control Algorithms for Dual Mode Testing with Innoveering, LLC	10/21/2021	10/21/2023	Non-Reimbursable	\$608,314	GRC	SAA3-1686	Aeronautics	View Signed Agreement
296	33579	ControlX, Inc.	Control Algorithms Dual Mode Testing with ControlX Inc.	3/15/2022	3/15/2024	Non-Reimbursable	\$601,751	GRC	SAA3-1718	Aeronautics	View Signed Agreement
297	33534	The Ohio State University	In-Situ 3-D Printing of Wireless Implant with The Ohio State University	12/2/2020	12/1/2025	Non-Reimbursable	\$81,884	GRC	SAA3-1670	Aeronautics	View Signed Agreement
298	33443	ZIN TECHNOLOGIES, INC	Annex No. 03 to SAA3-1662 for Use of Thermal Vacuum Lab (TVAC) with ZIN (Reimbursable)	12/10/2020	12/10/2023	Reimbursable	\$203,200	GRC	SAA3-1662-03	Space Technology	View Signed Agreement
299	33049	Amazon.Com Services, LLC.	Spacecraft Electric Propulsion Component Development, Manufacturing, Testing and Evaluation	1/5/2021	1/5/2026	Reimbursable	\$0	GRC	SAA3-1663	Space Technology	View Signed Agreement
300	33024	CesiumAstro, Inc.	SmallSat Ka-band Operations User Terminal (SKOUT) Flight Experiments with CesiumAstro	12/2/2020	12/2/2025	Non-Reimbursable	\$150,568	GRC	SAA3-1664	Space Technology	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
301	32927	THE BOEING COMPANY	Advanced Dispersion Coating and Consolidation Techniques for Powder Feedstock	12/22/2022	12/22/2026	Non-Reimbursable	\$222,654	GRC	SAA3-1687	Aeronautics, Space Technology	View Signed Agreement
302	32831	Ozark Integrated Circuits Inc.	Fabrication of SiC Integrated Circuits for a Multi-Chip Microprocessor for Extreme Environments	11/2/2020	11/2/2023	Reimbursable	\$164,583	GRC	SAA3-1661	Space Technology	View Signed Agreement
303	32534	ZIN TECHNOLOGIES, INC	Use of Unique NASA Facilities (EMI Lab, SDL, TVAC)	8/11/2020	8/11/2025	Reimbursable	\$0	GRC	SAA3-1662	Human Exploration and Operations, Space Technology	View Signed Agreement
304	32093	HONEYWELL INTERNATIONAL, INC	Honeywell CLEEN-II Testing in Glenn Advanced Subsonic Combustion Rig (ASCR)	12/2/2020	12/2/2025	Reimbursable	\$1,370,473	GRC	SAA3-1675	Aeronautics	View Signed Agreement
305	31726	Air Force Research Laboratory	Mobile Evaluation of Free-Space Optical Communication Equipment	10/23/2020	10/23/2025	Non-Reimbursable	\$44,595	GRC	SAA3-1657-01	Aeronautics	View Signed Agreement
306	31725	Air Force Research Laboratory	Free-Space Laser/Quantum Communication Research Activities	10/23/2020	10/23/2025	Non-Reimbursable	\$0	GRC	SAA3-1657	Aeronautics	View Signed Agreement
307	31589	Southwest Research Institute	Great Horned Owl Demonstration and Validation Program with Southwest Research Institute	5/13/2020	5/12/2025	Non-Reimbursable	\$20,647	GRC	SAA3-1658	Aeronautics	View Signed Agreement
308	31407	OHIO DEPARTMENT OF NATURAL RESOURCES	A Series of Public Deer Hunts at Plum Brook Station	11/15/2019	11/15/2024	Non-Reimbursable	\$167,603	GRC	SAA3-1632	Institutional and Mission Support	View Signed Agreement
309	31374	GE Research	COLLABORATIVE DEVELOPMENT OF FINITE ELEMENT HPC MULTISCALE MODELING FRAMEWORK	4/30/2020	4/30/2024	Non-Reimbursable	\$157,736	GRC	SAA3-1656	Aeronautics	View Signed Agreement
310	31344	GREAT LAKES SCIENCE CENTER	The Official NASA Glenn Visitor Center	9/30/2019	9/30/2029	Non-Reimbursable	\$0	GRC	SAA3-1630	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
311	31273	Department of Agriculture	On-Site Shared Services Between NASA GRC and DOA-APHIS-WS at Plum Brook Station and License	10/29/2019	10/29/2024	Non-Reimbursable	\$124,359	GRC	SAA3-1626	Institutional and Mission Support	View Signed Agreement
312	30756	Aerojet Rocketdyne, Inc.	Upper Stage Engine Manufacturing, Testing, and Evaluation Umbrella Agreement for Aerojet Rocketdyne, Inc.	11/18/2019	11/18/2024	Reimbursable	\$0	GRC	SAA3-1639	Space Technology	View Signed Agreement
313	30392	Rocky River Watershed Council	Restoring Lower Abram Creek at NASA Glenn Research Center	6/24/2019	6/24/2024	Non-Reimbursable	\$3,302	GRC	SAA3-1615	Institutional and Mission Support	View Signed Agreement
314	30296	ANSYS Inc.	Collaboration on Icing Simulation Software Development	1/27/2020	1/27/2024	Non-Reimbursable	\$114,343	GRC	SAA3-1647	Aeronautics	View Signed Agreement
315	30295	THE BOEING COMPANY	Collaborative Icing Research, Simulation Tool Development and Testing Opportunities	3/12/2020	3/11/2025	Non-Reimbursable	\$59,152	GRC	SAA3-1652	Aeronautics	View Signed Agreement
316	29566	A and P Technology, Inc.	Dynamic Energy Absorption in Braided Composite Materials with A and P Technology, Inc.	6/11/2019	6/1/2024	Non-Reimbursable	\$276,623	GRC	SAA3-1612	Aeronautics	View Signed Agreement
317	29551	SureFly, Inc.	Acoustic Measurements on electrified Vertical Take-Off and Landing Urban Air Mobility Vehicle with SureFly, Inc.	8/16/2019	8/16/2024	Non-Reimbursable	\$354,701	GRC	SAA3-1597	Aeronautics	View Signed Agreement
318	28651	UNIVERSITY OF CINCINNATI	HABSat-2 – Harmful Algal Bloom Satellite 2 with the University of Cincinnati	6/11/2019	12/31/2023	Non-Reimbursable	\$145,450	GRC	SAA3-1613	Science	View Signed Agreement
319	28214	ROLLS-ROYCE CORP	Silicon Carbide Fiber High Temperature Characterization	1/14/2020	1/14/2024	Reimbursable	\$88,015	GRC	SAA3-1606-1	Aeronautics	View Signed Agreement
320	28213	ROLLS-ROYCE CORP	Testing and Analysis of Advanced Turbine Engine Materials, Structures and Components	1/14/2020	1/14/2025	Reimbursable	\$0	GRC	SAA3-1606	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
321	28172	BLUE ORIGIN, LLC	Environmental Testing for Fairing Deployment at Plum Brook Station	5/20/2019	5/20/2024	Reimbursable	\$1,571,953	GRC	SAA3-1609-1	Human Exploration and Operations	View Signed Agreement
322	28171	BLUE ORIGIN, LLC	Environmental Testing at Plum Brook Station	5/20/2019	5/20/2024	Reimbursable	\$0	GRC	SAA3-1609	Human Exploration and Operations	View Signed Agreement
323	27738	GENERAL ELECTRIC COMPANY	GE Aviation Low Pressure Ratio Fan and Inlet Technology Test	6/26/2019	6/26/2026	Reimbursable	\$9,595,137	GRC	SAA3-1587	Aeronautics	View Signed Agreement
324	27606	THE BOEING COMPANY	Shape Memory Alloy Reconfigurable Technology - Vortex Generator (SMART-VG) with The Boeing Company	12/6/2018	12/31/2023	Non-Reimbursable	\$184,268	GRC	SAA3-1589	Aeronautics, Technology Transfer	View Signed Agreement
325	27174	GENERAL ELECTRIC COMPANY	GE Low Pressure Ratio Fan Test	3/28/2019	3/28/2024	Non-Reimbursable	\$8,745,725	GRC	SAA3-1588	Aeronautics	View Signed Agreement
326	26825	ASM INTERNATIONAL	Material Data Management Consortium with ASM International	3/27/2018	3/27/2024	Reimbursable	\$35,696	GRC	SAA3-1550	Aeronautics, Technology Transfer	View Signed Agreement
327	39292	UNITED LAUNCH ALLIANCE, LLC	Annex 14 to ULA Umbrella with Annexes for launch vehicle support	9/5/2023	9/5/2024	Reimbursable	\$337,395	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
328	39070	UNITED LAUNCH ALLIANCE, LLC	Annex 13 to ULA Umbrella with Annexes for launch vehicle support	8/1/2023	8/1/2024	Reimbursable	\$324,552	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
329	39057	Polaris MEP	LEVERAGE COLLECTIVE RESOURCES BETWEEN NASA T2X AND MEP FOR THE PURPOSE OF SUPPORTING OF US MANUFACTURERS	8/30/2023	8/30/2025	Non-Reimbursable	\$12,250	GSFC		Technology Transfer	View Signed Agreement
330	38770	Described and Captioned Media Program	DESCRIBED AND CAPTIONED MEDIA PROGRAMS MEDIA EDITING FOR DISABLED STUDENTS	6/1/2023	6/1/2026	Non-Reimbursable	\$21,000	GSFC		Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
331	38634	INTEL CORP	CREATING A LEARNING COMMUNITY FOR STUDENTS	6/20/2023	6/20/2026	Non-Reimbursable	\$4,276	GSFC		Education and/or Public Engagement	View Signed Agreement
332	38515	Department of the Navy	National Earth Orientation Service	9/13/2023	9/12/2028	Non-Reimbursable	\$17,068,871	GSFC	NASA-USNO-38515	Science	View Signed Agreement
333	38445	UNIVERSITY OF NORTH CAROLINA WILMINGTON	Non-Reimbursable SAA with UNCW for SOCON	4/27/2023	4/27/2028	Non-Reimbursable	\$185,000	GSFC	450-AGMT-0193	Human Exploration and Operations	View Signed Agreement
334	38242	UNITED LAUNCH ALLIANCE, LLC	Annex 12 to ULA Umbrella with Annexes for launch vehicle support	2/16/2023	2/16/2025	Reimbursable	\$402,765	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
335	38232	UNIVERSITY OF NOTRE DAME	Supporting Development and Operation of the ILOCATOR Spectrometer	7/12/2023	7/11/2028	Non-Reimbursable	\$69,000	GSFC	NASA-UND-38232	Science	View Signed Agreement
336	38018	Horn Entrepreneurship	FOR DISSEMINATION OF NASA TECHNOLOGIES FOR ENTREPRENEURIAL OPPORTUNITIES AND TECHNOLOGY TRANSFER TO UNIVERSITY (T2U) FOR EDUCATIONAL UTILIZATION, STEM ENGAGEMENT, AND ANALYSIS	4/4/2023	4/4/2025	Non-Reimbursable	\$9,000	GSFC		Space Technology, Education and/or Public Engagement, Technology Transfer	View Signed Agreement
337	37909	Black River Innovation Campus	NONREIMBURSABLE SPACE ACT AGREEMENT FOR THE DISSEMINATION OF NASA TECHNOLOGIES FOR ENTREPRENEURIAL OPPORTUNITIES AND TECHNOLOGY TRANSFER TO UNIVERSITY (T2U) FOR EDUCATIONAL UTILIZATION AND ANALYSIS	4/5/2023	4/5/2026	Non-Reimbursable	\$28,000	GSFC		Education and/or Public Engagement, Technology Transfer	View Signed Agreement
338	37534	SCIENCE APPLICATIONS INTERNATIONAL CORPORATION	Collaboration On Women In STEAM	12/5/2022	12/5/2027	Non-Reimbursable	\$190,000	GSFC	SAA5-22-4-N37534	Education and/or Public Engagement	View Signed Agreement
339	37438	UNITED LAUNCH ALLIANCE, LLC	Annex 11 to ULA Umbrella with Annexes for launch vehicle support	3/21/2023	6/8/2026	Reimbursable	\$257,631	GSFC		Human Exploration and Operations	View Signed Agreement
340	37418	Ball Aerospace and Technology Corporation	COLLABORATION FOR HIGH ACCURACY, CRYOGENIC, REFRACTIVE INDEX MEASUREMENTS	3/16/2023	3/16/2024	Reimbursable	\$61,100	GSFC	SAA5-22-4-R37418	Space Technology, Technology Transfer	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
341	37412	WOMEN'S NATIONAL BASKETBALL PLAYERS ASSOCIATION	COLLABORATION ON AWARENESS OF NASA TECHNOLOGIES FOR ENTREPRENEURIAL OPPORTUNITIES.	11/15/2022	11/15/2025	Non-Reimbursable	\$112,600	GSFC	SAA5-22-4-N37412	Technology Transfer	View Signed Agreement
342	37395	UNITED LAUNCH ALLIANCE, LLC	Annex 10 to ULA Umbrella with Annexes for launch vehicle support	3/21/2023	6/8/2026	Reimbursable	\$307,832	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
343	37392	UNITED LAUNCH ALLIANCE, LLC	Annex 9 to the ULA Umbrella with Annexes for launch vehicle support	3/21/2023	6/8/2026	Reimbursable	\$291,098	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
344	37303	Department of the Air Force	Non-Reimbursable STPSat-6	5/13/2023	11/12/2023	Non-Reimbursable	\$23,763	GSFC	450-AGMT-0192	Human Exploration and Operations	View Signed Agreement
345	36376	First Street Foundation	Facilitating Cooperation and Coordination around the Economical, Societal, and Physical Impacts of Current and Future Environmental Changes	7/11/2022	7/10/2027	Non-Reimbursable	\$800,000	GSFC	NASA_FS_36376	Science	View Signed Agreement
346	36365	LOUISIANA STATE UNIVERSITY	Multimessenger Operational Science Support and Astrophysics Information Collaboration (MOSSAIC)	8/1/2022	7/31/2027	Non-Reimbursable	\$51,200	GSFC	NASA-LSU-36365	Science	View Signed Agreement
347	36298	UNITED LAUNCH ALLIANCE, LLC	Annex Eight to ULA Umbrella with Annexes for launch vehicle support	6/27/2022	6/8/2026	Reimbursable	\$257,631	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
348	36211	BLUE ORIGIN, LLC	Annex to Engineering Analysis and Testing	12/5/2022	2/8/2025	Reimbursable	\$1,820,000	GSFC	SAA-EA-20-29343	Science, Space Technology	View Signed Agreement
349	36196	UNITED LAUNCH ALLIANCE, LLC	Annex 7 to the ULA Umbrella with Annexes for Launch Vehicle support	6/27/2022	6/8/2026	Reimbursable	\$309,923	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
350	36195	UNITED LAUNCH ALLIANCE, LLC	Annex Six to ULA Umbrella with Annexes for launch vehicle support	6/27/2022	6/8/2026	Reimbursable	\$257,631	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
351	36123	THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS	Cross-Cutting Initiative in CUBESAT innovations	6/29/2022	9/30/2023	Reimbursable	\$179,717	GSFC	NASA_UIUC_36123	Science	View Signed Agreement
352	36118	UNITED LAUNCH ALLIANCE, LLC	Annex Five to ULA Umbrella with Annexes for launch vehicle support	6/7/2022	6/7/2026	Reimbursable	\$303,648	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
353	35830	University of Pennsylvania	Utilizing NASA's Technology Transfer University (T2U) Program for dissemination of Goddard's Technology Transfer portfolio	3/15/2022	3/15/2024	Non-Reimbursable	\$5,200	GSFC		Education and/or Public Engagement	View Signed Agreement
354	35727	THE CONRAD FOUNDATION	Annex 1: Student Activities for NASA Owned Inventions	10/24/2022	10/24/2024	Non-Reimbursable	\$14,400	GSFC		Education and/or Public Engagement	View Signed Agreement
355	35702	THE CONRAD FOUNDATION	Student Activities for NASA Owned Inventions	10/24/2022	10/24/2027	Non-Reimbursable	\$0	GSFC		Education and/or Public Engagement	View Signed Agreement
356	35626	Gordon and Betty Moore Foundation	Laying the Groundwork for Better Understanding Zoonosis Emergence	12/1/2021	12/31/2023	Reimbursable	\$138,375	GSFC	NASA-Foundation-35626	Science	View Signed Agreement
357	35144	National Oceanic and Atmospheric Administration	SARSAT MOA	6/17/2021	6/17/2026	Reimbursable	\$949,044	GSFC	450-AGMT-SAR	Human Exploration and Operations	View Signed Agreement
358	34694	HOWARD	Joint Collaborative Framework for Earth Science Studies	3/22/2022	3/21/2027	Non-Reimbursable	\$51,200	GSFC	NASA-HU-34694	Science	View Signed Agreement
359	34656	GEORGE WASHINGTON UNIVERSITY	Joint Collaborative Framework for Astrophysical Studies	10/27/2021	10/26/2026	Non-Reimbursable	\$51,200	GSFC	NASA-GWU-34656	Science	View Signed Agreement
360	34265	University of Maryland Eastern Shore	Space Exploration, Science and Engineering Research, Business, Computer Science, and STEM Initiatives	9/24/2021	9/23/2026	Non-Reimbursable	\$8,211	GSFC	GSFC-21-34265	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
361	34264	University of Maryland Eastern Shore	Space Exploration, Science and Engineering Research, Business, Computer Science and STEM Initiatives	9/23/2021	9/23/2026	Non-Reimbursable	\$0	GSFC	GSFC-21-34265 NRSAA Umbrella	Education and/or Public Engagement	View Signed Agreement
362	34065	UNITED LAUNCH ALLIANCE, LLC	Annex 4 to ULA Umbrella with Annexes for launch vehicle support (Vulcan SNC-1)	6/7/2021	6/7/2026	Reimbursable	\$229,079	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
363	34064	UNITED LAUNCH ALLIANCE, LLC	Annex 3 to ULA Umbrella with Annexes for launch vehicle support (Vulcan Peregrine)	6/7/2021	6/7/2026	Reimbursable	\$241,506	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
364	34061	UNITED LAUNCH ALLIANCE, LLC	Annex 2 to ULA Umbrella with Annexes for launch vehicle support (Atlas V CFT)	6/7/2021	6/7/2026	Reimbursable	\$219,976	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
365	34020	UNITED LAUNCH ALLIANCE, LLC	Annex 1 under the ULA Umbrella for launch vehicle support (Atlas V USSF-8)	6/8/2021	6/8/2026	Reimbursable	\$258,427	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
366	34019	UNITED LAUNCH ALLIANCE, LLC	ULA Umbrella with Annexes for launch vehicle support	6/8/2021	6/8/2026	Reimbursable	\$0	GSFC	450-AGMT-0180	Human Exploration and Operations	View Signed Agreement
367	33525	International High School at Largo	Dissemination of NASA Technologies for Educational Entrepreneurship and Commercialization Studies by Students	4/30/2021	4/30/2024	Non-Reimbursable	\$10,500	GSFC		Education and/or Public Engagement, Technology Transfer	View Signed Agreement
368	33416	Maryland Technology Development Corporation	Economic Development	11/23/2020	11/23/2023	Non-Reimbursable	\$61,400	GSFC	SAA5-2020-33416	Education and/or Public Engagement, Technology Transfer	View Signed Agreement
369	32950	Telophase Corporation	Rapid Detection of Changing Bio-signatures from Existing Pathogens or New Virus Profiles	1/15/2021	1/14/2024	Non-Reimbursable	\$0	GSFC	SAA5-2021-1-U32950	Science, Technology Transfer	View Signed Agreement
370	32893	L.Garde, Inc.	Development Inflatable Communication Antenna Structures using Green Carbon Foams	4/20/2021	4/20/2024	Non-Reimbursable	\$108,100	GSFC	SAA5-20-4-N32893	Science	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
371	32764	Planet Labs Inc.	Orbit Maintenance Coordination w/ GPM & Planet Labs Inc.	11/18/2020	11/18/2025	Non-Reimbursable	\$23,000	GSFC		Science	View Signed Agreement
372	32725	University of Texas at Austin	Annex to Outreach for Space Operations and Mission Problems	10/15/2020	6/8/2025	Non-Reimbursable	\$26,000	GSFC	SAA5-20-3-N32725-A2	Space Technology	View Signed Agreement
373	31812	University of Texas at Austin	Outreach for Space Operations and Mission Problems	6/8/2020	6/7/2025	Non-Reimbursable	\$56,859	GSFC	31811	Science	View Signed Agreement
374	31811	University of Texas at Austin	Outreach for Space Operations and Mission Problems	6/8/2020	6/7/2025	Non-Reimbursable	\$0	GSFC		Science	View Signed Agreement
375	31605	Earth Networks, Inc.	INFORMATION AND DATA EXCHANGE RELATED TO THE GLOBE PROGRAM	4/29/2020	4/29/2025	Non-Reimbursable	\$17,600	GSFC	SAA5-20-2-N31605	Education and/or Public Engagement	View Signed Agreement
376	31175	Walgreen Company	NASA GSFC Non-Occupational fee-based influenza clinic	11/12/2019	10/25/2023	Non-Reimbursable	\$420,000	GSFC			View Signed Agreement
377	30478	THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK	Development of Teaching Activities	8/29/2019	8/28/2024	Reimbursable	\$250,000	GSFC	CU-NASA-30478	Science	View Signed Agreement
378	29833	DIGITALGLOBE, INC	Conjunction Assessment Screening Services	9/11/2019	9/11/2024	Reimbursable	\$508,282	GSFC	SAA5-19-2-R-29833	Science	View Signed Agreement
379	27393	National Science Foundation	Spacecraft Tracking and Data Acquisition at McMurdo Ground Station (MGS)	10/22/2018	10/22/2023	Non-Reimbursable	\$200,000	GSFC	450-AGMT-0107	Human Exploration and Operations	View Signed Agreement
380	26985	Defense Special Missile and Aerospace Center	Personnel Access and Expertise Sharing	10/30/2018	10/30/2023	Non-Reimbursable	\$25,983	GSFC	SAA5-18-01-I26985-1	Science	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
381	25689	National Football League Players Association	COLLABORATION TO COMMERCIALIZE NASA TECHNOLOGIES	5/15/2018	5/13/2025	Non-Reimbursable	\$274,400	GSFC	SAA5-2017-3-N25689	Technology Transfer	View Signed Agreement
382	39659	Smithsonian Institution	EIC Loan Agreement	9/29/2023	9/29/2028	Non-Reimbursable	\$3,335,000	HQ		Education and/or Public Engagement	View Signed Agreement
383	39558	Smithsonian Institution	Access and Installation Agreement	8/31/2023	8/31/2026	Non-Reimbursable	\$3,335,000	HQ		Science	View Signed Agreement
384	38807	Roccor, LLC	Characterization of High Aspect Ratio Booms for Large Apertures	4/27/2023	4/27/2025	Unfunded	\$971,832	HQ		Space Technology	View Signed Agreement
385	38806	Venturi Astrolab, Inc	Demonstrating Lunar Tire Technology Readiness	4/27/2023	4/27/2025	Unfunded	\$1,111,565	HQ		Space Technology	View Signed Agreement
386	38805	CANOPY AEROSPACE INC	Low-cost reusable TPS substrates as an alternative to AETB	4/27/2023	4/27/2025	Unfunded	\$687,000	HQ		Space Technology	View Signed Agreement
387	38804	THE BOEING COMPANY	Complex Curvature Retractable Pin Tool Friction Stir Welding Pathfinder	4/27/2023	4/27/2025	Unfunded	\$1,056,034	HQ		Space Technology	View Signed Agreement
388	38803	PHASE FOUR, INC	Phase Four, Inc	4/27/2023	4/27/2025	Unfunded	\$293,610	HQ		Space Technology	View Signed Agreement
389	38802	STRATOLAUNCH, LLC	Bringing Shuttle Orbiter TPS into the 21st Century	4/27/2023	4/27/2025	Unfunded	\$988,000	HQ		Space Technology	View Signed Agreement
390	38801	PSIONIC, LLC	Commercial Wind Measurement Constellation	4/27/2023	4/27/2025	Unfunded	\$506,760	HQ		Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
391	38800	Lockheed Martin Inc	Oscillating Heat Pipe Technology for Aeroentry and Commercial Applications (OHPACA)	4/27/2023	4/27/2025	Unfunded	\$1,016,272	HQ		Space Technology	View Signed Agreement
392	38799	BLUE ORIGIN, LLC	Friction Stir Additive Manufacturing (FSAM) Enabling Cislunar/Lunar Surface Infrastructure & Capabilities	4/27/2023	4/27/2025	Unfunded	\$1,121,515	HQ		Space Technology	View Signed Agreement
393	38798	BLUE ORIGIN, LLC	Metallic Thermal Protection System (TPS)	4/27/2023	4/27/2025	Unfunded	\$977,857	HQ		Space Technology	View Signed Agreement
394	38797	MAXAR SPACE ROBOTICS LLC	Automated Robotic Assembly of the Light Bender System	4/27/2023	4/27/2025	Unfunded	\$980,000	HQ		Space Technology	View Signed Agreement
395	38796	AEROJET ROCKETDYNE, INC	Electrically Actuated Quick-Disconnect Coupling for Cislunar and Lunar Surface Cryogenic Propellant Transfer	4/27/2023	4/27/2025	Unfunded	\$623,036	HQ		Space Technology	View Signed Agreement
396	38795	AEROJET ROCKETDYNE, INC	Fully Additively-Manufactured LOX-LH2 Engine Demonstration	4/27/2023	4/27/2025	Unfunded	\$1,357,690	HQ	1	Space Technology	View Signed Agreement
397	38792	LOCKHEED MARTIN	Friction Stir Welded Blanks for Advanced Formed Shapes	4/27/2023	4/27/2025	Unfunded	\$988,515	HQ		Space Technology	View Signed Agreement
398	38791	Lockheed Martin Corp	In-Space Manufacturing Technologies for Thermoplastic Composites	4/27/2023	4/27/2025	Unfunded	\$1,008,057	HQ		Space Technology	View Signed Agreement
399	38790	Sierra Space Corporation	Development of Low Cost High Temperature Reusable TPS	4/27/2023	4/27/2025	Unfunded	\$375,293	HQ		Space Technology	View Signed Agreement
400	38788	Peanuts Worldwide, LLC	Engagement Collaboration Annex One	7/27/2023	7/27/2028	Non-Reimbursable	\$113,421	HQ		Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
401	38787	Peanuts Worldwide, LLC	Peanuts Worldwide Engagement Collaboration	7/27/2023	7/27/2028	Non-Reimbursable	\$0	HQ		Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement
402	38744	Department of Energy Office of Science	Microbiome Data Ecosystems and Computational Frameworks	9/7/2023	9/6/2028	Non-Reimbursable	\$125,000	HQ		Science	View Signed Agreement
403	38475	Department of Energy Office of Science	Arctic Climate and Ecology Research in Alaska	5/17/2023	5/17/2026	Non-Reimbursable	\$9,099,000	HQ		Science	View Signed Agreement
404	38438	Defense Advanced Research Projects Agency	Demonstration Rocket For Agile Cislunar Operations (DRACO) Program	1/20/2023	1/19/2028	Non-Reimbursable	\$205,000,000	HQ		Space Technology	View Signed Agreement
405	37861	MICROSOFT CORPORATION	Annex 1 for Engaging Students in STEM using Minecraft	2/22/2023	2/21/2028	Non-Reimbursable	\$118,750	HQ		Education and/or Public Engagement	View Signed Agreement
406	37860	MICROSOFT CORPORATION	For Promoting STEM Education and STEM Engagement	2/24/2023	2/23/2028	Non-Reimbursable	\$0	HQ		Education and/or Public Engagement	View Signed Agreement
407	37809	Aerospace Industries Association	Annex 1 For Engaging Elementary and Middle School Students in Rocketry	3/15/2023	2/1/2025	Non-Reimbursable	\$30,750	HQ	37809	Education and/or Public Engagement	View Signed Agreement
408	37808	Aerospace Industries Association	For Increasing Access to Aerospace and Rocketry STEM Engagement Activities	3/15/2023	2/1/2027	Non-Reimbursable	\$0	HQ		Education and/or Public Engagement	View Signed Agreement
409	37443	Apple Inc.	Participation in Apple Film Project	1/23/2023	1/23/2026	Reimbursable	\$289,479	HQ		Institutional and Mission Support	View Signed Agreement
410	37404	North Central Texas Council of Governments	annex to Advanced Air Mobility Technology Research and Demonstration Activities	12/14/2022	12/14/2025	Non-Reimbursable	\$45,000	HQ	34701	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
411	37403	Massachusetts Department of Transportation	annex to Advanced Air Mobility Technology Research and Demonstration Activities	12/14/2022	12/14/2025	Non-Reimbursable	\$45,000	HQ	34708	Aeronautics	View Signed Agreement
412	37402	City of Orlando	annex to Advanced Air Mobility Technology Research and Demonstration Activities	12/14/2022	12/14/2025	Non-Reimbursable	\$45,000	HQ	34710	Aeronautics	View Signed Agreement
413	37299	Zozude LLC dba Institute of Competition Sciences	For Increasing Access to STEM Challenges	1/4/2023	1/4/2026	Non-Reimbursable	\$14,625	HQ		Education and/or Public Engagement	View Signed Agreement
414	37295	Code.org	For Increasing Access to Computer Science Resources for K-12 Teachers and Students	10/5/2022	10/5/2027	Non-Reimbursable	\$42,500	HQ	37295	Education and/or Public Engagement	View Signed Agreement
415	37260	AST&SCIENCE, LLC	Flight Safety Coordination with NASA Assets	11/10/2022	11/10/2032	Non-Reimbursable	\$1,210,580	HQ		Human Exploration and Operations	View Signed Agreement
416	37032	Pear Deck	For Increasing Access to STEM Digital Resources for K-12 Teachers	11/2/2022	11/2/2027	Non-Reimbursable	\$24,375	HQ		Education and/or Public Engagement	View Signed Agreement
417	36946	Ohio Department of Transportation	Annex to Advanced Air Mobility Technology Research and Demonstration Activities	12/14/2022	12/14/2025	Non-Reimbursable	\$45,000	HQ	34682	Aeronautics	View Signed Agreement
418	36810	Therapy Materials Vault	Space Communications and Navigation Speech Therapy Materials	6/24/2022	6/9/2025	Non-Reimbursable	\$5,400	HQ		Education and/or Public Engagement	View Signed Agreement
419	36396	Environmental Systems Research Institute (ESRI)	THE DISCOVERY, ACCESS, AND USE OF LARGE EARTH SCIENCE DATASETS	11/22/2022	11/22/2027	Non-Reimbursable	\$20,000	HQ		Science	View Signed Agreement
420	36394	Environmental Systems Research Institute ESRI	THE DISCOVERY, ACCESS, AND USE OF LARGE EARTH SCIENCE DATASETS	11/22/2022	11/22/2027	Non-Reimbursable	\$20,000	HQ		Science	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
421	36393	United States Department of the Interior	Annex 3 for Satellite Cross-calibration Radiometer Project Under Nonreimbursable Umbrella Interagency Agreement between NASA and Department of the Interior For Collaboration On Sustainable Land Imaging Project	10/12/2022	12/6/2031	Non-Reimbursable	\$179,200	HQ		Science	View Signed Agreement
422	36288	American Institute of Aeronautics and Astronautics (AIAA) Foundation	Annex 2 to NRSS Between NASA and AIAA Foundation for Increasing Access to Aerospace Education Resources	4/19/2022	4/19/2025	Non-Reimbursable	\$455,250	HQ	35587	Education and/or Public Engagement	View Signed Agreement
423	36101	National Oceanic and Atmospheric Administration	Accommodation and Operation of Libera on JPSS-3	3/31/2022	3/31/2032	Non-Reimbursable	\$163,893,000	HQ		Science	View Signed Agreement
424	36023	Crayola	Annex 1 Under Umbrella SAA between NASA and Crayola Education	4/28/2022	4/28/2027	Non-Reimbursable	\$87,572	HQ		Education and/or Public Engagement	View Signed Agreement
425	36022	Crayola	For STEAM Education and Engagement	4/28/2022	4/28/2027	Non-Reimbursable	\$0	HQ		Education and/or Public Engagement	View Signed Agreement
426	35995	Federal Aviation Administration	annex to For Demonstration of Promising Aviation Concepts and Technology	7/29/2022	1/4/2026	Non-Reimbursable	\$80,990	HQ	31919	Aeronautics	View Signed Agreement
427	35588	American Institute of Aeronautics and Astronautics (AIAA) Foundation	ANNEX 1 Under Nonreimbursable Space Act Agreement between NASA and AIAA Foundation for Increasing Access to Aerospace Education Resources and Opportunities	1/12/2022	1/12/2024	Non-Reimbursable	\$6,000	HQ	35587	Education and/or Public Engagement	View Signed Agreement
428	35587	American Institute of Aeronautics and Astronautics (AIAA) Foundation	Nonreimbursable Space Act Agreement Between NASA and AIAA Foundation for Increasing Access to Aerospace Education Resources	1/12/2022	1/12/2027	Non-Reimbursable	\$0	HQ		Education and/or Public Engagement	View Signed Agreement
429	35525	National Geographic Partners, LLC	Artemis Imagery	9/23/2021	9/23/2026	Non-Reimbursable	\$2,450,000	HQ	35525	Human Exploration and Operations	View Signed Agreement
430	35270	The Center of Science and Industry	Nonreimbursable Space Act Agreement Between NASA and COSI for Delivering STEM Engagement to Underserved Youth Across the Nation	10/25/2021	10/25/2026	Non-Reimbursable	\$17,187	HQ		Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
431	35190	United States Department of the Interior	Annex 2 for Landsat Next Project Under Nonreimbursable Umbrella Interagency Agreement between NASA and Department of the Interior For Collaboration On Sustainable Land Imaging Projects	2/9/2022	12/6/2031	Non-Reimbursable	\$1,089,926,000	HQ		Science	View Signed Agreement
432	34746	United States Department of the Interior	Annex 1 for Landsat 9 Project Under Nonreimbursable Umbrella Interagency Agreement between NASA and Department of the Interior For Collaboration On Sustainable Land Imaging Projects	2/9/2022	12/6/2031	Non-Reimbursable	\$16,066,000	HQ		Science	View Signed Agreement
433	34745	United States Department of the Interior	Collaboration on Sustainable Land Imaging Projects	12/6/2021	12/6/2031	Non-Reimbursable	\$0	HQ		Science	View Signed Agreement
434	34711	City of Orlando	annex to Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$250,000	HQ		Aeronautics	View Signed Agreement
435	34710	City of Orlando	Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$0	HQ		Aeronautics	View Signed Agreement
436	34709	Massachusetts Department of Transportation	annex to Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$250,000	HQ		Aeronautics	View Signed Agreement
437	34708	Massachusetts Department of Transportation	Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$0	HQ		Aeronautics	View Signed Agreement
438	34706	Minnesota Department of Transportation	annex to Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$250,000	HQ		Aeronautics	View Signed Agreement
439	34705	Minnesota Department of Transportation	Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$0	HQ		Aeronautics	View Signed Agreement
440	34704	North Central Texas Council of Governments	annex to Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$250,000	HQ		Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
441	34701	North Central Texas Council of Governments	Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$0	HQ		Aeronautics	View Signed Agreement
442	34686	Ohio Department of Transportation	annex to Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$250,000	HQ	34682	Aeronautics	View Signed Agreement
443	34682	Ohio Department of Transportation	Advanced Air Mobility Technology Research and Demonstration Activities	5/7/2021	5/7/2026	Non-Reimbursable	\$0	HQ		Aeronautics	View Signed Agreement
444	34595	United States Department of Agriculture	For STEM Education and Engagement around Trees Grown from Seeds Flown in Space	6/25/2021	6/25/2026	Non-Reimbursable	\$50,625	HQ		Education and/or Public Engagement	View Signed Agreement
445	34122	Gearbox Labs, Inc.	For K-12 STEM Engagement and Education	3/30/2021	3/30/2024	Non-Reimbursable	\$9,625	HQ	34122	Education and/or Public Engagement	View Signed Agreement
446	33818	Orbital ATK, Inc	Small Spacecraft Electric Propulsion (SSEP) System	11/6/2020	9/30/2024	Unfunded	\$998,544	HQ	STMD-SAA-ACO20-0021	Space Technology	View Signed Agreement
447	33812	Rocket Lab USA, Inc	Proposal to the National Aeronautics and Space Administration (NASA) Space Technology Announcement of Collaborative Opportunity	11/6/2020	9/30/2025	Unfunded	\$1,736,814	HQ	STMD-SAA-ACO20-0009	Space Technology	View Signed Agreement
448	33810	Phase Four, Inc	Lifetime Trend Testing of the Phase Four RF Thruster for Small Spacecraft Missions	11/6/2020	3/31/2025	Unfunded	\$424,161	HQ	STMD-SAA-ACO20-0056	Space Technology	View Signed Agreement
449	33808	AEROJET ROCKETDYNE, INC	A Novel Approach to Human Exploration-Enabling Green Monopropellants for SmallSats	11/6/2020	9/30/2024	Unfunded	\$1,492,918	HQ	STMD-SAA-ACO20-0036	Space Technology	View Signed Agreement
450	33807	CORNERSTONE RESEARCH GROUP, INC.	Additively Manufactured TPS Arc Jet Evaluation	11/6/2020	9/30/2023	Unfunded	\$897,358	HQ	STMD-SAA-ACO20-0038	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
451	33806	Elementum 3D, Inc	Reactive Additive Manufacturing for Fourth Industrial Revolution Exploration Systems (RAMFIRE)	11/6/2020	9/30/2023	Unfunded	\$1,117,904	HQ	STMD-SAA-ACO20-0026	Space Technology	View Signed Agreement
452	33805	SPACE EXPLORATION TECHNOLOGIES CORP	In-flight Imagery and Thermal Measurement of Starship during Orbital Reentry	11/6/2020	12/31/2024	Unfunded	\$2,390,800	HQ	STMD-SAA-ACO20-0025	Space Technology	View Signed Agreement
453	33804	Ahmic Aerospace, LLC	Hypersonic Instrumentation and Thermal Protection System Material Characterization Test Methodology	11/6/2020	9/30/2023	Unfunded	\$786,480	HQ	STMD-SAA-ACO20-22	Space Technology	View Signed Agreement
454	33803	Spacefactory, Inc	Design of an Additive Construction System for Lunar ISRU Application through Active Sample Testing in a Relevant Environment	11/6/2020	9/30/2023	Unfunded	\$627,355	HQ	STMD-SAA-ACO20-53	Space Technology	View Signed Agreement
455	33802	BLUE ORIGIN, LLC	Space Robot Operating System	11/6/2020	9/30/2023	Unfunded	\$2,112,823	HQ	STMD-SAA-ACO20-32	Space Technology	View Signed Agreement
456	33801	PH Matter, LLC	Advanced Alkaline Reversible Cell for Production of Hydrogen and Oxygen from ISRU-Generated Water	11/6/2020	9/30/2023	Unfunded	\$441,469	HQ	STMD-SAA-ACO20-0012	Space Technology	View Signed Agreement
457	33800	SPACE SYSTEMS LORAL, LLC	Lunar Dust Mitigation on Flexible Solar Arrays	11/6/2020	9/30/2023	Unfunded	\$965,210	HQ	STMD-SAA-ACO20-0020	Space Technology	View Signed Agreement
458	33160	Oak Ridge Associated Universities, Inc.	Annex No. 1 Under Umbrella SAA for Increasing Access to STEM Engagement and STEM Education Opportunities and Experiences	12/15/2020	12/15/2025	Non-Reimbursable	\$54,375	HQ		Education and/or Public Engagement	View Signed Agreement
459	33159	Oak Ridge Associated Universities, Inc.	Umbrella Space Act Agreement for Increasing Access to STEM Engagement and STEM Education Opportunities and Experiences	12/15/2020	12/15/2025	Non-Reimbursable	\$0	HQ		Education and/or Public Engagement	View Signed Agreement
460	33145	Discovery Education, Inc.	Non-Reimbursable Space Act Agreement for K-12 STEM Engagement and Education	11/10/2020	11/10/2025	Non-Reimbursable	\$75,625	HQ	33145	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
461	33007	SPACE EXPLORATION TECHNOLOGIES CORP	Flight Safety Coordination with NASA Assets	1/15/2021	1/15/2031	Non-Reimbursable	\$1,836,425	HQ		Human Exploration and Operations, Science	View Signed Agreement
462	32857	STEM Next Opportunity Fund	Annex 1 Under Umbrella Space Act Agreement for the STEM Next Million Girls Moonshot Initiative	8/27/2020	8/27/2025	Non-Reimbursable	\$247,750	HQ	32856	Education and/or Public Engagement	View Signed Agreement
463	32856	STEM Next Opportunity Fund	Umbrella Space Act Agreement for Increasing Access to STEM Engagement and STEM Education Opportunities and Experiences	8/27/2020	8/27/2025	Non-Reimbursable	\$0	HQ	32856	Education and/or Public Engagement	View Signed Agreement
464	32717	United States Air Force	Enabling Advanced Air Mobility	4/7/2021	4/7/2026	Non-Reimbursable	\$150,000	HQ		Aeronautics	View Signed Agreement
465	32716	United States Air Force	A PARTNERSHIP TO ACHIEVE GOALS IN ADVANCED AIR MOBILITY	4/12/2021	4/12/2026	Non-Reimbursable	\$0	HQ		Aeronautics	View Signed Agreement
466	32457	American Geophysical Union	Cooperation for AbSciCon 2022, 2024 and 2026	3/22/2022	3/22/2027	Non-Reimbursable	\$1,050,000	HQ		Science	View Signed Agreement
467	32453	Viacom International, Inc. regarding Noggin	Annex 1 Under Umbrella SAA for Artemis-Themed STEM Learning Experiences for Preschool-Aged Children and Their Families	10/20/2020	10/20/2025	Non-Reimbursable	\$142,250	HQ	32453	Education and/or Public Engagement	View Signed Agreement
468	32452	Viacom International Inc. regarding Noggin	Umbrella SAA for NASA-Themed STEM Learning Experiences for Preschool-Aged Children and Their Families	10/20/2020	10/20/2025	Non-Reimbursable	\$0	HQ	32452	Education and/or Public Engagement	View Signed Agreement
469	32421	National Oceanic and Atmospheric Administration	OMPS-L Accommodation on JPSS-3 and JPSS-4	11/8/2020	11/8/2025	Non-Reimbursable	\$51,497	HQ		Science	View Signed Agreement
470	32284	U.S. Space Force, Directorate of Strategic Requirements, Architectures and Analysis	Memorandum of Agreement between the U.S. Space Force and the NASA Science Mission Directorate for Sharing of Space Surveillance Telescope Data	6/15/2020	6/15/2025	Non-Reimbursable	\$146,000	HQ		Science	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
471	31920	Federal Aviation Administration	Advanced Air Mobility National Campaign Series	12/21/2020	12/21/2025	Non-Reimbursable	\$28,072,353	HQ	31919	Aeronautics	View Signed Agreement
472	31919	Federal Aviation Administration	For Demonstration of Promising Aviation Concepts and Technology	1/4/2021	1/4/2026	Non-Reimbursable	\$0	HQ	31919	Aeronautics	View Signed Agreement
473	31562	U.S. SATELLITE LABORATORY, INC	Annex 1 under Umbrella SAA for Collaboration on the Endeavor Science Teaching Certificate Project	12/18/2019	12/18/2024	Non-Reimbursable	\$100,350	HQ		Aeronautics, Human Exploration and Operations, Science, Space Technology, Education and/or Public Engagement	View Signed Agreement
474	31561	U.S. SATELLITE LABORATORY, INC	Umbrella SAA for Collaboration on Endeavor Science Teacher Certificate Project and STEM Engagement Activities	12/18/2019	12/18/2024	Non-Reimbursable	\$0	HQ		Aeronautics, Human Exploration and Operations, Science, Space Technology, Education and/or Public Engagement	View Signed Agreement
475	31223	UNITED STATES DEPARTMENT OF COMMERCE	Space Radiation Environment Support to NASA	1/18/2022	1/18/2027	Non-Reimbursable	\$604,877	HQ		Human Exploration and Operations	View Signed Agreement
476	30979	Spirit AeroSystems Inc	NRSAA Between NASA and Spirit AeroSystems Inc Under the Space Technology Announcement of Competitive Opportunity 2019, Improved Durability for a Low-Cost Reusable Launch Vehicle Manufactured via Friction Stir Welding	7/29/2019	6/30/2024	Unfunded	\$1,239,000	HQ	ACO-2019-070	Space Technology	View Signed Agreement
477	30962	SIERRA NEVADA CORP	NRSAA Between NASA and Sierra Nevada Corporation Under the Space Technology Announcement of Competitive Opportunity 2019, Scientifically Calibrated In-Flight Imagery	7/29/2019	12/31/2023	Unfunded	\$3,516,281	HQ	ACO-2019-062	Space Technology	View Signed Agreement
478	30958	Advanced Space LLC	NRSAA Between NASA and Advance Space LLC Under the Space Technology Announcement of Competitive Opportunity 2019, Advancing Lunar Navigation Technologies to Enable Exploration and Commercial Development	7/29/2019	9/30/2024	Unfunded	\$670,696	HQ	ACO-2019-018	Space Technology	View Signed Agreement
479	30924	SPACE SYSTEMS LORAL, LLC	NRSAA Between NASA and Space Systems Loral LLC Under the Space Technology Announcement of Competitive Opportunity 2019, Advanced Packaging Methods for Next-Generation Reflectors	7/29/2019	4/30/2024	Unfunded	\$1,280,000	HQ	ACO-2019-010	Space Technology	View Signed Agreement
480	29333	Evergreen Exhibitions	Above and Beyond Touring Exhibit	3/29/2019	3/28/2024	Non-Reimbursable	\$10,109	HQ		Aeronautics, Education and/or Public Engagement	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
481	28458	United States Department of Commerce	Maintenance and Operation of the National Geodetic Survey Continuously Operating Reference Stations	12/18/2019	12/18/2024	Non-Reimbursable	\$33,948	HQ		Science	View Signed Agreement
482	28420	Neuron Fuel Inc. dba Tynker	Umbrella Space Act Agreement for Engaging Students in NASA-Themed Coding Activities	12/20/2018	12/20/2023	Non-Reimbursable	\$0	HQ	28420	Education and/or Public Engagement	View Signed Agreement
483	28122	U.S. Air Force, National Oceanic and Atmospheric Administration, Department of the Navy	Joint Center for Satellite Data Assimilation MOA	4/20/2021	4/20/2026	Non-Reimbursable	\$8,250,000	HQ		Science	View Signed Agreement
484	27962	Department of Commerce, National Oceanic and Atmospheric Administration	Operations-to-Research Collaboration in Space Weather	11/30/2018	11/30/2023	Non-Reimbursable	\$6,000	HQ		Science	View Signed Agreement
485	27663	Health and Human Services, Department of	Nonreimbursable Umbrella IAA with HHS Relating to the Improvement of Human Health and Public Health	7/31/2018	7/31/2028	Non-Reimbursable	\$367,343	HQ		Human Exploration and Operations	View Signed Agreement
486	27229	RFC MEDIA, LLC	Continued Outreach Collaboration on Third Rock Radio	1/30/2020	1/29/2025	Non-Reimbursable	\$6,473	HQ	27229	Education and/or Public Engagement	View Signed Agreement
487	38743	Astrobotic Technology Inc	IND Network Services in Support of Astrobotic Griffin Mission One (GM1)	8/24/2023	6/24/2025	Reimbursable	\$1,505,857	JPL		Science	View Signed Agreement
488	38216	Texas A&M Engineering Experiment Station	Tractable Autonomy Models for Planning Under Uncertainty	9/26/2023	9/26/2025	Reimbursable	\$315,000	JPL		Science	View Signed Agreement
489	37446	L3Harris Technologies, Inc.	Advancing Positioning, Navigation, and Timing Technologies	3/8/2023	3/8/2026	Reimbursable	\$309,215	JPL		Science	View Signed Agreement
490	36647	Exoterra Resource, LLC	Development and Qualification of ExoTerra's Halo12 Hall Thruster System	7/19/2022	1/19/2026	Reimbursable	\$6,676,305	JPL		Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
491	36173	Raytheon Company	Generation Global Positioning System (GPS) Control Segment (OCX) Transition to Operations and Sustaining Support	2/17/2022	8/31/2026	Reimbursable	\$5,382,146	JPL		Science	View Signed Agreement
492	36154	TELECOMMUNICATION SYSTEMS, INC	Assistance Global Navigation Satellite System (GNSS) Data to TeleCommunication Systems, Inc. (TCS)	2/16/2022	2/15/2025	Reimbursable	\$5,121,987	JPL		Science	View Signed Agreement
493	35792	Attollo Engineering, LLC	High-performance long-wavelength infrared detector	3/7/2022	12/7/2025	Reimbursable	\$666,070	JPL		Science	View Signed Agreement
494	35420	Planet Labs PBC	Carbon Plume Mapper (CPM) Technology Transfer	7/29/2022	9/29/2024	Reimbursable	\$363,452	JPL		Science, Technology Transfer	View Signed Agreement
495	35338	Carbon Mapper, Inc.	Carbon Plume Mapper Risk Reduction Airborne Campaign	1/13/2022	4/13/2025	Reimbursable	\$5,479,636	JPL		Science	View Signed Agreement
496	34786	MOOG, INC	JPL Integrated GPS Occultation Receiver (IGOR) Software Support for Moog BroadReach (MBR)	10/21/2021	10/21/2024	Reimbursable	\$225,124	JPL		Space Technology	View Signed Agreement
497	34396	AEROJET ROCKETDYNE, INC	A Digitally Informed Approach To Enhanced Heat Recovery Through Additive Manufacturing Of "Adaptive Thermoelectric Modules" For Energy Conversion Platforms	7/21/2021	1/21/2025	Reimbursable	\$943,338	JPL	34396	Space Technology	View Signed Agreement
498	34171	Carbon Mapper	Carbon Plume Mapper (CPM)	3/19/2021	10/31/2025	Reimbursable	\$41,015,825	JPL		Science	View Signed Agreement
499	34074	GENERAL DYNAMICS MISSION SYSTEMS, INC.	INTELLIGENT ULTRASONIC DRILLING TOOL (IntUDIT)	11/10/2022	5/10/2024	Reimbursable	\$309,072	JPL		Space Technology, Technology Transfer	View Signed Agreement
500	34060	BATTELLE MEMORIAL INSTITUTE, INC	National Ecological Observatory Network (NEON) NEON Imaging Spectrometer (NIS)SENSOR SUPPORT	6/23/2021	6/23/2024	Reimbursable	\$949,880	JPL		Science	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
501	34016	EMBRY-RIDDLE AERONAUTICAL UNIVERSITY	AtmoSense/AIRWaveS: Atmosphere-Ionosphere Responses to Wave Signals	8/18/2021	11/18/2023	Reimbursable	\$894,329	JPL		Science	View Signed Agreement
502	34008	Northeastern University	Development of Transmitters and Receivers for THz Communications	11/17/2021	11/17/2023	Reimbursable	\$200,000	JPL		Science	View Signed Agreement
503	33889	Raytheon Company	Next Generation GPS Control Segment (OCX) Block 3F Support	8/18/2021	3/18/2025	Reimbursable	\$2,581,701	JPL		Space Technology, Technology Transfer	View Signed Agreement
504	33632	Veripos (US) Inc.	Global Navigation Satellite Systems Corrections Data to Veripos (US) Inc.	3/11/2021	11/26/2023	Reimbursable	\$537,892	JPL	33632	Human Exploration and Operations	View Signed Agreement
505	33349	Siensa Inc.	High Energy and Long Cycle Life Li-ion Batteries with Novel Silicon Anode	2/2/2021	2/2/2024	Reimbursable	\$500,019	JPL		Science	View Signed Agreement
506	33258	Citrus College	Pathways in STEM: Cross-Sector Partnerships, Experiential Learning, and Professional Development	12/15/2020	4/27/2027	Reimbursable	\$274,008	JPL		Education and/or Public Engagement	View Signed Agreement
507	32586	GEORGIA INSTITUTE OF TECHNOLOGY	Support to the Development of Advanced Data Compression Techniques (Python)	10/23/2020	10/23/2023	Reimbursable	\$850,000	JPL		Science	View Signed Agreement
508	30629	LOUISIANA STATE UNIVERSITY	Synthetic Aperture Radar Interferometry (InSAR) Evaluation in Support of Louisiana Regional Geospatial Modeling	12/16/2019	9/30/2023	Reimbursable	\$393,500	JPL	82-105663	Science	View Signed Agreement
509	29920	Photon Spot, Inc.	Superconducting Nanowire Single Photon Detector Technology Development	3/27/2019	4/30/2024	Reimbursable	\$955,715	JPL		Science	View Signed Agreement
510	29799	HARRIS CORP	Navigation Technology Satellite-3 Geosynchronous Earth Orbit Experiment	4/10/2019	9/30/2024	Reimbursable	\$10,002,633	JPL		Science	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
511	28319	THE AEROSPACE CORPORATION	EMPIRICAL STUDIES OF RADIATION DAMAGE TO SPACECRAFT ELECTRONICS AND MATERIALS	5/17/2019	5/17/2024	Reimbursable	\$298,908	JPL		Space Technology	View Signed Agreement
512	39459	Soyuz Template	Soyuz Launch OHara	9/7/2023	11/7/2023	Reimbursable	\$3,960	JSC	SAA-AA2-23-39459	Institutional and Mission Support	View Signed Agreement
513	39443	Soyuz Template	Soyuz Launch Ohara	9/6/2023	11/6/2023	Reimbursable	\$4,500	JSC	SAA-AA2-23-39443	Institutional and Mission Support	View Signed Agreement
514	39413	BLUE ORIGIN, LLC	Radiant Heat Testing	9/19/2023	9/19/2024	Reimbursable	\$133,947	JSC	SAA-EA-20-29343-45	Human Exploration and Operations, Space Technology	View Signed Agreement
515	39381	Soyuz Template	Soyuz Launch Reid	9/6/2023	11/6/2023	Reimbursable	\$3,960	JSC	SAA-AA2-23-39381	Institutional and Mission Support	View Signed Agreement
516	39379	Soyuz Template	Soyuz Launch Mulholland	9/6/2023	11/6/2023	Reimbursable	\$4,500	JSC	SAA-AA2-23-39379	Institutional and Mission Support	View Signed Agreement
517	39290	THE DEFENSE HEALTH AGENCY	COLLABORATIVE SPACE MEDICAL RESEARCH	1/19/2023	1/19/2026	Non-Reimbursable	\$56,151	JSC	220506	Institutional and Mission Support	View Signed Agreement
518	39207	BLUE ORIGIN, LLC	Annex to Conduct Thermal Vacuum Test	9/29/2023	9/29/2024	Reimbursable	\$6,790,000	JSC	SAA-EA-20-29343	Science, Space Technology, Technology Transfer	View Signed Agreement
519	39181	AXIOM SPACE, LLC	Agreement will facilitate materials, fluids, and component testing through the Energy Systems Test Area (ESTA)	9/29/2023	9/29/2026	Reimbursable	\$1,000,000	JSC	SAA-RA-22-36162-9	Human Exploration and Operations, Space Technology	View Signed Agreement
520	38921	Vast Space LLC	COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2	6/13/2023	6/13/2028	Unfunded	\$2,701,693	JSC		Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
521	38920	THINKORBITAL, INC.	COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2	6/13/2023	6/13/2028	Unfunded	\$2,690,228	JSC		Human Exploration and Operations	View Signed Agreement
522	38919	SPECIAL AEROSPACE SERVICES	COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2	6/13/2023	6/13/2028	Unfunded	\$1,929,191	JSC		Human Exploration and Operations	View Signed Agreement
523	38918	SPACE EXPLORATION TECHNOLOGIES CORP	COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2	6/13/2023	6/13/2028	Unfunded	\$7,401,016	JSC		Human Exploration and Operations	View Signed Agreement
524	38917	Sierra Space Corporation	COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2	6/13/2023	6/13/2028	Unfunded	\$6,828,594	JSC		Human Exploration and Operations	View Signed Agreement
525	38916	Northrop Grumman Systems Corporation	COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2	6/13/2023	6/13/2028	Unfunded	\$2,872,733	JSC		Human Exploration and Operations	View Signed Agreement
526	38915	BLUE ORIGIN, LLC	COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2	6/13/2023	6/13/2028	Unfunded	\$5,456,173	JSC		Human Exploration and Operations	View Signed Agreement
527	38882	Paragon Space Development Corporation	Urine Pretreat: PUP System Evaluation	9/8/2023	3/8/2025	Non-Reimbursable	\$95,177	JSC	SAA-EA-23-37725-02	Human Exploration and Operations, Space Technology	View Signed Agreement
528	38839	60th Medical Group - Travis Air Force Base	Space Ionizing Radiation Collaborative Investigations	7/6/2023	7/5/2028	Non-Reimbursable	\$436,197	JSC	SAA-SK-23-38839	Human Exploration and Operations	View Signed Agreement
529	38712	OKLAHOMA STATE UNIVERSITY	NONREIMBURSABLE SPACE ACT UMBRELLA AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND OKLAHOMA STATE UNIVERSITY	9/15/2023	9/15/2028	Non-Reimbursable	\$76,184	JSC	SAA-AD-23-38711-01	Education and/or Public Engagement	View Signed Agreement
530	38711	OKLAHOMA STATE UNIVERSITY	NONREIMBURSABLE SPACE ACT UMBRELLA AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND OKLAHOMA STATE UNIVERSITY	9/15/2023	9/15/2028	Non-Reimbursable	\$0	JSC	SAA-AD-23-38711	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
531	38698	WILLIAM MARSH RICE UNIVERSITY	The Future of Space Seminar	5/3/2023	5/3/2024	Non-Reimbursable	\$787	JSC	SAA-AD-22-36462-04	Technology Transfer	View Signed Agreement
532	38604	DYNETICS CORP	Basic Mobility Testing	7/25/2023	7/25/2024	Reimbursable	\$2,244	JSC	SAA-AA-23-38594-01	Space Technology	View Signed Agreement
533	38594	DYNETICS CORP	Mobility and Design Testing	6/27/2023	6/27/2024	Reimbursable	\$0	JSC	SAA-AA-23-38594	Space Technology	View Signed Agreement
534	38253	BLUE ORIGIN, LLC	Planning Activities for Future Thermal Vacuum Testing Program	2/24/2023	9/30/2024	Reimbursable	\$334,980	JSC	SAA-EA-20-29343-32	Human Exploration and Operations	View Signed Agreement
535	38206	SPACE EXPLORATION TECHNOLOGIES CORP	Pharmaceutical vacuum stability	3/9/2023	3/9/2025	Non-Reimbursable	\$7,309	JSC		Human Exploration and Operations	View Signed Agreement
536	38170	Arizona State University	ANNEX BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND ARIZONA STATE UNIVERSITY UNDER SPACE ACT UMBRELLA AGREEMENT	7/19/2023	7/14/2028	Non-Reimbursable	\$76,126	JSC	SAA-AD-23-38169-01	Science, Education and/or Public Engagement	View Signed Agreement
537	38169	Arizona State University	Nonreimbursable SAA with The Arizona Board Of Regents For And On Behalf Of Arizona State University For Human Space Exploration, Science And Engineering Research, Stem Engagement And Outreach Initiatives.	7/14/2023	7/14/2028	Non-Reimbursable	\$0	JSC	SAA-AD-23-38169	Education and/or Public Engagement	View Signed Agreement
538	38010	Thomas Jefferson University	Collaborative Research and Educational Activities with Thomas Jefferson University	2/13/2023	2/12/2028	Non-Reimbursable	\$37,012	JSC	SAA-SA-23-38010	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement
539	37999	Mojave Energy Systems	Liquid Desiccant Air Conditioning Project	7/13/2023	7/13/2025	Non-Reimbursable	\$20,827	JSC	37999	Institutional and Mission Support	View Signed Agreement
540	37949	University of Colorado Boulder	ANNEX BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND UNIVERSITY OF COLORADO UNDER SPACE ACT UMBRELLA AGREEMENT	7/19/2023	7/14/2028	Non-Reimbursable	\$76,126	JSC	SAA-AD-23-37948-01	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
541	37948	University of Colorado Boulder	NONREIMBURSABLE SPACE ACT UMBRELLA AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND UNIVERSITY OF COLORADO FOR UMBRELLA AGREEMENT FOR COLLABORATIVE INITIATIVES IN RESEARCH, TECHNOLOGY DEVELOPMENT, TECHNOLOGY TRANSFER TRAINING, EDUCATION AND OUTREACH	7/14/2023	7/14/2028	Non-Reimbursable	\$0	JSC	SAA-AD-23-37948	Education and/or Public Engagement	View Signed Agreement
542	37928	Arizona Board of Regents	ANNEX (01) BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND THE ARIZONA BOARD OF REGENTS, UNIVERSITY OF ARIZONA UNDER SPACE ACT UMBRELLA AGREEMENT	4/7/2023	3/13/2028	Non-Reimbursable	\$68,040	JSC	SAA-AD-23-37927-01	Human Exploration and Operations, Education and/or Public Engagement, Technology Transfer	View Signed Agreement
543	37927	Arizona Board of Regents	NONREIMBURSABLE SPACE ACT UMBRELLA AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND THE ARIZONA BOARD OF REGENTS, UNIVERSITY OF ARIZONA	3/13/2023	3/13/2028	Non-Reimbursable	\$0	JSC	SAA-AD-23-37927	Education and/or Public Engagement	View Signed Agreement
544	37899	SPACE EXPLORATION TECHNOLOGIES CORP	Medical Technology Demonstrations	3/23/2023	3/23/2027	Non-Reimbursable	\$79,574	JSC	SAA-SA-23-37898-01	Science	View Signed Agreement
545	37898	SPACE EXPLORATION TECHNOLOGIES CORP	Human research collaboration	3/23/2023	3/22/2028	Non-Reimbursable	\$0	JSC	SAA-SA-23-37898	Science	View Signed Agreement
546	37893	NEW MEXICO STATE UNIVERSITY	Next Generation Additive Manufacturing for Space Applications	9/28/2023	9/28/2026	Non-Reimbursable	\$22,086	JSC	SAA-EA-23-37893	Human Exploration and Operations, Space Technology	View Signed Agreement
547	37863	North East Independent School District	NEISD School Magnet Programs - STEM and space-focused curriculum	6/1/2023	6/1/2026	Reimbursable	\$491,394	JSC	SAA-AD-23-37862-01	Education and/or Public Engagement	View Signed Agreement
548	37862	North East Independent School District	North East Independent School District - Collaboration for STEM Engagement, Education, and Community Outreach Activities	6/1/2023	6/1/2028	Reimbursable	\$0	JSC	SAA-AD-23-37862	Education and/or Public Engagement	View Signed Agreement
549	37845	Weill Medical College of Cornell University	Annex ONE under the Reimbursable Umbrella Agreement for Biomedical Analysis	8/17/2023	8/16/2028	Reimbursable	\$89,249	JSC	SAA-SA-23-37844-01	Human Exploration and Operations	View Signed Agreement
550	37844	Weill Medical College of Cornell University	Reimbursable Umbrella Agreement for Biomedical Analysis	8/17/2023	8/16/2028	Reimbursable	\$0	JSC	SAA-SA-23-37844	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
551	37829	Houston Livestock Show and Rodeo, Inc.	Reimbursable Space Act Agreement Between National Aeronautics and Space Administration Lyndon B. Johnson Space Center and Houston Livestock Show and Rodeo, Inc. for Texas High School Aerospace Scholars	5/30/2023	5/29/2024	Reimbursable	\$100,000	JSC	SAA-AD-23-37829	Education and/or Public Engagement	View Signed Agreement
552	37822	VENUS AEROSPACE CORPORATION	Annex for Structural and Vibration Experimentation	4/12/2023	4/12/2024	Reimbursable	\$51,400	JSC	SAA-AA-22-37098-02	Space Technology	View Signed Agreement
553	37784	PURDUE UNIVERSITY	ANNEX BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND PURDUE UNIVERSITY SYSTEM UNDER SPACE ACT UMBRELLA AGREEMENT	5/23/2023	5/15/2028	Non-Reimbursable	\$51,793	JSC	SAA-AD-23-37784	Education and/or Public Engagement	View Signed Agreement
554	37783	PURDUE UNIVERSITY	NONREIMBURSABLE SPACE ACT UMBRELLA AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND PURDUE UNIVERSITY FOR COLLABORATIVE ACTIVITIES.	5/15/2023	5/15/2028	Non-Reimbursable	\$0	JSC	SAA-AD-23-37783	Technology Transfer	View Signed Agreement
555	37769	Texas Tech University System	ANNEX 01 BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND THE TEXAS TECH UNIVERSITY SYSTEM UNDER SPACE ACT UMBRELLA AGREEMENT NO. 37768	9/1/2023	8/29/2028	Non-Reimbursable	\$76,127	JSC	SAA-AD-23-37768-01	Education and/or Public Engagement, Technology Transfer	View Signed Agreement
556	37768	The Texas Tech University System	Umbrella Agreement with THE TEXAS TECH UNIVERSITY SYSTEM FOR COLLABORATIVE INITIATIVES IN RESEARCH, TECHNOLOGY DEVELOPMENT, TECHNOLOGY TRANSFER TRAINING, EDUCATION AND OUTREACH.	8/29/2023	8/29/2028	Non-Reimbursable	\$0	JSC	SAA-AD-23-37768	Education and/or Public Engagement	View Signed Agreement
557	37726	Paragon Space Development Corporation	Pressurized Transfer System	4/12/2023	10/12/2024	Non-Reimbursable	\$609,696	JSC	SAA-EA-23-37725-01	Space Technology	View Signed Agreement
558	37725	Paragon Space Development Corporation	Collaboration Projects, Technology Development, and Technology Transfer	4/11/2023	4/11/2028	Non-Reimbursable	\$0	JSC	SAA-EA-23-37725	Space Technology	View Signed Agreement
559	37683	HOUSTON LIVESTOCK SHOW AND RODEO, INC.	NONREIMBURSABLE SPACE ACT AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND HOUSTON LIVESTOCK SHOW & RODEO FOR COMMUNITY RELATIONS AND EDUCATION OUTREACH ACTIVITIES	2/23/2023	2/23/2028	Non-Reimbursable	\$181,580	JSC	SAA-AD-23-37683	Institutional and Mission Support	View Signed Agreement
560	37441	CHEVAL DE FEU AEROSPACE CORPORATION, DBA LAMONT AEROSPACE	Development of Common On-orbit Research Environment (CORE)	4/10/2023	4/10/2026	Non-Reimbursable	\$66,017	JSC	SAA-XA-22-37441	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
561	37429	Washington University	SHOCK-RECOVERY EXPERIMENTS	6/28/2023	6/28/2025	Reimbursable	\$34,074	JSC	SAA-XI-23-37429	Science	View Signed Agreement
562	37410	The Procter & Gamble Company	Annex 2: Cleaning Clothing in Space	12/16/2022	8/18/2025	Non-Reimbursable	\$154,215	JSC	SAA-EA-20-31321-02	Human Exploration and Operations, Space Technology	View Signed Agreement
563	37378	KBR WYLE SERVICES, LLC	Annex FOUR to HUMAN HEALTH AND PERFORMANCE FACILITIES UTILIZATION	9/6/2022	10/31/2025	Reimbursable	\$76,853	JSC	SAA-SA-21-34167-04	Human Exploration and Operations	View Signed Agreement
564	37290	SPACE EXPLORATION TECHNOLOGIES CORPORATION	NASA Certification of SpaceX Pyrotechnic Materials	1/16/2023	1/16/2028	Reimbursable	\$345,263	JSC	SAA-EA-23-37290	Human Exploration and Operations	View Signed Agreement
565	37214	Sierra Space	MICROMETEROID AND ORBITAL DEBRIS SHIELDING DEVELOPMENT	4/11/2023	10/11/2024	Reimbursable	\$92,945	JSC	SAA-XI-23-37214	Science	View Signed Agreement
566	37124	BAY AREA HOUSTON ECONOMIC PARTNERSHIP	Cooperative and Community Outreach Activities	10/7/2022	10/6/2027	Non-Reimbursable	\$286,194	JSC	SAA-AD-22-37124	Education and/or Public Engagement	View Signed Agreement
567	37113	AXIOM SPACE, INC.	Sabatier Subject Matter Expertise	9/14/2022	3/14/2024	Reimbursable	\$123,072	JSC	SAA-RA-22-36162-03	Human Exploration and Operations	View Signed Agreement
568	37099	VENUS AEROSPACE CORPORATION	Hypersonic Aircraft and Rocket Propulsion Research and Development	12/5/2022	12/5/2024	Reimbursable	\$147,841	JSC	SAA-AA-22-37098-01	Space Technology	View Signed Agreement
569	37098	VENUS AEROSPACE CORPORATION	HYPERSONIC AIRCRAFT & ROCKET PROPULSION RESEARCH, DEVELOPMENT, AND COLLABORATION	11/3/2022	11/2/2025	Reimbursable	\$0	JSC	SAA-AA-22-37098	Space Technology	View Signed Agreement
570	37055	Naval Medical Leader & Professional Development Command	Memorandum of Understanding for Naval Trainee Fellowship	12/1/2022	12/31/2024	Non-Reimbursable	\$257,620	JSC	IAA-SA-23-37055	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
571	37042	UNIVERSITY OF TEXAS AT EL PASO	Digital Engineering Design Center	1/30/2023	1/30/2025	Non-Reimbursable	\$790,712	JSC	SAA-EA-23-37041-01	Human Exploration and Operations, Space Technology, Education and/or Public Engagement	View Signed Agreement
572	37041	UNIVERSITY OF TEXAS AT EL PASO	Collaborative Initiatives in Research, Technology Development, Technology Transfer, Education and Outreach	1/30/2023	1/30/2028	Non-Reimbursable	\$0	JSC	SAA-EA-23-37041	Human Exploration and Operations, Space Technology, Education and/or Public Engagement	View Signed Agreement
573	37016	BLUE ORIGIN, LLC	MMOD Annex to Engineering Analysis and Testing	9/21/2022	9/21/2024	Reimbursable	\$278,197	JSC	SAA-EA-20-29343-21	Science	View Signed Agreement
574	36940	KBR WYLE SERVICES, LLC	Annex FIVE to Human Health and Performance Facilities Utilization Reimbursable SAA	10/12/2022	10/31/2025	Reimbursable	\$69,406	JSC	SAA-SA-21-34167-05	Human Exploration and Operations	View Signed Agreement
575	36832	Pioneer Astronautics	Clear Dust Repelling Coating Testing	7/22/2022	7/22/2025	Non-Reimbursable	\$8,328	JSC	SAA-XA-22-36832	Space Technology	View Signed Agreement
576	36823	Electric Power Systems	Screened Lithium-ion Cells	10/14/2022	10/14/2023	Reimbursable	\$208,050	JSC	SAA-EA-22-36822-01	Human Exploration and Operations	View Signed Agreement
577	36822	Electric Power Systems	Safe Lithium-ion Cells	10/14/2022	10/14/2027	Reimbursable	\$0	JSC	SAA-EA-22-36822	Human Exploration and Operations	View Signed Agreement
578	36811	INTUITIVE MACHINES, LLC	Modal Propellant Gauge Avionics and Flight	8/24/2022	8/24/2025	Non-Reimbursable	\$48,445	JSC	SAA-EA-22-36811	Space Technology	View Signed Agreement
579	36759	BLUE ORIGIN, LLC	Window Design and Development Expertise and Planning	8/1/2022	2/8/2025	Reimbursable	\$215,656	JSC	SAA-EA-20-29343-18	Human Exploration and Operations, Space Technology	View Signed Agreement
580	36724	WILLIAM MARSH RICE UNIVERSITY	Annex to further synergistic educational initiatives	7/14/2022	7/14/2027	Non-Reimbursable	\$68,656	JSC	1	Technology Transfer	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
581	36723	WILLIAM MARSH RICE UNIVERSITY	The Ion STEM Dissemination Program	7/14/2022	7/14/2027	Non-Reimbursable	\$0	JSC	SAA-XA-22-36723	Institutional and Mission Support	View Signed Agreement
582	36635	KBR WYLE SERVICES, LLC	Annex THREE to HUMAN HEALTH AND PERFORMANCE FACILITIES UTILIZATION	7/7/2022	10/31/2025	Reimbursable	\$86,208	JSC	SAA-SA-21-34167-03	Human Exploration and Operations	View Signed Agreement
583	36612	AXIOM SPACE, INC.	Propulsion Systems Design Consulting, Analysis, and Test Support	8/4/2022	2/4/2024	Reimbursable	\$381,966	JSC	SAA-RA-22-36162-02	Human Exploration and Operations	View Signed Agreement
584	36554	CENTERS FOR DISEASE CONTROL AND PREVENTION	Memorandum of Agreement for Biomedical Research Between the National Aeronautics and Space Administration Lyndon B. Johnson Space Center and the Centers for Disease Control and Prevention National Center for Emerging and Zoonotic Infectious Diseases	8/2/2022	8/1/2027	Non-Reimbursable	\$100,547	JSC	IAA-SA-22-36554	Human Exploration and Operations	View Signed Agreement
585	36519	TEXAS PARKS AND WILDLIFE DEPARTMENT	Non-Reimbursable Space Act Agreement With Texas Parks And Wildlife Department	6/28/2022	10/1/2026	Non-Reimbursable	\$8,218	JSC	SAA-JA-22-36519	Education and/or Public Engagement	View Signed Agreement
586	36471	Texas Southern University	Technology Research Initiatives	7/8/2022	7/8/2027	Non-Reimbursable	\$0	JSC	SAA-XA-22-36471	Technology Transfer	View Signed Agreement
587	36465	THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON, ON BEHALF OF ITS SCHOOL OF PUBLIC HEALTH	Annex-1 Under Nonreimbursable Umbrella SAA Between NASA JSC and the UT Health Science Center at Houston, on Behalf of its School of Public Health, for Research and Educational Activities	9/22/2022	9/21/2027	Non-Reimbursable	\$20,175	JSC	SAA-SA-22-36464-01	Science, Education and/or Public Engagement	View Signed Agreement
588	36464	THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER	Nonreimbursable Umbrella Space Act Agreement Between NASA JSC and the UT Health Science Center at Houston, on Behalf of its School of Public Health for Research and Education	9/22/2022	9/21/2027	Non-Reimbursable	\$0	JSC	SAA-SA-22-36464	Science, Education and/or Public Engagement	View Signed Agreement
589	36463	WILLIAM MARSH RICE UNIVERSITY	Annex-1 Nonreimbursable Space Act Agreement Between the National Aeronautics and Space Administration Lyndon B. Johnson Space Center and William Marsh Rice University for Collaborative Research, Education and Outreach Activities	8/22/2022	8/17/2027	Non-Reimbursable	\$49,122	JSC	SAA-AD-22-36462-01	Science, Education and/or Public Engagement	View Signed Agreement
590	36462	WILLIAM MARSH RICE UNIVERSITY	Nonreimbursable Space Act Umbrella Agreement Between the National Aeronautics and Space Administration Lyndon B. Johnson Space Center and William Marsh Rice University for Collaborative Research, Education and Outreach Activities	8/18/2022	8/17/2027	Non-Reimbursable	\$0	JSC	SAA-AD-22-36462	Science, Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
591	36438	SPACE EXPLORATION TECHNOLOGIES CORPORATION	NON-NASA MISSIONS AND COMMERCIAL SPACE SYSTEM DEVELOPMENTS	8/25/2022	7/14/2026	Reimbursable	\$7,135,420	JSC	SAA-UA-21-34284-02	Human Exploration and Operations	View Signed Agreement
592	36359	INTUITIVE MACHINES, LLC	Loan of Propellant Tanks	5/2/2022	5/2/2024	Non-Reimbursable	\$2,791	JSC	SAA-EA-22-36359	Space Technology	View Signed Agreement
593	36332	The Methodist Hospital	Nonreimbursable Space Act Agreement Between The National Aeronautics and Space Administration Lyndon B. Johnson Space Center and The Methodist Hospital for Orthopedic Sports Medicine Collaboration	7/5/2022	7/5/2027	Non-Reimbursable	\$106,330	JSC	SAA-SA-22-36332	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement
594	36217	Colgate-Palmolive Company	COLLABORATION ON HUMAN PERFORMANCE, INNOVATION & SUSTAINABILITY	5/23/2022	5/23/2027	Non-Reimbursable	\$166,285	JSC	SAA-OZ-22-36217	Human Exploration and Operations	View Signed Agreement
595	36178	Web Vision Centers Group, LLC	Vision diagnostics, testing techniques and devices	9/19/2022	9/18/2027	Non-Reimbursable	\$87,228	JSC	SAA-SA-22-36178	Human Exploration and Operations	View Signed Agreement
596	35985	Alpha Space Test and Research Alliance, LLC	ISS related Commercial Activities	2/3/2022	2/2/2024	Reimbursable	\$30,964	JSC	SAA-UA-23-35985	Human Exploration and Operations	View Signed Agreement
597	35889	TEXAS A&M ENGINEERING EXPERIMENT STATION	Robotics and Related Technologies	4/26/2023	4/26/2025	Reimbursable	\$400,000	JSC	SAA-EA-23-35888-01	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement
598	35888	TEXAS A&M ENGINEERING EXPERIMENT STATION	Collaborative Technology Development, Innovation, and Research	4/24/2023	4/24/2028	Reimbursable	\$0	JSC	SAA-EA-23-35888	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement
599	35807	BLUE ORIGIN, LLC	Commercial Destinations - Free Flyer Phase 1 (Blue Origin)	12/1/2021	12/1/2026	Funded	\$140,000,000	JSC	JSC-UA-21-35807	Human Exploration and Operations	View Signed Agreement
600	35806	Northrop Grumman	Commercial Destinations - Free Flyer Phase 1 (Northrop Grumman)	12/1/2021	10/3/2023	Funded	\$125,600,000	JSC	JSC-UA-21-35806	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
601	35805	NANORACKS, LLC	Commercial Destinations - Free Flyer Phase 1 (Nanoracks)	12/1/2021	12/1/2026	Funded	\$217,500,000	JSC	JSC-UA-21-35805	Human Exploration and Operations	View Signed Agreement
602	35689	BLUE ORIGIN, LLC	Lunar Lander System Technologies	12/13/2021	12/13/2024	Reimbursable	\$1,779,703	JSC	SAA-EA-22-35689	Human Exploration and Operations, Space Technology	View Signed Agreement
603	35680	KBR WYLE SERVICES, LLC	Annex Two NASA NEUTRAL BUOYANCY LABORATORY FACILITY USAGE AGREEMENT	12/6/2021	10/31/2025	Reimbursable	\$23,341	JSC	SAA-SA-21-34167-02	Human Exploration and Operations	View Signed Agreement
604	35569	LifeShip, Inc.	ISS Commercial Activities	1/4/2022	1/3/2024	Reimbursable	\$1,200	JSC	SAA-UA-23-35569	Human Exploration and Operations	View Signed Agreement
605	35557	Texas A&M Engineering Experiment Station	Reimbursable Space Act Agreement Between National Aeronautics and Space Administration and Texas A&M Engineering Experiment Station for Texas Aerospace Scholars	3/25/2022	3/25/2024	Reimbursable	\$999,616	JSC	SAA-AD-22-35557	Education and/or Public Engagement	View Signed Agreement
606	35522	TEXAS A&M UNIVERSITY SYSTEM	Collaborative Activities	5/3/2022	5/3/2024	Non-Reimbursable	\$122,668	JSC	SAA-AD-21-35522-01	Technology Transfer	View Signed Agreement
607	35521	TEXAS A&M UNIVERSITY SYSTEM	Collaborative Activities	5/3/2022	5/3/2025	Non-Reimbursable	\$0	JSC	SAA-AD-21-35521	Education and/or Public Engagement, Technology Transfer	View Signed Agreement
608	35459	Passaic County Technical-Vocational Schools	Programs to inspire the next generation of explorers through hands-on projects for high school students.	3/7/2022	3/6/2027	Non-Reimbursable	\$14,420	JSC	SAA-OA-22-35459	Human Exploration and Operations	View Signed Agreement
609	35410	CYPRESS FAIRBANKS INDEPENDENT SCHOOL DISTRICT	Programs to inspire the next generation of explorers through hands-on projects for high school students.	11/10/2021	11/9/2026	Non-Reimbursable	\$73,892	JSC	SAA-OA-22-35410	Human Exploration and Operations	View Signed Agreement
610	35408	CONROE INDEPENDENT SCHOOL DISTRICT	Programs to inspire the next generation of explorers through hands-on projects for high school students.	12/13/2021	12/12/2026	Non-Reimbursable	\$67,949	JSC	SAA-OA-22-35408	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
611	35401	CLEAR CREEK INDEPENDENT SCHOOL DISTRICT	Programs to inspire the next generation of explorers through hands-on projects for high school students.	12/13/2021	12/12/2026	Non-Reimbursable	\$61,699	JSC	SA-OA-22-35401	Human Exploration and Operations	View Signed Agreement
612	35285	UNIVERSITY OF HOUSTON	FOR HANDLING OF HISTORIC SPACEFLIGHT DOCUMENTS	8/11/2022	8/11/2027	Non-Reimbursable	\$11,349	JSC	SAA-XA-21-35285	Institutional and Mission Support	View Signed Agreement
613	35247	Underwriters Laboratories Inc.	Battery Analysis and Testing	12/17/2021	12/17/2023	Reimbursable	\$200,000	JSC	SAA-EA-22-35247	Human Exploration and Operations	View Signed Agreement
614	35162	Uplift Aerospace	Uplift Aerospace Commercial Activities	11/20/2021	11/19/2023	Reimbursable	\$1,210,000	JSC		Human Exploration and Operations	View Signed Agreement
615	35077	ASTROBOTIC TECHNOLOGY, INC	Guidance Solutions for Griffin Lunar Lander	3/11/2022	9/30/2023	Reimbursable	\$156,578	JSC	SAA-EA-22-35077	Human Exploration and Operations, Space Technology	View Signed Agreement
616	34689	Texas A&M Engineering Experiment Station	Lunar Surface Payload / Early Prototype Testing of Dust Sensor	3/24/2022	3/24/2025	Non-Reimbursable	\$307,406	JSC	SAA-EA-22-34689	Human Exploration and Operations	View Signed Agreement
617	34659	Walter Dorwin Teague Associates, Inc.	Habitat Layout Trade Studies for Analog Missions and Concepts	7/21/2021	7/21/2026	Non-Reimbursable	\$5,303	JSC	SAA-EA-21-34659	Human Exploration and Operations	View Signed Agreement
618	34641	BAY AREA EMERGENCY RESPONDERS	RECIPROCAL USE OF EMERGENCY OPERATIONS CENTERS	6/23/2022	6/23/2027	Non-Reimbursable	\$1,000	JSC	SAA-JA-21-34641	Institutional and Mission Support	View Signed Agreement
619	34640	UNIVERSITY OF HOUSTON	STEM Engagement Activities for Pre-Service Teachers	12/15/2021	12/15/2024	Non-Reimbursable	\$233,082	JSC	SAA-AD-22-34640-01	Education and/or Public Engagement	View Signed Agreement
620	34448	L2 Solutions	SEOPS / Dianna Rae Jewelry	10/9/2021	10/8/2023	Reimbursable	\$120,000	JSC	SAA-UA-21-34448	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
621	34314	Orbit Fab, Inc.	Small Satellite Proximity Operations & Refueling Technologies	6/7/2021	6/7/2025	Non-Reimbursable	\$10,311	JSC	SAA-EA-21-34314	Human Exploration and Operations	View Signed Agreement
622	34284	SPACE EXPLORATION TECHNOLOGIES CORPORATION	COMMERCIAL SPACE SYSTEM OPERATIONS AND DEVELOPMENTS	7/14/2021	7/14/2026	Reimbursable	\$0	JSC	SAA-UA-21-34284		View Signed Agreement
623	34279	U.S. Air Force Academy	ISS Antenna Manager Software Upgrade for United States Air Force Academy Capstone Project	4/30/2021	9/30/2024	Non-Reimbursable	\$15,185	JSC	SAA-CA-21-34279	Space Technology	View Signed Agreement
624	34173	UNIVERSITY OF HOUSTON	Non-Reimbursable Space Act Umbrella Agreement for Collaborative initiatives in research, technology development, technology transfer training, education and outreach	1/14/2022	1/13/2027	Non-Reimbursable	\$0	JSC	SAA-AD-22-34173	Education and/or Public Engagement, Technology Transfer	View Signed Agreement
625	34168	KBR WYLE SERVICES, LLC	ANNEX ONE for HUMAN HEALTH AND PERFORMANCE FACILITIES UTILIZATION	5/26/2021	10/31/2025	Reimbursable	\$691,554	JSC	SAA-SA-21-34167-01	Science	View Signed Agreement
626	34167	KBR WYLE SERVICES, LLC	HUMAN HEALTH AND PERFORMANCE FACILITIES UTILIZATION	5/26/2021	10/31/2025	Reimbursable	\$0	JSC	SAA-SA-21-34167		View Signed Agreement
627	34138	INTUITIVE MACHINES, LLC	Annex 1 to Engineering Analysis and Testing	5/26/2021	12/31/2023	Reimbursable	\$323,606	JSC	SAA-EA-21-34138	Space Technology	View Signed Agreement
628	34137	INTUITIVE MACHINES, LLC	Engineering Analysis and Testing	5/26/2021	5/26/2026	Reimbursable	\$0	JSC	SAA-XA-21-34137	Space Technology	View Signed Agreement
629	33921	Bridgerland Technical College	Programs to inspire the next generation of explorers through hands-on projects for high school students.	10/20/2021	10/19/2026	Non-Reimbursable	\$3,139	JSC	SAA-OA-22-33921	Human Exploration and Operations	View Signed Agreement
630	33915	Highlands College Of Montana Tech	Programs to inspire the next generation of explorers through hands-on projects for high school students.	10/13/2021	10/12/2026	Non-Reimbursable	\$3,138	JSC	SAA-OA-22-33915	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
631	33898	Virgin Orbit	Annex to Reimbursable Umbrella Space Act Agreement between NASA Ames Research Center and Virgin Orbit, LLC for Analysis and Simulation of a Transport Aircraft as a Launch Platform	2/11/2021	2/11/2024	Reimbursable	\$77,437	JSC	SAA2-403586	Space Technology	View Signed Agreement
632	33880	COUNTY COLLEGE OF MORRIS	Programs to inspire the next generation of explorers through hands-on projects for high school students.	10/20/2021	10/19/2026	Non-Reimbursable	\$3,138	JSC	SAA-OA-22-33880	Human Exploration and Operations	View Signed Agreement
633	33879	TRI COUNTY REGIONAL VOCATIONAL SCHOOL DISTRICT	Programs to inspire the next generation of explorers through hands-on projects for high school students.	10/18/2021	10/18/2026	Non-Reimbursable	\$3,139	JSC	SAA-OA-22-33879	Human Exploration and Operations	View Signed Agreement
634	33878	BILLINGS PUBLIC SCHOOLS	Programs to inspire the next generation of explorers through hands-on projects for high school students.	11/8/2021	11/7/2026	Non-Reimbursable	\$3,139	JSC	SAA-OA-22-33878	Human Exploration and Operations	View Signed Agreement
635	33872	The University of North Carolina at Charlotte	Collaboration on the Mechanical Failure of Li-Ion Cylindrical Cell	11/5/2021	11/5/2023	Non-Reimbursable	\$94,558	JSC	SAA-EA-22-33872	Human Exploration and Operations	View Signed Agreement
636	33869	LINCOLN TECHNICAL INSTITUTE	LINCOLN TECHNICAL INSTITUTE STUDENTS COLLABORATING WITH NASA UNDER THE HUNCH PROGRAM	10/20/2021	10/19/2026	Non-Reimbursable	\$3,139	JSC	SAA-OA-20-33869	Human Exploration and Operations	View Signed Agreement
637	33848	Amateur Radio on the International Space Station - USA	Amateur Radio on the ISS	3/23/2021	3/23/2026	Reimbursable	\$429,353	JSC		Education and/or Public Engagement	View Signed Agreement
638	33776	Amazon.com Services LLC	Project Kuiper MMOD Risk Assessment	5/19/2021	12/31/2023	Reimbursable	\$1,281,689	JSC	SAA-XI-21-33776	Space Technology	View Signed Agreement
639	33744	Canyon Ridge High School	Programs to inspire the next generation of explorers through hands-on projects for high school students.	8/12/2021	8/11/2026	Non-Reimbursable	\$61,713	JSC	SAA-OA-20-33744	Human Exploration and Operations	View Signed Agreement
640	33709	Expanding Frontiers	Technology Utilization	6/28/2021	6/28/2024	Non-Reimbursable	\$0	JSC	SAA-XB-21-33709	Technology Transfer	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
641	33505	Mass Challenge Houston	COOPERATIVE SPACE COMMERCIALIZATION ACTIVITIES	4/30/2021	4/30/2024	Non-Reimbursable	\$0	JSC	SAA-XA-20-33505	Technology Transfer	View Signed Agreement
642	33386	Houston Cinema Arts Society	Houston Cinema Arts Society (HCAS) CineSpace	10/24/2021	10/24/2026	Non-Reimbursable	\$619,202	JSC		Education and/or Public Engagement	View Signed Agreement
643	33229	United States Coast Guard	USCG Training Operations at the Neutral Buoyancy Laboratory	2/8/2021	2/8/2026	Reimbursable	\$60,000	JSC	SAA-CA-21-33229	Institutional and Mission Support	View Signed Agreement
644	32919	UNIVERSITY OF TEXAS MEDICAL BRANCH	UTMB DIETETIC STUDENT EXPERIENCE AT NASA	8/12/2020	8/12/2025	Non-Reimbursable	\$37,971	JSC	32919	Science	View Signed Agreement
645	32778	Planet	ISS and Planet Operational Agreement	1/5/2021	1/4/2026	Non-Reimbursable	\$42,065	JSC	SAA-CA-21-32778	Human Exploration and Operations	View Signed Agreement
646	32760	Cheval de Feu Aerospace Corporation, dba LaMont Aerospace	FOR LOW-EARTH ORBIT COMMERCIAL SERVICES DEVELOPMENT	2/11/2021	2/10/2026	Non-Reimbursable	\$25,020	JSC	SAA-OZ-21-32760	Human Exploration and Operations	View Signed Agreement
647	32738	Limitless Space Institute	Advanced Power and Propulsion Partnership	4/18/2021	4/18/2026	Reimbursable	\$27,147	JSC	SAA-EA-21-32738	Human Exploration and Operations	View Signed Agreement
648	32690	ARMAND BAYOU NATURE CENTER	Environmental Education Programs	7/23/2020	7/23/2025	Non-Reimbursable	\$19,075	JSC	SAA-JA-32690	Institutional and Mission Support	View Signed Agreement
649	32660	United States Coast Guard, Maritime Safety and Security Team (MSST) 91104	Reciprocal Support During Area Emergencies	7/29/2020	7/29/2025	Non-Reimbursable	\$6,249	JSC	SAA-JA-20-32660	Institutional and Mission Support	View Signed Agreement
650	32425	United States Space Force	NASA Flight Operations/US Space Force Technical Exchange	2/4/2021	2/4/2026	Non-Reimbursable	\$420,643	JSC		Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
651	32418	UNIVERSITY OF TEXAS	Collaboration in Robotics Technology	4/10/2020	3/10/2025	Non-Reimbursable	\$130,206	JSC	SAA-EA-20-32418	Human Exploration and Operations	View Signed Agreement
652	32319	Adidas America, Inc	Annex One for Collaboration on Materials and Technologies	6/16/2020	6/16/2025	Non-Reimbursable	\$10,458	JSC	SAA-OA-20-32319-01	Human Exploration and Operations	View Signed Agreement
653	32253	TECHSHOT, INC	TECHSHOT ISS RESEARCH HARDWARE	5/29/2020	5/29/2025	Non-Reimbursable	\$24,483	JSC	SAA-OZ-20-32253	Human Exploration and Operations	View Signed Agreement
654	32236	Adidas America, Inc	COLLABORATION ON ADVANCED MATERIALS AND TECHNOLOGIES	6/16/2020	6/16/2025	Non-Reimbursable	\$0	JSC	SAA-OA-20-32236	Human Exploration and Operations	View Signed Agreement
655	32208	Baylor University	Baylor University and NASA Collaboration to Enhance Imagery from Space	1/15/2021	1/15/2026	Non-Reimbursable	\$60,708	JSC		Education and/or Public Engagement	View Signed Agreement
656	32079	WOUNDED WARRIOR PROJECT	HOUSTON SOLDIER RIDE	3/31/2020	3/31/2025	Non-Reimbursable	\$7,270	JSC	SAA-JA-20-32079	Education and/or Public Engagement	View Signed Agreement
657	32042	Baylor University	SPACE IMAGERY AND OUTREACH TECHNOLOGIES, SCIENCE AND ENGINEERING RESEARCH, AND STEM INITIATIVES.	1/15/2021	1/15/2026	Non-Reimbursable	\$0	JSC	SAA-OA-20-32042	Institutional and Mission Support	View Signed Agreement
658	32031	JOHNSON SPACE CENTER RADIO CONTROL CLUB	NON-REIMBURSABLE SPACE ACT FOR RADIO CONTROLLED AIRPLANE OPERATIONS	5/7/2020	5/7/2025	Non-Reimbursable	\$6,061	JSC	SAA-JA-20-32031	Institutional and Mission Support	View Signed Agreement
659	31994	Collaborative Composites Solutions Corporation	Annex 2 - Development of Additive Manufacturing Techniques for Spacecraft Structures and Heat Shields	3/26/2020	3/15/2024	Non-Reimbursable	\$78,286	JSC	SAA-EA-20-31994	Human Exploration and Operations	View Signed Agreement
660	31987	Chemring Energetic Devices	Development of Next Generation Ordnance Initiating System Architecture & Design	7/20/2020	7/20/2025	Non-Reimbursable	\$201,686	JSC	SAA-EA-20-31987	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
661	31729	TECHNOLOGY COLLABORATION CENTER	Collaboration & Partnership Development Initiative	8/11/2020	8/11/2025	Non-Reimbursable	\$138,761	JSC	SAA-XA-20-31729	Technology Transfer	View Signed Agreement
662	31717	VIRGIN GALACTIC, LLC	Virgin Galactic Private Astronaut Mission	5/15/2020	5/15/2025	Non-Reimbursable	\$27,095	JSC	SAA-OA-20-31717	Human Exploration and Operations	View Signed Agreement
663	31714	TEXAS INSTRUMENTS, INC	Non-Reimbursable Space Act Umbrella Agreement for Strategic Alliance for STEM Engagement and Outreach Activities	3/17/2020	3/17/2025	Non-Reimbursable	\$0	JSC	SAA-AD-20-31714	Education and/or Public Engagement	View Signed Agreement
664	31386	UNIVERSITY OF ILLINOIS	Aero-capture and Atmospheric Entry, Descent, and Landing Guidance, Navigation, and Control (GN&C)	2/28/2020	2/28/2025	Non-Reimbursable	\$29,056	JSC	SAA-EA-20-31386	Human Exploration and Operations	View Signed Agreement
665	31321	The Procter & Gamble Company	Cleaning in Space	8/18/2020	8/18/2025	Non-Reimbursable	\$0	JSC	SAA-EA-20-31321	Human Exploration and Operations	View Signed Agreement
666	31150	UNIVERSITY OF TEXAS	Hypersonic Environment and Material Response Testing and Research	3/10/2020	3/10/2025	Non-Reimbursable	\$81,372	JSC	SAA-EA-20-31150	Human Exploration and Operations	View Signed Agreement
667	31149	UNIVERSITY OF TEXAS	Collaborative Research, Technology Transfer, Education and Outreach Activities	3/10/2020	3/10/2025	Non-Reimbursable	\$0	JSC	SAA-EA-20-31149	Human Exploration and Operations	View Signed Agreement
668	31124	HOUSTON INDEPENDENT SCHOOL DISTRICT	Annex 02 to Reimbursable Space Act Agreement for Collaboration for STEM Engagement, Education, and Community Outreach Activities	11/15/2019	6/30/2024	Reimbursable	\$1,634,566	JSC	SAA-AD-18-27594-02	Education and/or Public Engagement	View Signed Agreement
669	31088	Meridian Technology Center	Programs to inspire the next generation of explorers through hands-on projects for high school students.	8/12/2021	8/12/2026	Non-Reimbursable	\$22,752	JSC	SAA-OA-21-31088	Human Exploration and Operations	View Signed Agreement
670	31078	Oliver Ames High School	Programs to inspire the next generation of explorers through hands-on projects for high school students.	8/12/2021	8/12/2026	Non-Reimbursable	\$16,206	JSC	SAA-OA-21-31078	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
671	30784	WILLIAM MARSH RICE UNIVERSITY	HUMANOID ROBOTICS AND RELATED TECHNOLOGIES	3/10/2020	3/10/2025	Reimbursable	\$8,440,428	JSC	SAA-EA-20-30784	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement
672	30783	WILLIAM MARSH RICE UNIVERSITY	COLLABORATIVE TECHNOLOGY DEVELOPMENT, INNOVATION, AND RESEARCH	3/10/2020	3/10/2025	Reimbursable	\$0	JSC	SAA-EA-20-30783	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement
673	30679	NANORACKS, LLC	OPERATION OF THE NANORACKS SYSTEM ABOARD THE INTERNATIONAL SPACE STATION	7/31/2019	7/31/2024	Non-Reimbursable	\$24,597	JSC		Human Exploration and Operations	View Signed Agreement
674	30388	Katy Independent School District	MEMORANDUM OF AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYNDON B. JOHNSON SPACE CENTER AND KATY INDEPENDENT SCHOOL DISTRICT FOR NASA CONTINUITY OF OPERATIONS PROGRAM	9/30/2019	9/30/2024	Non-Reimbursable	\$0	JSC	SAA-JA-20-30388	Institutional and Mission Support	View Signed Agreement
675	30119	GENERAL MOTORS, LLC	Engineering Analysis and Testing for Advanced Technology Development	1/27/2020	1/27/2025	Reimbursable	\$0	JSC	SAA-EA-19-30119	Human Exploration and Operations	View Signed Agreement
676	29865	Manned Space Flight Education Foundation, Inc.	NON-REIMBURSABLE SAA WITH MANNED SPACEFLIGHT EDUCATION FOUNDATION, INC. FOR COLLABORATIVE EDUCATION AND OUTREACH ACTIVITIES	7/15/2019	7/15/2024	Non-Reimbursable	\$3,095	JSC	SAA-AD-19-29865	Education and/or Public Engagement	View Signed Agreement
677	29823	Underwriters Laboratories Inc.	Engineering Analysis and Testing for Advanced Technology Development	7/3/2019	7/3/2024	Reimbursable	\$0	JSC	SAA-EA-19-29823	Human Exploration and Operations	View Signed Agreement
678	29812	RED.com, Inc.	RED Digital Cinema Core Camera for ISS	1/23/2020	1/23/2025	Non-Reimbursable	\$1,271,505	JSC	29812	Education and/or Public Engagement	View Signed Agreement
679	29741	Ogemaw Heights High School	HIGH SCHOOL STUDENTS COLLABORATING WITH NASA TO PRODUCE HARDWARE OR OTHER USEFUL PRODUCTS UNDER THE HUNCH (HIGH SCHOOL STUDENTS UNITED WITH NASA TO CREATE HARDWARE) PROGRAM	9/23/2021	9/22/2026	Non-Reimbursable	\$6,516	JSC	SAA-OA-21-29741	Human Exploration and Operations	View Signed Agreement
680	29738	Delta Schoolcraft Intermediate School District	High School Students United with NASA to Create Hardware (HUNCH)	9/24/2021	9/23/2026	Non-Reimbursable	\$6,516	JSC	SAA-OA-19-29738	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
681	29511	The Cannon	MARS SHOT ACCELERATION PROGRAM	6/28/2022	6/28/2024	Non-Reimbursable	\$18,882	JSC	SAA-XT-19-29511	Technology Transfer	View Signed Agreement
682	29456	Houston Exponential	Cooperative Community Outreach Activities	6/6/2019	6/6/2024	Non-Reimbursable	\$227,792	JSC	SAA-XA-19-29456	Technology Transfer	View Signed Agreement
683	29452	Collaborative Composites Solutions Corporation	Collaboration for Advanced Manufacturing Techniques	3/15/2019	3/15/2024	Non-Reimbursable	\$0	JSC	SAA-EA-19-29452	Human Exploration and Operations	View Signed Agreement
684	29366	Axiom Space, Inc.	Flight Operations Directorate Axiom Training	9/23/2019	8/27/2024	Reimbursable	\$3,493,353	JSC	SAA-OA-19-29366-01	Space Technology	View Signed Agreement
685	29365	Axiom Space, Inc.	Low-Earth Orbit Commercial Development Utilizing the ISS	8/27/2019	8/27/2024	Reimbursable	\$0	JSC	SAA-19-OA-29365	Space Technology	View Signed Agreement
686	29343	BLUE ORIGIN, LLC	Engineering Analysis and Testing	2/8/2020	2/8/2025	Reimbursable	\$0	JSC	SAA-EA-20-29343	Human Exploration and Operations	View Signed Agreement
687	28973	SGT, LLC	NASA JSC/SGT Vendor Partner Agreement	9/10/2019	9/10/2024	Reimbursable	\$84,607	JSC	SAA-CA-19-28973	Human Exploration and Operations	View Signed Agreement
688	28812	UNIVERSITY OF HOUSTON	SAA with University of Houston for Collaborative Research, Technology Transfer, Education and Outreach Activities	11/5/2018	11/5/2023	Non-Reimbursable	\$0	JSC	SAA-CA-19-28812	Human Exploration and Operations	View Signed Agreement
689	28679	Ben Barber Innovation Academy	High School Students United with NASA to Create Hardware (HUNCH) Program	10/3/2018	10/2/2023	Non-Reimbursable	\$14,111	JSC	SAA-OZ-18-28679	Human Exploration and Operations	View Signed Agreement
690	28672	LOCKHEED MARTIN	INTEGRATION AND OPERATIONS SUPPORT RELATED TO THE EM-1 CREW INTERFACE TECHNOLOGY PAYLOAD	12/17/2018	12/17/2023	Reimbursable	\$3,122,796	JSC	SAA-GA-18-28672	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
691	28527	N-SCIENCE, INC	Asteroid Exploration Mission Concept Development	8/20/2019	8/20/2025	Non-Reimbursable	\$12,395	JSC	SAA-XA-19-28527	Human Exploration and Operations, Science	View Signed Agreement
692	28383	Ross Aviation Operations LLC	A/M32A-60 "Dash 60" Jet Starter Loan to Ross Aviation	10/3/2018	10/2/2023	Non-Reimbursable	\$5,950	JSC	SAA-CA-18 28383	Human Exploration and Operations	View Signed Agreement
693	28378	BIVACOR Inc.	SAFETY, RELIABILITY, AND ENGINEERING ANALYSES OF THE BIVACOR TOTAL ARTIFICIAL HEART	10/1/2019	10/1/2024	Reimbursable	\$0	JSC	SAA-NA-20-28378	Institutional and Mission Support	View Signed Agreement
694	28358	New York Space Alliance	The Fostering of Space Entrepreneurship	10/5/2018	10/5/2023	Non-Reimbursable	\$0	JSC	SAA-XB-18-28358	Technology Transfer	View Signed Agreement
695	28182	SOUTHWEST RESEARCH INSTITUTE	Commercialization of NASA's NASGRO Software	11/21/2018	11/21/2023	Non-Reimbursable	\$196,654	JSC	SAA-EA-18-28182	Space Technology	View Signed Agreement
696	27894	Space Family Education, Inc	Aaron Cohen Child Care Center	6/27/2019	6/27/2024	Non-Reimbursable	\$2,034,364	JSC	SAA-XA-18-27894	Institutional and Mission Support	View Signed Agreement
697	27634	University of Houston-Clear Lake	Umbrella for Collaborative Research, Technology Transfer, and Education Activities	8/23/2019	8/23/2024	Non-Reimbursable	\$0	JSC	SAA-XA-19-27634	Institutional and Mission Support	View Signed Agreement
698	27594	HOUSTON INDEPENDENT SCHOOL DISTRICT	Reimbursable Space Act Umbrella Agreement for the Collaboration for STEM Engagement, Education, and Community Outreach Activities	8/28/2018	6/30/2024	Reimbursable	\$0	JSC	SAA-AD-18-27594	Education and/or Public Engagement	View Signed Agreement
699	26023	Raytheon Intelligence, Information and Services	Annex 5 Authorizing Clean Room, Animation, Manufacturing, and Other General Commercialization Activities Under the Neutral Buoyancy Laboratory (NBL) Operations Contract (NOC)	10/18/2017	9/30/2024	Reimbursable	\$250,000	JSC	SAA-CA-17-26023-5	Institutional and Mission Support	View Signed Agreement
700	26021	Raytheon Intelligence, Information and Services	Annex 4 Authorizing Support for Department of Defense Diving and Other Commercialization Activities Under the Neutral Buoyancy Laboratory (NBL) Operations Contract (NOC)	9/27/2017	9/30/2024	Reimbursable	\$750,000	JSC	SAA-CA-17-26021-04	Institutional and Mission Support	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
701	26017	Raytheon Intelligence, Information and Services	Annex 3 Authorizing Remotely Operated Vehicles (ROVs) and Autonomous Underwater Vehicles (AUVs) Commercialization Activities Under the Neutral Buoyancy Laboratory (NBL) Operations Contract (NOC)	9/27/2017	9/30/2024	Reimbursable	\$2,000,000	JSC	SAA-CA-17-26017-03	Institutional and Mission Support	View Signed Agreement
702	26016	Raytheon Intelligence, Information and Services	Annex 2 Authorizing Non-Destructive Testing Commercialization Activities Under the Neutral Buoyancy Laboratory (NBL) Operations Contract (NOC)	9/27/2017	9/30/2024	Reimbursable	\$15,000,000	JSC	SAA-CA-17-26016-02	Institutional and Mission Support	View Signed Agreement
703	26007	Raytheon Intelligence, Information and Services	Annex 1 Authorizing Safety, Survival, Emergency Response, and Leadership Training as Commercialization Activities Under the Neutral Buoyancy Laboratory (NBL) Operations Contract (NOC)	9/27/2017	9/30/2024	Reimbursable	\$4,900,000	JSC	SAA-CA-17-26007-01	Institutional and Mission Support	View Signed Agreement
704	26006	Raytheon Intelligence, Information and Services	Umbrella Agreement Authorizing Commercialization Activities Under the Neutral Buoyancy Laboratory (NBL) Operations Contract (NOC) Contract	9/27/2017	9/30/2024	Reimbursable	\$0	JSC	SAA-CA-17-26006	Institutional and Mission Support	View Signed Agreement
705	39643	Space Exploration Technologies Corporation	KCA-4722-17 Rev Basic, Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	9/28/2023	12/31/2025	Reimbursable	\$246,749,951	KSC	KCA-4722-17 Rev Basic	Human Exploration and Operations	View Signed Agreement
706	39639	THE BOEING COMPANY	KCA-4735-6, Rev Basic Annex 6 Reimbursable Umbrella SAA between the NASA KSC and The Boeing Company for Use of Center Capabilities	9/28/2023	9/22/2028	Reimbursable	\$9,284	KSC	KCA-4735-6 Rev Basic	Institutional and Mission Support	View Signed Agreement
707	39636	THE BOEING COMPANY	KCA-4735-5, Rev Basic Annex 5 Reimbursable Umbrella SAA between the NASA KSC and The Boeing Company for Use of Center Capabilities	9/27/2023	9/22/2028	Reimbursable	\$3,639,528	KSC	KCA-4735-5 Rev Basic	Institutional and Mission Support	View Signed Agreement
708	39633	THE BOEING COMPANY	KCA-4735-4, Rev Basic Annex 4 Reimbursable Umbrella SAA between the NASA KSC and The Boeing Company for Use of Center Capabilities	9/27/2023	9/22/2028	Reimbursable	\$30,046	KSC	KCA-4735-4 Rev Basic	Institutional and Mission Support	View Signed Agreement
709	39632	THE BOEING COMPANY	KCA-4735-3, Rev Basic Annex 3 Reimbursable Umbrella SAA between the NASA KSC and The Boeing Company for Use of Center Capabilities	9/27/2023	9/22/2028	Reimbursable	\$44,882	KSC	KCA-4735-3 Rev Basic	Institutional and Mission Support	View Signed Agreement
710	39631	THE BOEING COMPANY	KCA-4735-2, Rev Basic Annex 2 Reimbursable Umbrella SAA between the NASA KSC and The Boeing Company for Use of Center Capabilities	9/27/2023	9/22/2028	Reimbursable	\$56,155	KSC	KCA-4735-2 Rev Basic	Institutional and Mission Support	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
711	39471	Engineering Research and Consulting, Inc.	KCA-4740-6, Rev Basic Annex 6 Under Reimbursable Space Act Agreement (RSAA) Umbrella with Engineering Research and Consulting, Inc. (ERC) for Contractor 3rd Party Work (C3PW)	9/6/2023	12/31/2023	Reimbursable	\$1,204	KSC	KCA-4740-6 Rev Basic	Institutional and Mission Support	View Signed Agreement
712	39387	Engineering Research and Consulting, Inc.	KCA-4740-5 Rev. Basic, Annex 5 to KCA-4740, Rev Basic Umbrella Reimbursable Space Act Agreement (RSAA) with Engineering Research and Consulting, Inc. (ERC) for Contractor 3rd Party Work (C3PW)	9/6/2023	9/30/2024	Reimbursable	\$298	KSC	KCA-4740-5 Rev Basic	Institutional and Mission Support	View Signed Agreement
713	39272	Relativity Space, Inc.	KCA-4678-8 Rev. Basic, Annex 8 under Reimbursable Space Act Agreement (RSAA) Umbrella Between Relativity Space, Inc. and NASA Kennedy Space Center for Use of Center Capabilities	8/10/2023	9/30/2024	Reimbursable	\$87,501	KSC	KCA-4678-8 Rev Basic	Human Exploration and Operations	View Signed Agreement
714	39138	SPACE FLORIDA	KCA-4723-7, Rev Basic for Reimbursable Umbrella SAA between the NASA KSC and Space Florida for Use of Center Capabilities	7/10/2023	6/30/2028	Reimbursable	\$61,885	KSC	KCA-4723-7 Rev Basic	Institutional and Mission Support	View Signed Agreement
715	39137	SPACE FLORIDA	KCA-4723-6, Rev Basic for Reimbursable Umbrella SAA between the NASA KSC and Space Florida for Use of Center Capabilities	7/10/2023	6/30/2028	Reimbursable	\$241,449	KSC	KCA-4723-6 Rev Basic	Institutional and Mission Support	View Signed Agreement
716	39135	SPACE FLORIDA	KCA-4723-5, Rev Basic for Reimbursable Umbrella SAA between the NASA KSC and Space Florida for Use of Center Capabilities	7/10/2023	6/30/2028	Reimbursable	\$388,748	KSC	KCA-4723-5 Rev Basic	Institutional and Mission Support	View Signed Agreement
717	39134	SPACE FLORIDA	KCA-4723-4, Rev Basic for Reimbursable Umbrella SAA between the NASA KSC and Space Florida for Use of Center Capabilities	7/13/2023	6/30/2028	Reimbursable	\$566,331	KSC	KCA-4723-4 Rev Basic	Institutional and Mission Support	View Signed Agreement
718	39133	SPACE FLORIDA	KCA-4723-3, Rev Basic for Reimbursable Umbrella SAA between the NASA KSC and Space Florida for Use of Center Capabilities	7/10/2023	6/30/2028	Reimbursable	\$112,083	KSC	KCA-4723-3 Rev Basic	Institutional and Mission Support	View Signed Agreement
719	39127	SPACE FLORIDA	KCA-4723-2, Rev Basic for Reimbursable Umbrella SAA between the NASA KSC and Space Florida for Use of Center Capabilities	7/10/2023	6/30/2028	Reimbursable	\$11,872,768	KSC	KCA-4723-2 Rev Basic	Institutional and Mission Support	View Signed Agreement
720	39083	POLK STATE COLLEGE	KCA-4750 Rev Basic, Non-Reimbursable Space Act Agreements for High School Students United with NASA to Create Hardware (HUNCH) Program Participation with Polk State College	9/29/2023	9/28/2028	Non-Reimbursable	\$183,198	KSC	KCA-4750 Rev Basic	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
721	39060	Engineering Research and Consulting, Inc.	KCA-4740-4 Rev. Basic, Annex 4 to KCA-4740, Rev Basic Umbrella Reimbursable Space Act Agreement (RSAA) with Engineering Research and Consulting, Inc. (ERC) for Contractor 3rd Party Work (C3PW)	8/30/2023	12/31/2023	Reimbursable	\$3,506	KSC	KCA-4740-4 Rev Basic	Institutional and Mission Support	View Signed Agreement
722	38992	WINSTON-SALEM STATE UNIVERSITY	KCA-4754-2, Rev. Basic Annex 2 to Nonreimbursable Umbrella Space Act Agreement with Winston-Salem State University (WSSU) for Databasing Activities	9/15/2023	9/15/2028	Non-Reimbursable	\$66,295	KSC	KCA-4754-2 Rev. Basic	Science	View Signed Agreement
723	38867	WINSTON-SALEM STATE UNIVERSITY	KCA-4754-1, Rev. Basic Annex 1 to Nonreimbursable Umbrella Space Act Agreement with Winston-Salem State University for Microbiomes and Regolith Research Activities	9/15/2023	9/15/2028	Non-Reimbursable	\$66,295	KSC	KCA-4754-1 Rev. Basic	Science	View Signed Agreement
724	38866	WINSTON-SALEM STATE UNIVERSITY	KCA-4754 Rev. Basic Nonreimbursable Umbrella Space Act Agreement with Winston-Salem State University (WSSU) for Space Crop Production Collaborative Activities	9/15/2023	9/15/2028	Non-Reimbursable	\$0	KSC	KCA-4754 Rev. Basic	Science	View Signed Agreement
725	38830	Space Exploration Technologies Corporation	KCA-4722-16 Rev Basic, Annex 16 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	4/28/2023	9/30/2023	Reimbursable	\$40,183,745	KSC	KCA-4722-16 Rev Basic	Human Exploration and Operations	View Signed Agreement
726	38794	Space Exploration Technologies Corporation	KCA-4722-15 Rev Basic, Annex 15 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	5/15/2023	11/15/2027	Reimbursable	\$49,916	KSC	KCA-4722-15 Rev Basic	Human Exploration and Operations	View Signed Agreement
727	38789	PAE-SGT Partners LLC	KCA-4608-3 Rev Basic, Annex 3 to Fully Reimbursable Umbrella SAA between NASA and PAE-SGT Partners LLC for C3PW	5/16/2023	9/30/2024	Reimbursable	\$19,310	KSC	KCA-4608-3 Rev Basic	Institutional and Mission Support	View Signed Agreement
728	38668	Space Exploration Technologies Corporation	KCA-4722-10 Rev Basic, Annex 10 under Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	4/6/2023	11/15/2027	Reimbursable	\$95,833	KSC	KCA-4722-10 Rev. Basic	Human Exploration and Operations	View Signed Agreement
729	38660	Engineering Research and Consulting, Inc.	KCA-4740-2, Rev Basic Annex 2 Under Reimbursable Space Act Agreement (RSAA) Umbrella with Engineering Research and Consulting, Inc. (ERC) for Contractor 3rd Party Work (C3PW)	4/25/2023	4/30/2024	Reimbursable	\$675	KSC	KCA-4740-2 Rev Basic	Institutional and Mission Support	View Signed Agreement
730	38560	Space Exploration Technologies Corporation	KCA-4722-13 Rev Basic, Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	7/18/2023	11/15/2027	Reimbursable	\$137,762	KSC	KCA-4722-13 Rev Basic	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
731	38549	Engineering Research and Consulting, Inc.	KCA-4740-1, Rev Basic Annex 1 Under Reimbursable Space Act Agreement (RSAA) Umbrella with Engineering Research and Consulting, Inc. (ERC) for Contractor 3rd Party Work (C3PW)	4/7/2023	4/30/2024	Reimbursable	\$5,121	KSC	KCA-4740-1 Rev Basic	Institutional and Mission Support	View Signed Agreement
732	38548	Engineering Research and Consulting, Inc.	KCA-4740, Rev Basic Umbrella Reimbursable Space Act Agreement (RSAA) with Engineering Research and Consulting, Inc. (ERC) for Contractor 3rd Party Work (C3PW)	4/7/2023	9/30/2024	Reimbursable	\$0	KSC	KCA-4740 Rev Basic	Institutional and Mission Support	View Signed Agreement
733	38366	AIRBUS U.S. SPACE AND DEFENSE, INC	KCA-4731-1 Revision Basic, Annex 1 under Reimbursable Umbrella SAA between the National Aeronautics and Space Administration John F. Kennedy Space Center and Airbus U.S. Space and Defense, Inc.	5/5/2023	5/4/2028	Reimbursable	\$226,491	KSC	KCA-4731-1 Rev Basic	Institutional and Mission Support	View Signed Agreement
734	38365	AIRBUS U.S. SPACE AND DEFENSE, INC	KCA-4731 Revision Basic, for Reimbursable Umbrella SAA between the National Aeronautics and Space Administration John F. Kennedy Space Center and Airbus U.S. Space and Defense, Inc.	5/5/2023	5/4/2028	Reimbursable	\$0	KSC	KCA-4731 Rev Basic	Institutional and Mission Support	View Signed Agreement
735	38273	THE BOEING COMPANY	KCA-4735-1, Rev Basic Annex 1 for Reimbursable Umbrella SAA between the NASA KSC and The Boeing Company for Use of Center Capabilities	9/22/2023	9/22/2028	Reimbursable	\$1,201,720	KSC	KCA-4735-1 Rev. Basic	Institutional and Mission Support	View Signed Agreement
736	38272	THE BOEING COMPANY	KCA-4735, Rev. Basic Reimbursable Umbrella SAA between the NASA KSC and The Boeing Company for Use of Center Capabilities	9/22/2023	9/22/2028	Reimbursable	\$0	KSC	KCA-4735 Rev. Basic	Institutional and Mission Support	View Signed Agreement
737	38267	Firefly Aerospace Inc.	KCA-4671-2, Rev. Basic Annex 2 under Fully Reimbursable Umbrella SAA Between NASA KSC and Firefly Aerospace Inc. for Use of Center Capabilities	4/21/2023	3/1/2026	Reimbursable	\$44,263	KSC	KCA-4671-2 Rev Basic	Human Exploration and Operations	View Signed Agreement
738	38156	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-9 Rev Basic Annex 9 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	2/23/2023	1/25/2028	Reimbursable	\$213,929	KSC	KCA-4726-9 Rev Basic	Human Exploration and Operations	View Signed Agreement
739	38155	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-8 Rev Basic Annex 8 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	2/23/2023	1/25/2028	Reimbursable	\$84,877	KSC	KCA-4726-8 Rev Basic	Human Exploration and Operations	View Signed Agreement
740	38154	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-7 Rev Basic Annex 7 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	2/16/2023	1/25/2028	Reimbursable	\$2,081,093	KSC	KCA-4726-7 Rev Basic	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
741	38153	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-6 Rev Basic Annex 6 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	2/16/2023	1/25/2028	Reimbursable	\$75,778	KSC	KCA-4726-6 Rev Basic	Human Exploration and Operations	View Signed Agreement
742	38152	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-5 Rev Basic Annex 5 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	2/16/2023	1/25/2028	Reimbursable	\$347,681	KSC	KCA-4726-5 Rev Basic	Human Exploration and Operations	View Signed Agreement
743	38151	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-4 Rev Basic Annex 4 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	2/13/2023	1/25/2028	Reimbursable	\$17,204	KSC	KCA-4726-4 Rev Basic	Human Exploration and Operations	View Signed Agreement
744	38150	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-3 Rev Basic Annex 3 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	2/13/2023	1/25/2028	Reimbursable	\$399,137	KSC	KCA-4726-3 Rev Basic	Human Exploration and Operations	View Signed Agreement
745	38149	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-2 Rev Basic Annex 2 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	2/21/2023	1/25/2028	Reimbursable	\$314,684,615	KSC	KCA-4726-2 Rev Basic	Human Exploration and Operations	View Signed Agreement
746	37908	United States Department of the Air Force	KCA-4724, Rev Basic for Nonreimbursable IAA between the NASA KSC and AFRL for Supporting the Air Force Development of Plasma Waste Handling Systems for Forward Operating Bases	3/22/2023	3/21/2026	Non-Reimbursable	\$9,140	KSC	KCA-4724 Rev Basic	Science, Technology Transfer	View Signed Agreement
747	37885	Space Exploration Technologies Corporation	KCA-4722-12 Rev Basic, Annex 12 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/8/2022	3/31/2024	Reimbursable	\$16,942,902	KSC	KCA-4722-12 Rev Basic	Human Exploration and Operations	View Signed Agreement
748	37884	Space Exploration Technologies Corporation	KCA-4722-14 Rev Basic, Annex 14 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/1/2022	11/15/2027	Reimbursable	\$3,824	KSC	KCA-4722-14 Rev Basic	Human Exploration and Operations	View Signed Agreement
749	37883	Space Exploration Technologies Corporation	KCA-4722-9 Rev Basic, Annex 9 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/1/2022	11/15/2027	Reimbursable	\$745,711	KSC	KCA-4722-9 Rev Basic	Human Exploration and Operations	View Signed Agreement
750	37882	Space Exploration Technologies Corporation	KCA-4722-11 Rev Basic, Annex 11 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/1/2022	11/15/2027	Reimbursable	\$35,125	KSC	KCA-4722-11 Rev Basic	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
751	37881	Space Exploration Technologies Corporation	KCA-4722-7 Rev Basic, Annex 7 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/1/2022	11/15/2027	Reimbursable	\$592,427	KSC	KCA-4722-7 Rev Basic	Human Exploration and Operations	View Signed Agreement
752	37880	Space Exploration Technologies Corporation	KCA-4722-5 Rev Basic, Annex 5 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/8/2022	11/15/2027	Reimbursable	\$41,172,805	KSC	KCA-4722-5 Rev Basic	Human Exploration and Operations	View Signed Agreement
753	37879	Space Exploration Technologies Corporation	KCA-4722-4 Rev Basic, Annex 4 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/8/2022	11/15/2027	Reimbursable	\$4,396,660	KSC	KCA-4722-4 Rev Basic	Human Exploration and Operations	View Signed Agreement
754	37875	Space Exploration Technologies Corporation	KCA-4722-8 Rev Basic, Annex 8 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/1/2022	11/15/2027	Reimbursable	\$461,627	KSC	KCA-4722-8 Rev Basic	Institutional and Mission Support	View Signed Agreement
755	37874	Space Exploration Technologies Corporation	KCA-4722-6 Rev Basic, Annex 6 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/1/2022	11/15/2027	Reimbursable	\$70,430	KSC	KCA-4722-6 Rev Basic	Institutional and Mission Support	View Signed Agreement
756	37873	Space Exploration Technologies Corporation	KCA-4722-3 Rev Basic, Annex 3 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/1/2022	11/15/2027	Reimbursable	\$91,652	KSC	KCA-4722-3 Rev Basic	Institutional and Mission Support	View Signed Agreement
757	37872	Space Exploration Technologies Corporation	KCA-4722-2 Rev Basic, Annex 2 to Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	12/1/2022	11/15/2027	Reimbursable	\$674,543	KSC	KCA-4722-2 Rev Basic	Institutional and Mission Support	View Signed Agreement
758	37821	RELATIVITY SPACE, INC	KCA-4678-7 Rev Basic, Annex to Umbrella Agreement Between KSC and Relativity Space, Inc. for Use of Center Capabilities	12/8/2022	9/30/2024	Reimbursable	\$11,214	KSC	KCA-4678-7 Rev Basic	Human Exploration and Operations	View Signed Agreement
759	37802	Rocket Crafters, Inc	KCA-4700-2 Rev Basic, Annex 2 to Umbrella Agreement Between KSC and Rocket Crafters for Use of Center Capabilities	12/13/2022	12/31/2023	Reimbursable	\$7,926	KSC	KCA-4700-2 Rev Basic	Human Exploration and Operations	View Signed Agreement
760	37748	Astronauts Memorial Foundation	KCA-4725, Rev Basic Standalone NRSAA between NASA KSC and the Astronauts Memorial Foundation, Inc.	8/31/2023	8/30/2028	Non-Reimbursable	\$674,790	KSC	KCA-4725 Rev Basic	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
761	37729	UNITED LAUNCH ALLIANCE, LLC	KCA-4726-1, Rev Basic Annex 1 for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	1/26/2023	1/25/2028	Reimbursable	\$1,091,449	KSC	KCA-4726-1 Rev Basic	Institutional and Mission Support	View Signed Agreement
762	37728	UNITED LAUNCH ALLIANCE, LLC	KCA-4726, Rev Basic for Reimbursable Umbrella SAA between the NASA KSC and United Launch Alliance, LLC for Use of Center Capabilities	1/26/2023	1/25/2028	Reimbursable	\$0	KSC	KCA-4726 Rev Basic	Institutional and Mission Support	View Signed Agreement
763	37721	UNITED LAUNCH ALLIANCE, LLC	KCA-4733, Rev. Basic Fully Reimbursable Space Act Agreement between the National Aeronautics and Space Administration John F. Kennedy Space Center and United Launch Alliance, LLC for Solar White Development for Second-Stage Cryogenic Tanks	6/22/2023	6/22/2024	Reimbursable	\$838,215	KSC	KCA-4733 Rev. Basic	Space Technology, Institutional and Mission Support	View Signed Agreement
764	37681	Relativity Space, Inc.	KCA-4678-6 Rev Basic, Annex 6 to Reimbursable Space Act Agreement (RSAA) Umbrella Between Relativity Space, Inc. and NASA Kennedy Space Center for Use of Center Capabilities	12/5/2022	9/30/2024	Reimbursable	\$90,363	KSC	KCA-4678-6 Rev Basic	Human Exploration and Operations	View Signed Agreement
765	37598	Blue Origin Florida, LLC	KCA-4555-19 Rev Basic, Annex 19 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	11/14/2022	12/3/2023	Reimbursable	\$21,891	KSC	KCA-4555-19 Rev Basic	Human Exploration and Operations	View Signed Agreement
766	37504	University of Dayton	KCA 4715-1 Rev Basic, Annex 1 for Reimbursable SAA between NASA KSC and University of Dayton	12/15/2022	12/14/2027	Reimbursable	\$106,515	KSC	KCA 4715-1 Rev Basic	Institutional and Mission Support	View Signed Agreement
767	37503	University of Dayton	KCA-4715 Rev Basic, Reimbursable Umbrella SAA between KSC and University of Dayton for Corrosion Testing	12/15/2022	12/14/2027	Reimbursable	\$0	KSC	KCA-4715 Rev Basic	Institutional and Mission Support	View Signed Agreement
768	37499	University of Central Florida Board of Trustees	KCA-4648-2 Rev. Basic, of Reimbursable Space Act Umbrella Agreement Between The National Aeronautics and Space Administration (NASA) John F. Kennedy Space Center (KSC) and The University of Central Florida (UCF) Central Florida Board of Trustees for Use of Center Capabilities	10/6/2022	9/30/2023	Reimbursable	\$34,747	KSC	KCA-4648-2 Rev Basic	Human Exploration and Operations	View Signed Agreement
769	37452	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660-24 Rev. Basic, Annex 24 Fully Reimbursable Umbrella SAA between NASA and Herndon Solutions Group, LLC (HSG) for Contractor 3rd Party Work (C3PW)	9/21/2022	9/30/2024	Reimbursable	\$114	KSC	KCA-4660-24 Rev Basic	Institutional and Mission Support	View Signed Agreement
770	37451	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660-23 Rev Basic, Annex 23 Fully Reimbursable Umbrella SAA between NASA and Herndon Solutions Group, LLC (HSG) for Contractor 3rd Party Work (C3PW)	9/21/2022	9/30/2024	Reimbursable	\$162	KSC	KCA-4660-23 Rev Basic	Institutional and Mission Support	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
771	37450	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660-22 Rev Basic, Annex 22 Fully Reimbursable Umbrella SAA between NASA and Herndon Solutions Group, LLC (HSG) for Contractor 3rd Party Work (C3PW)	9/21/2022	9/30/2024	Reimbursable	\$1,638	KSC	KCA-4660-22 Rev Basic	Institutional and Mission Support	View Signed Agreement
772	37449	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660-21 Rev Basic, Annex 21 Fully Reimbursable Umbrella SAA between NASA and Herndon Solutions Group, LLC (HSG) for Contractor 3rd Party Work (C3PW)	9/21/2022	9/30/2024	Reimbursable	\$7,514	KSC	KCA-4660-21 Rev Basic	Institutional and Mission Support	View Signed Agreement
773	37448	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660-20, Rev Basic, Annex 20 Fully Reimbursable Umbrella SAA between NASA and Herndon Solutions Group, LLC (HSG) for Contractor 3rd Party Work (C3PW)	9/21/2022	9/30/2024	Reimbursable	\$1,888	KSC	KCA-4660-20 Rev Basic	Institutional and Mission Support	View Signed Agreement
774	37447	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660-19 Rev Basic, Annex 19 Fully Reimbursable Umbrella SAA between NASA and Herndon Solutions Group, LLC (HSG) for Contractor 3rd Party Work (C3PW)	9/21/2022	9/30/2024	Reimbursable	\$1,365	KSC	KCA-4660-19 Rev Basic	Institutional and Mission Support	View Signed Agreement
775	37445	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660-18 Rev Basic, Annex 18 Fully Reimbursable Umbrella SAA between NASA and Herndon Solutions Group, LLC (HSG) for Contractor 3rd Party Work (C3PW)	9/21/2022	9/30/2024	Reimbursable	\$13,030	KSC	KCA-4660-18 Rev Basic	Institutional and Mission Support	View Signed Agreement
776	37444	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660-17, Rev Basic, Annex 17 to Fully Reimbursable Umbrella SAA between NASA and Herndon Solutions Group, LLC (HSG) for Contractor 3rd Party Work (C3PW)	9/21/2022	9/30/2024	Reimbursable	\$3,786	KSC	KCA-4660-17 Rev Basic	Institutional and Mission Support	View Signed Agreement
777	37234	SPACE FLORIDA	KCA-4723-1, Rev Basic Annex 1 for Reimbursable Umbrella SAA between the NASA KSC and Space Florida for Use of Center Capabilities	6/16/2023	6/30/2028	Reimbursable	\$1,652,364	KSC	KCA-4723-1 Rev Basic	Institutional and Mission Support	View Signed Agreement
778	37233	SPACE FLORIDA	KCA-4723, Rev Basic for Reimbursable Umbrella SAA between the NASA KSC and Space Florida for Use of Center Capabilities	6/16/2023	6/30/2028	Reimbursable	\$0	KSC	KCA-4723 Rev Basic	Institutional and Mission Support	View Signed Agreement
779	37208	Florida Institute of Technology, Inc.	KCA-4683-2, Rev Basic Annex 2 to Non-Reimbursable Space Act Agreement (NRSAA) with Florida Institute of Technology, Inc. (Florida Tech) for Audubon Road Living Shoreline Monitoring	10/14/2022	10/13/2024	Non-Reimbursable	\$82,278	KSC	KCA-4683-2 Rev Basic	Institutional and Mission Support	View Signed Agreement
780	37122	Space Exploration Technologies Corporation	KCA-4722-1 Rev Basic, Annex 1 to Reimbursable Umbrella SAA between NASA KSC and SpaceX for Center Capabilities	11/16/2022	11/15/2027	Reimbursable	\$2,258,375	KSC	KCA-4722-1 Rev Basic	Institutional and Mission Support	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
781	37121	Space Exploration Technologies Corporation	KCA-4722 Rev Basic, Fully Reimbursable Space Act Umbrella Agreement between NASA and Space Exploration Technologies Corporation for use of Kennedy Space Center Capabilities	11/16/2022	11/15/2027	Reimbursable	\$0	KSC	KCA-4722 Rev Basic	Institutional and Mission Support	View Signed Agreement
782	37074	Oak Ridge Associated Universities, Inc.	KCA-4719-2, Rev. Basic, Annex 2 to Umbrella Non-Reimbursable Space Act Agreement (NRSAA) 33159 with Oak Ridge Associated Universities, Inc. (ORAU)	9/23/2022	12/15/2025	Non-Reimbursable	\$85,725	KSC	KCA-4719-2 Rev. Basic	Human Exploration and Operations, Institutional and Mission Support	View Signed Agreement
783	36641	Relativity Space, Inc.	KCA-4678-5 Rev. Basic Reimbursable Space Act Agreement (RSAA) Umbrella Between Relativity Space, Inc. and NASA Kennedy Space Center for Use of Center Capabilities	5/5/2022	12/31/2023	Reimbursable	\$1,167,688	KSC	KCA-4678-5 Rev Basic	Human Exploration and Operations	View Signed Agreement
784	36570	Blue Origin Florida, LLC	KCA-4555-18 Rev Basic, Annex 18 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	5/16/2022	12/3/2023	Reimbursable	\$2,346,618	KSC	KCA-4555-18 Rev Basic	Human Exploration and Operations	View Signed Agreement
785	36352	Relativity Space, Inc.	KCA-4678-4 Rev Basic. Reimbursable Space Act Agreement (RSAA) Umbrella Between Relativity Space, Inc. and NASA Kennedy Space Center for Use of Center Capabilities	3/12/2022	7/27/2026	Reimbursable	\$18,442	KSC	KCA-4678-4 Rev Basic	Human Exploration and Operations	View Signed Agreement
786	35858	Relativity Space, Inc.	KCA-4678-2 Rev. Basic, Annex 2 to Reimbursable Space Act Agreement (RSAA) Umbrella Between Relativity Space, Inc. and NASA Kennedy Space Center for Use of Center Capabilities	12/17/2021	12/3/2023	Reimbursable	\$10,982	KSC	KCA-4678-2 Rev. Basic	Human Exploration and Operations	View Signed Agreement
787	35845	ROCKETSTAR, LLC	KCA-4701-1, Annex No. 1 to the Reimbursable Umbrella SAA Between NASA KSC and RocketStar LLC for Spaceport Operations and Integration Support	1/19/2022	1/19/2027	Reimbursable	\$54,428	KSC	KCA-4701-1 Rev Basic	Human Exploration and Operations	View Signed Agreement
788	35844	ROCKETSTAR, LLC	KCA-4701 Rev Basic, Reimbursable Umbrella SAA between NASA KSC and RocketStar LLC for Use of Center Capabilities	1/19/2022	1/19/2027	Reimbursable	\$0	KSC	KCA-4701 Rev Basic	Human Exploration and Operations	View Signed Agreement
789	35743	Rocket Crafters, Inc	KCA-4700-1, Rev Basic Annex 1 to the Reimbursable Space Act Agreement (RSAA) Umbrella Between NASA Kennedy Space Center and Rocket Crafters, Inc. for Spaceport Integration Support	2/9/2022	2/9/2027	Reimbursable	\$54,428	KSC	KCA-4700-1 Rev Basic	Institutional and Mission Support	View Signed Agreement
790	35742	Rocket Crafters, Inc	KCA-4700, Rev Basic Umbrella Agreement Between KSC and Rocket Crafters for Use of Center Capabilities	2/9/2022	2/9/2027	Reimbursable	\$0	KSC	KCA-4700 Rev Basic	Institutional and Mission Support	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
791	35389	Blue Origin Florida, LLC	KCA-4555-17 Rev Basic Annex 17 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	9/15/2021	12/3/2023	Reimbursable	\$1,679	KSC	KCA-4555-17 Rev Basic	Human Exploration and Operations	View Signed Agreement
792	35375	Innovative Technology, Inc.	KCA-4694-1 Rev. Basic, Annex 1 to the Reimbursable Space Act Agreement (RSAA) Umbrella Agreement Between NASA and Innovative Technology, Inc. for General Corrosion Testing	1/14/2022	1/14/2027	Reimbursable	\$83,261	KSC	KCA-4694-1 Rev. Basic	Institutional and Mission Support	View Signed Agreement
793	35374	Innovative Technology, Inc.	KCA-4694. Rev. Basic Fully Reimbursable Umbrella Space Act Agreement Between The National Aeronautics and Space Administration John F. Kennedy Space Center and Innovative Technology, Inc. for Use of Center Capabilities	1/14/2022	1/14/2027	Reimbursable	\$0	KSC	KCA-4694 Rev Basic	Institutional and Mission Support	View Signed Agreement
794	35360	Astra Space Operations Inc	KCA-4695-1 Rev. Basic, Annex No. 1 to the Reimbursable Umbrella SAA Between NASA KSC and Astra Space Inc for Spaceport Operations and Integration Support	12/21/2021	12/21/2026	Reimbursable	\$53,999	KSC	KCA-4695-1 Rev Basic	Human Exploration and Operations	View Signed Agreement
795	35359	Astra Space Operations Inc.	KCA-4695 Rev Basic, Reimbursable Umbrella SAA between NASA KSC and Astra Space Inc for Use of Center Capabilities	12/21/2021	12/21/2026	Reimbursable	\$0	KSC	KCA-4695 Rev Basic	Human Exploration and Operations	View Signed Agreement
796	34809	Florida Institute of Technology, Inc.	KCA-4683-1, Rev Basic Annex 1 to Non-Reimbursable Space Act Agreement (NRSAA) with Florida Institute of Technology, Inc. (Florida Tech) for Joint Research on the Performance of Crop Species Grown in Lunar and Martian Simulants	10/8/2021	10/8/2024	Non-Reimbursable	\$40,324	KSC	KCA-4683-1 Rev Basic	Space Technology	View Signed Agreement
797	34808	Florida Institute of Technology, Inc.	KCA-4683, Rev Basic of Non-Reimbursable Space Act Agreement (NRSAA) with Florida Institute of Technology, Inc. (Florida Tech) for Collaborative Research, Education and Outreach Activities	10/8/2021	10/8/2026	Non-Reimbursable	\$0	KSC	KCA-4683 Rev Basic	Space Technology	View Signed Agreement
798	34588	Relativity Space, Inc.	KCA-4678-1, Revision Basic Annex 1 to the Reimbursable Space Act Agreement (RSAA) Umbrella Between NASA Kennedy Space Center and Relativity Space, Inc. for Spaceport Integration Support	7/27/2021	7/27/2026	Reimbursable	\$58,698	KSC	KCA-4678-1 Rev. Basic	Institutional and Mission Support	View Signed Agreement
799	34587	Relativity Space, Inc.	KCA-4678 Rev. Basic Reimbursable Space Act Agreement (RSAA) Umbrella Between Relativity Space, Inc. and NASA Kennedy Space Center for Use of Center Capabilities	7/27/2021	7/27/2026	Reimbursable	\$0	KSC	KCA-4678 Rev. Basic	Institutional and Mission Support	View Signed Agreement
800	34267	Blue Origin Florida, LLC	KCA-4555-15 Rev Basic, Annex 15 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	3/16/2021	12/3/2023	Reimbursable	\$193,860	KSC	KCA-4555-15 Rev Basic	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
801	34125	Blue Origin Florida, LLC	KCA-4555-13 Rev Basic, Annex 13 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	2/26/2021	12/3/2023	Reimbursable	\$56,866	KSC	KCA-4555-13 Rev Basic	Human Exploration and Operations	View Signed Agreement
802	34123	Blue Origin Florida, LLC	KCA-4555-12 Rev Basic, Annex 12 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	2/10/2021	12/3/2023	Reimbursable	\$9,029,130	KSC	KCA-4555-12 Rev Basic	Human Exploration and Operations	View Signed Agreement
803	34047	Axiom Space, LLC	KCA-4682-1 Rev Basic, Annex No. 1 to the Fully Reimbursable Umbrella SAA Between NASA KSC and Axiom Space, Inc. for Spaceport Operations and Integration Support	1/24/2022	9/30/2023	Reimbursable	\$10,344	KSC	KCA-4682-1 Rev Basic	Institutional and Mission Support	View Signed Agreement
804	34046	Axiom Space, LLC	KCA-4682, Rev. Basic Fully Reimbursable Umbrella SAA Between NASA KSC and Axiom Space, Inc. for Use of Center Capabilities	1/24/2022	1/24/2027	Reimbursable	\$0	KSC	KCA-4682, Rev. Basic	Institutional and Mission Support	View Signed Agreement
805	34023	Firefly Aerospace Inc.	KCA-4671-1, Revision Basic Annex 1 to the Reimbursable Space Act Agreement (RSAA) Umbrella Agreement Between NASA KSC and Firefly Aerospace Inc. for Launch Telemetry and Communication Services at Vandenberg Air Force Base	3/2/2021	3/1/2026	Reimbursable	\$1,418,147	KSC	KCA-4671-1 Rev. Basic	Human Exploration and Operations	View Signed Agreement
806	34022	Firefly Aerospace Inc.	KCA-4671, Rev. Basic Fully Reimbursable Umbrella SAA Between NASA KSC and Firefly Aerospace Inc. for Use of Center Capabilities	3/1/2021	3/1/2026	Reimbursable	\$0	KSC	KCA-4671 Rev. Basic	Human Exploration and Operations	View Signed Agreement
807	33991	PAE-SGT Partners LLC	KCA-4608 Rev Basic, Fully Reimbursable Umbrella SAA between NASA and PAE-SGT Partners LLC for C3PW	9/15/2021	3/31/2025	Reimbursable	\$0	KSC	KCA-4608 Rev Basic	Institutional and Mission Support	View Signed Agreement
808	33945	United Launch Alliance	KCA-4654-1 Rev Basic, Annex 1 for Demonstration of Cryogenic Technologies in a Flight-like Upper Stage	6/23/2022	6/22/2027	Non-Reimbursable	\$1,054,919	KSC	KCA-4654-1 Rev Basic	Human Exploration and Operations	View Signed Agreement
809	33944	United Launch Alliance	KCA-4654, Rev Basic of Non-Reimbursable Space Act Agreement (NRSAA) with United Launch Alliance (ULA) for Demonstration of Cryogenic and Secondary Payload Technologies for Launch Vehicles	6/23/2022	6/22/2027	Non-Reimbursable	\$0	KSC	KCA-4654 Rev Basic	Human Exploration and Operations, Space Technology	View Signed Agreement
810	33890	Blue Origin Florida, LLC	KCA-4555-14 Rev Basic, Annex 14 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	2/10/2021	12/3/2023	Reimbursable	\$404,132	KSC	KCA-4555-14 Rev Basic	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
811	33564	THE BOEING COMPANY	KCA-4515-9 Rev Basic, Annex 9 to Reimbursable Umbrella SAA between NASA KSC and The Boeing Company for Use of Center Capabilities	11/17/2020	9/30/2023	Reimbursable	\$29,166	KSC	KCA-4515-9 Rev Basic	Human Exploration and Operations	View Signed Agreement
812	33515	Southeast Coastal Ocean Observing Regional Association	KCA-4676 Rev Basic, Reimbursable Space Act Agreement Between NASA-KSC and Southeast Coastal Ocean Observing Regional Association for Electrical Services	3/31/2022	3/30/2027	Reimbursable	\$2,079	KSC	KCA-4676 Rev. Basic	Institutional and Mission Support	View Signed Agreement
813	33461	HSG, LLC d/b/a HERNDON SOLUTIONS GROUP	KCA-4660 Rev Basic, Fully Reimbursable Umbrella SAA between NASA and HSG, LLC d/b/a Herndon Solutions Group for C3PW	10/7/2020	9/30/2024	Reimbursable	\$0	KSC	KCA-4660 Rev Basic	Institutional and Mission Support	View Signed Agreement
814	33420	AMENTUM SERVICES, INC.	KCA-4662 Rev Basic, Fully Reimbursable Umbrella SAA between NASA and Amentum Services, Inc. for C3PW	10/29/2020	9/30/2024	Reimbursable	\$0	KSC	KCA-4662 Rev Basic	Institutional and Mission Support	View Signed Agreement
815	33334	THE BOEING COMPANY	KCA-4515-8 Rev Basic, Annex 8 to Reimbursable Umbrella SAA between NASA KSC and The Boeing Company for Use of Center Capabilities	9/15/2020	9/30/2023	Reimbursable	\$19,293	KSC	KCA-4515-8 Rev Basic	Human Exploration and Operations	View Signed Agreement
816	33163	United States Department of Agriculture	KCA-4657 Rev Basic, Memorandum of Understanding between USDA-ARS and KSC for Plant Propagation Research	10/19/2020	10/19/2025	Non-Reimbursable	\$1,136,703	KSC	KCA-4657 Rev Basic	Human Exploration and Operations, Space Technology	View Signed Agreement
817	33150	United States Department of Agriculture	KCA-4658 Rev Basic, Memorandum of Understanding between USDA-ARS and KSC for Microgreens Research	10/20/2020	10/19/2025	Non-Reimbursable	\$556,319	KSC	KCA-4658 Rev Basic	Human Exploration and Operations, Space Technology	View Signed Agreement
818	32750	KT Engineering Corporation	KCA-4650-1 Rev Basic, Annex No. 1 to the Fully Reimbursable Umbrella SAA Between NASA KSC and KT Engineering Corp. for Ground Systems Design Review	9/1/2020	9/1/2025	Reimbursable	\$149,287	KSC	KCA-4650-1 Rev Basic	Human Exploration and Operations	View Signed Agreement
819	32749	KT Engineering Corporation	KCA-4650, Rev. Basic Fully Reimbursable Umbrella SAA Between NASA KSC and KT Engineering Corp. for Use of Center Capabilities	9/1/2020	9/1/2025	Reimbursable	\$0	KSC	KCA-4650 Rev Basic	Human Exploration and Operations	View Signed Agreement
820	32666	The University of Central Florida	KCA-4648-1 Rev. Basic, Annex 1 of Reimbursable Space Act Umbrella Agreement Between the National Aeronautics and Space Administration (NASA) John F. Kennedy Space Center (KSC) and The University of Central Florida (UCF) Central Florida Board of Trustees for Use of Center Capabilities	2/25/2022	2/24/2027	Reimbursable	\$713,131	KSC	KCA-4648-1 Rev. Basic	Institutional and Mission Support	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
821	32665	University of Central Florida Board of Trustees	KCA-4648 Rev. Basic, Reimbursable Space Act Umbrella Agreement Between The National Aeronautics and Space Administration (NASA) John F. Kennedy Space Center (KSC) and The University of Central Florida (UCF) Central Florida Board of Trustees for Use of Center Capabilities	2/25/2022	2/24/2027	Reimbursable	\$30,077	KSC	KCA-4648 Rev. Basic	Space Technology	View Signed Agreement
822	32270	Florida League of Cities	KCA-4601-2 Rev Basic, Annex 2 to Reimbursable Umbrella SAA between NASA KSC and Florida League of Cities for Development and Demonstration of Sustainable Composites (KCA-4601)	5/3/2021	7/1/2024	Reimbursable	\$548,002	KSC	KCA-4601-2 Rev Basic	Space Technology	View Signed Agreement
823	32261	Space Perspective, Inc.	KCA-4641, Rev. Basic Fully Reimbursable Umbrella SAA Between NASA KSC and Space Perspective, Inc. for Use of Center Capabilities	4/27/2020	4/27/2025	Reimbursable	\$0	KSC	KCA-4641 Rev Basic	Human Exploration and Operations	View Signed Agreement
824	32039	Blue Origin Florida, LLC	KCA-4555-8 Rev Basic, Annex 8 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	2/21/2020	12/3/2023	Reimbursable	\$927,758	KSC	KCA-4555-8 Rev Basic	Human Exploration and Operations	View Signed Agreement
825	31927	The Astronauts Memorial Foundation	KCA-4638, Revision Basic for Reimbursable Space Act Agreement Between NASA KSC and the Astronaut Memorial Foundation, Inc. for Services at the Center for Space Education	6/5/2020	6/4/2025	Reimbursable	\$490,882	KSC	KCA-4638 Rev Basic	Institutional and Mission Support	View Signed Agreement
826	31878	Blue Origin Florida, LLC	KCA-4555-7 Rev Basic, Annex No. 7 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	1/27/2020	12/3/2023	Reimbursable	\$74,487	KSC	KCA-4555-7 Rev Basic	Human Exploration and Operations	View Signed Agreement
827	31382	THE BOEING COMPANY	KCA-4515-7 Rev Basic, Annex 7 to Reimbursable Umbrella SAA between NASA KSC and The Boeing Company for Use of Center Capabilities	10/17/2019	9/30/2023	Reimbursable	\$1,087,279	KSC	KCA-4515-7 Rev. Basic	Human Exploration and Operations	View Signed Agreement
828	31241	Eastern Florida State College	KCA-4629 Rev Basic, High Schools United with NASA to Create Hardware (HUNCH)	10/22/2019	10/22/2024	Non-Reimbursable	\$28,331	KSC	KCA-4629 Rev Basic	Education and/or Public Engagement	View Signed Agreement
829	31127	THE BOEING COMPANY	KCA-4515-3 Rev Basic, Annex No. 3 to Reimbursable Umbrella SAA between NASA KSC and The Boeing Company for Use of Center Capabilities (KCA-4515-3)	9/13/2019	9/30/2023	Reimbursable	\$49,765	KSC	KCA-4515-3 Rev Basic	Human Exploration and Operations	View Signed Agreement
830	30833	SPACE COAST MACHINIST APPRENTICESHIP PROGRAM, INC.	KCA-4625 Rev Basic, Nonreimbursable Space Act Agreement Between the National Aeronautics and Space Administration John F. Kennedy Space Center and Space Coast Machinist Apprenticeship Program for High Schools United with NASA to Create Hardware (HUNCH) Program	10/24/2019	10/24/2024	Non-Reimbursable	\$28,397	KSC	KCA-4625 Rev Basic	Education and/or Public Engagement	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
831	30212	Blue Origin Florida, LLC	KCA-4555-5 Rev Basic, Annex No.5 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	4/25/2019	12/3/2023	Reimbursable	\$717,194	KSC	KCA-4555-5 Rev Basic	Human Exploration and Operations	View Signed Agreement
832	30047	Blue Origin Florida, LLC	KCA-4555-4 Rev Basic, Annex No. 4 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities (KCA-4555-4)	4/5/2019	12/3/2023	Reimbursable	\$46,596	KSC	KCA-4555-4 Rev Basic	Human Exploration and Operations	View Signed Agreement
833	29903	ASTRONAUTS MEMORIAL FOUNDATION	KCA-4605 Rev Basic, SAA between NASA and the Astronaut Memorial Foundation for a NASA Exploration Station	4/5/2019	4/5/2024	Non-Reimbursable	\$1,082,832	KSC	KCA-4605 Rev Basic	Institutional and Mission Support	View Signed Agreement
834	29814	Florida League of Cities	KCA-4601 Rev Basic, Reimbursable Umbrella SAA between NASA KSC and Florida League of Cities for Development and Demonstration of Sustainable Composites (KCA-4601)	7/1/2019	7/1/2024	Reimbursable	\$0	KSC	KCA-4601 Rev Basic	Space Technology	View Signed Agreement
835	29804	Astrotech Space Operations, LLC	KCA-4603, Nonreimbursable Space Act Agreement Between NASA KSC and Astrotech Space Operations, LLC for Reciprocal Access to Fiber Optic Communications Circuit	8/21/2019	8/21/2024	Non-Reimbursable	\$172,855	KSC	KCA-4603 Rev. Basic	Institutional and Mission Support	View Signed Agreement
836	29787	Blue Origin Florida, LLC	KCA-4555-3 Rev Basic, Annex No. 3 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities (KCA-4555-3)	2/14/2019	12/3/2023	Reimbursable	\$86,145	KSC	KCA-4555-3 Rev Basic	Human Exploration and Operations	View Signed Agreement
837	29729	Blazing Trails	KCA-4606, Nonreimbursable Space Act Agreement Between the National Aeronautics and Space Administration John F. Kennedy Space Center and Blazing Trails for High Schools United with NASA to Create Hardware (HUNCH) Program	5/8/2019	5/8/2024	Non-Reimbursable	\$48,432	KSC	KCA-4606 Rev Basic	Education and/or Public Engagement	View Signed Agreement
838	29652	Pressure Dynamic Consultants PDC Machines Inc.	KCA-4598 Rev Basic, Reimbursable Umbrella SAA with PDC for High Pressure Hydrogen Pump Research and Testing	6/5/2019	6/4/2024	Reimbursable	\$0	KSC	KCA-4598 Rev Basic	Space Technology	View Signed Agreement
839	29609	Blue Origin Florida, LLC	KCA-4555-2 Rev Basic, Annex No. 2 to Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	12/27/2018	12/3/2023	Reimbursable	\$471	KSC	KCA-4555-2 Rev Basic	Human Exploration and Operations	View Signed Agreement
840	29503	University of North Dakota	KCA-4595 Rev Basic, Non-reimbursable Space Act Agreement with University of North Dakota MISSE-11 Mission for Spacesuit Material Sample	12/13/2018	12/13/2023	Non-Reimbursable	\$2,214	KSC	KCA-4595 Rev Basic	Human Exploration and Operations, Science	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
841	29404	Level 3 Communications, LLC	KCA-4586 Rev Basic, Non-reimbursable Space Act Agreement between NASA, KSC and Level 3 Communications LLC for Use of Various Fiber Optics Terminals	2/22/2019	2/22/2024	Non-Reimbursable	\$0	KSC	KCA-4586 Rev Basic	Institutional and Mission Support	View Signed Agreement
842	29277	BLUE ORIGIN, LLC	KCA-4555-1 Rev Basic, Annex 1 for Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	12/3/2018	12/3/2023	Reimbursable	\$477,888	KSC	KCA-4555-1 Rev. Basic	Human Exploration and Operations	View Signed Agreement
843	29276	Blue Origin Florida, LLC	KCA-4555 Rev Basic, Fully Reimbursable Umbrella SAA Between NASA KSC and Blue Origin Florida, LLC for Use of Center Capabilities	12/3/2018	12/3/2023	Reimbursable	\$0	KSC	KCA-4555 Rev. Basic	Human Exploration and Operations	View Signed Agreement
844	29263	THE BOEING COMPANY	KCA-4515-4 Rev Basic, Annex No. 4 to Reimbursable Umbrella SAA between NASA KSC and The Boeing Company for Use of Center Capabilities	10/1/2018	9/30/2023	Reimbursable	\$58,740	KSC	KCA-4515-4 Rev Basic	Human Exploration and Operations	View Signed Agreement
845	29191	Volusia County Schools	KCA-4591 Rev Basic, Nonreimbursable SAA between NASA, KSC and Volusia County Schools for High School Students United with NASA to Create Hardware (HUNCH) Program Participation with Volusia County Schools	3/7/2019	3/7/2024	Non-Reimbursable	\$70,444	KSC	KCA-4591 Rev Basic	Education and/or Public Engagement	View Signed Agreement
846	29174	Lake Technical College	KCA-4590, Nonreimbursable SAA between NASA, KSC and Lake Technical College for High School Students United with NASA to Create Hardware (HUNCH) Program Participation with Lake Technical College (LTC)	3/15/2019	3/15/2024	Non-Reimbursable	\$67,904	KSC	KCA-4590 Rev Basic	Education and/or Public Engagement	View Signed Agreement
847	28870	THE BOEING COMPANY	KCA-4515-1 Rev Basic, Annex No. 1 to Reimbursable Umbrella SAA between NASA KSC and The Boeing Company for Use of Center Capabilities	8/21/2018	9/30/2023	Reimbursable	\$741,639	KSC	KCA-4515-1 Rev Basic	Human Exploration and Operations	View Signed Agreement
848	28869	THE BOEING COMPANY	KCA-4515 Rev Basic, Reimbursable Umbrella SAA between NASA KSC and The Boeing Company for Use of Center Capabilities	8/21/2018	9/30/2023	Reimbursable	\$0	KSC	KCA-4515 Rev Basic	Human Exploration and Operations	View Signed Agreement
849	27912	University of Florida	KCA-4572-1 Rev Basic, Annex No. 1 to Development of Biological Imaging Systems for Growth, Biological Assessment of Flight Hardware and Space Biology Studies in Space relevant Environments with University of Florida (KCA-4572-1)	11/14/2018	11/14/2023	Non-Reimbursable	\$129,077	KSC	KCA-4572-1 Rev Basic	Human Exploration and Operations	View Signed Agreement
850	27911	University of Florida	KCA-4572 Rev Basic, Nonreimbursable Space Act Agreement for Collaborative Research, Technology Transfer, Academic Engagement, and Outreach Activities	11/14/2018	11/14/2023	Non-Reimbursable	\$0	KSC	KCA-4572 Rev Basic	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
851	39532	VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY	Annex to COLLABORATIVE RESEARCH, DEVELOPMENT, AND TESTING OPPORTUNITIES	9/15/2023	9/15/2024	Non-Reimbursable	\$20,303	LaRC	SAA1-36204, Annex 3	Aeronautics	View Signed Agreement
852	39497	ASTROBOTIC TECHNOLOGY, INC	LunaGrid-Lite: Demonstration of Tethered, Scalable Lunar Power Transmission	7/20/2023	7/20/2028	Funded	\$34,723,195	LaRC	FSAA-39497	Space Technology	View Signed Agreement
853	39419	Big Metal Additive, LLC	Improving Cost and Availability of Space Habitat Structures and Additive Manufacturing	7/20/2023	7/20/2028	Funded	\$5,350,580	LaRC	FSAA-39419	Space Technology	View Signed Agreement
854	39400	BLUE ORIGIN, LLC	ISRU-Based Power on the Moon	7/20/2023	7/20/2028	Funded	\$35,543,195	LaRC	FSAA-39400	Space Technology	View Signed Agreement
855	39241	AIBOT US Supply, Inc.	Flight-Test System Identification for Electric Vertical Take-Off and Landing (eVTOL) Aircraft	9/29/2023	9/29/2025	Non-Reimbursable	\$229,569	LaRC	SAA1-39241	Aeronautics	View Signed Agreement
856	39196	WICHITA STATE UNIVERSITY	Advancement of Composite Cryotank Technology	9/29/2023	9/30/2025	Non-Reimbursable	\$55,055	LaRC	SAA1-39196	Space Technology	View Signed Agreement
857	39005	Onyx Aerospace	Conceptual Design of Hypersonic Inflatable Aerodynamic Decelerator (HIAD) Reentry System	6/23/2023	6/22/2024	Reimbursable	\$144,395	LaRC	SAA8-2135668, Annex 4	Space Technology	View Signed Agreement
858	38942	Sierra Space Corporation	Collaboration on Development of Ceramic Matrix Composite Structures for Reentry Vehicles.	9/12/2023	9/12/2026	Non-Reimbursable	\$458,777	LaRC	SAA1-38941, Annex 1	Aeronautics	View Signed Agreement
859	38941	Sierra Space Corporation	COLLABORATIVE RESEARCH AND DEVELOPMENT IN THE AREA OF HYPERSONIC TECHNOLOGIES.	9/12/2023	9/12/2028	Non-Reimbursable	\$0	LaRC	SAA1-38941	Aeronautics	View Signed Agreement
860	38780	BLUE ORIGIN, LLC	SCIFLI NEW SHEPARD CALIBRATION SUPPORT	7/25/2023	9/30/2024	Reimbursable	\$149,875	LaRC	SAA8-2235543	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
861	38727	Ramboll US Consulting, Inc.	Source-Sector NOx Emissions Analysis with sub-kilometer Scale Airborne Observations in Houston during Tracking Aerosol Convection interactions Experiment for Air Quality (TRACER-AQ)	5/30/2023	1/30/2024	Reimbursable	\$30,000	LaRC	SAA1-38727	Science	View Signed Agreement
862	38659	The Boeing Company	2023 Boeing ecoDemonstrator Emissions Flight Test	9/27/2023	9/27/2025	Non-Reimbursable	\$2,617,415	LaRC	SAA1-35361, Annex 2	Aeronautics	View Signed Agreement
863	38658	General Electric Aerospace	2023 ecoDemonstrator Emissions Flight Test	7/28/2023	7/28/2026	Reimbursable	\$1,526,000	LaRC	SAA1-38658	Aeronautics	View Signed Agreement
864	38585	Northrop Grumman Corporation	annex to REIMBURSABLE SPACE ACT UMBRELLA AGREEMENT No.31359/SAA2-403514 BETWEEN NASA ARC AND NORTHROP GRUMMAN CORPORATION FOR WIND TUNNEL TESTING	9/25/2023	9/25/2024	Reimbursable	\$83,023	LaRC	SAA2-403514, Annex 6	Aeronautics	View Signed Agreement
865	38513	University of Arizona Applied Research Corporation	SPACE MIRROR APERTURE ASSEMBLY INTEGRATED HARDWARE TESTING	4/10/2023	4/10/2024	Non-Reimbursable	\$282,727	LaRC	SAA1-36330, Annex 2	Space Technology	View Signed Agreement
866	38509	Rohr, Inc.	Advanced Acoustic Liner Evaluation via the NASA Curved Duct Test Rig (CDTR)	6/2/2023	6/2/2024	Reimbursable	\$75,471	LaRC	SAA1-38508, Annex 1	Aeronautics	View Signed Agreement
867	38508	Rohr, Inc.	Advanced Acoustic Liner Research	6/2/2023	6/2/2028	Reimbursable	\$0	LaRC	SAA1-38508	Aeronautics	View Signed Agreement
868	38387	FGC Plasma Solutions Incorporation	Plasma Torch Testing for Hypersonic Propulsion Applications	3/17/2023	3/17/2024	Reimbursable	\$52,131	LaRC	SAA1-38387	Aeronautics	View Signed Agreement
869	38126	HRL Laboratories, LLC	Evaluation of Aerospace Coatings for Mitigation of Environmental Contaminants	5/1/2023	10/1/2023	Reimbursable	\$13,190	LaRC	SAA1-38126	Aeronautics	View Signed Agreement
870	38099	INTUITIVE MACHINES, LLC	EARTH ENTRY VEHICLE CONCEPTUAL DESIGN	1/26/2023	1/26/2024	Reimbursable	\$170,000	LaRC	SAA1-38098, Annex 1	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
871	38098	INTUITIVE MACHINES, LLC	Earth Entry Vehicle Support	1/26/2023	1/26/2028	Reimbursable	\$0	LaRC	SAA1-38098	Space Technology	View Signed Agreement
872	38060	MathWorks	Custom Flight Control Law Integration into a Subscale eVTOL Aircraft	4/6/2023	10/6/2024	Non-Reimbursable	\$198,884	LaRC	SAA1-38060	Aeronautics	View Signed Agreement
873	37972	INTEL CORPORATION	Fabrication of Copper and Diamond Composite Test Samples	3/14/2023	3/14/2025	Reimbursable	\$64,092	LaRC	SAA1-32088, Annex 2	Space Technology	View Signed Agreement
874	37877	UNITED LAUNCH ALLIANCE, LLC	HIAD DEVELOPMENT TO MISSION PDR LEVEL	12/12/2022	12/12/2023	Reimbursable	\$6,022,326	LaRC	SAA1-37876, Annex 1	Space Technology	View Signed Agreement
875	37876	UNITED LAUNCH ALLIANCE, LLC	COMMERCIAL SPACE TRANSPORTATION DEVELOPMENT SUPPORT	12/12/2022	12/12/2027	Reimbursable	\$0	LaRC	SAA1-37876	Space Technology	View Signed Agreement
876	37804	JOHNS HOPKINS UNIVERSITY / APPLIED PHYSICS LAB	Advanced Cooling Architectures Wind Tunnel Experiments	3/21/2023	3/21/2024	Non-Reimbursable	\$262,741	LaRC	SAA1-37803, Annex 1	Aeronautics	View Signed Agreement
877	37803	JOHNS HOPKINS UNIVERSITY / APPLIED PHYSICS LAB	BOUNDARY LAYER TRANSITION (BOLT) AND BOLT DERIVATIVE RESEARCH COLLABORATION	3/21/2023	3/21/2028	Non-Reimbursable	\$0	LaRC	SAA1-37803	Aeronautics	View Signed Agreement
878	37763	Blue Origin, LLC	Return of LMS Prototype	1/31/2023	1/31/2024	Reimbursable	\$17,397	LaRC	SAA2-403403, Annex 10	Space Technology	View Signed Agreement
879	37696	Blue Origin, LLC	Terahertz Scanning Application for Blue Origin	12/6/2022	12/6/2023	Reimbursable	\$61,977	LaRC	SAA-EA-20-29343, Annex 26	Institutional and Mission Support	View Signed Agreement
880	37676	Lockheed Martin	Computational Materials-Informed Qualification and Certification	8/29/2023	8/29/2028	Non-Reimbursable	\$262,115	LaRC	SAA1-37675, Annex 1	Aeronautics	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
881	37675	Lockheed Martin	Capabilities to Support Development and Acceptance of Advanced Manufacturing	8/29/2023	8/29/2028	Non-Reimbursable	\$0	LaRC	SAA1-37675	Aeronautics	View Signed Agreement
882	37672	Wichita State University	Use of Additive Manufacturing for Novel Acoustic Liners	12/12/2022	10/1/2023	Non-Reimbursable	\$36,378	LaRC	SAA1-28789, Annex 2	Aeronautics	View Signed Agreement
883	37656	Blue Origin, LLC	SCIFLI LOFTID Imaging Mission (SLIM)	10/13/2022	10/13/2023	Reimbursable	\$1,489,739	LaRC	SAA8-2235543, Annex 6	Space Technology	View Signed Agreement
884	37655	Blue Origin, LLC	Aerothermal and Aerodynamic Testing and Analysis Support	10/27/2022	10/27/2023	Reimbursable	\$395,696	LaRC	SAA8-2235543, Annex 5	Space Technology	View Signed Agreement
885	37623	Raytheon Company	Aeroheating in LAL	11/17/2022	12/1/2025	Reimbursable	\$373,424	LaRC	SAA1-37623	Aeronautics	View Signed Agreement
886	37557	Joby Aero, Inc	Collaboration with Joby, Inc. on Aerospace Technologies for Integrated Airspace Operations for Urban Air Mobility (UAM)	3/9/2023	5/9/2027	Non-Reimbursable	\$476,202	LaRC	SAA2-403660, Annex 2	Aeronautics	View Signed Agreement
887	37517	Hampton University	Polarimetry Studies	4/20/2023	4/20/2025	Non-Reimbursable	\$139,795	LaRC	SAA1-37493, Annex 2	Science	View Signed Agreement
888	37498	RELATIVITY SPACE, INC.	UNSTEADY AERODYNAMIC TEST IN NASA LaRC UPWT	12/1/2022	9/30/2024	Reimbursable	\$293,564	LaRC	SAA8-2033020, Annex 2	Space Technology	View Signed Agreement
889	37494	Hampton University	Lidar Studies	4/20/2023	4/20/2025	Non-Reimbursable	\$182,117	LaRC	SAA1-37493, Annex 1	Science	View Signed Agreement
890	37493	Hampton University	Collaboration Research, Development, and Testing	4/20/2023	4/20/2025	Non-Reimbursable	\$0	LaRC	SAA1-37493	Science	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
891	37294	uAvionix Corporation	NASA and uAvionix UAS C2 Collaboration	2/23/2023	2/23/2025	Non-Reimbursable	\$79,542	LaRC	SAA1-37294	Aeronautics	View Signed Agreement
892	36977	The Longbow Group, LLC	High Density Vertiplex Technologies and Concepts	11/8/2022	11/8/2024	Non-Reimbursable	\$337,173	LaRC	SAA1-34272, Annex 3	Aeronautics	View Signed Agreement
893	36944	AEROJET ROCKETDYNE, INC	COLLABORATIVE RESEARCH AND DEVELOPMENT IN THE AREA OF HYPERSONIC TECHNOLOGIES.	8/11/2022	8/11/2027	Reimbursable	\$0	LaRC	SAA1-36944	Aeronautics	View Signed Agreement
894	36938	SIERRA NEVADA CORPORATION	THERMAL MODELING, ANALYSIS, AND TESTING SUPPORT	7/12/2022	12/31/2024	Reimbursable	\$297,709	LaRC	Task Plan 006 (36938)	Space Technology	View Signed Agreement
895	36935	VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY	Advanced Sensing for Urban Air Mobility and Intelligent Transportation Systems	8/30/2022	8/30/2024	Non-Reimbursable	\$110,500	LaRC	SAA1-36204-ANNEX 2	Aeronautics	View Signed Agreement
896	36891	Honeywell International Inc.	Implementation and Optimization of Conventional and Novel Acoustic Liner Concepts	7/1/2022	12/31/2023	Non-Reimbursable	\$26,488	LaRC	SAA1-36890, Annex 1	Aeronautics	View Signed Agreement
897	36890	Honeywell International Inc.	Exploration of acoustic liner technology to enable quieter aircraft	7/1/2022	6/30/2027	Non-Reimbursable	\$0	LaRC	SAA1-36890	Aeronautics	View Signed Agreement
898	36826	Port Authority of New York and New Jersey	Concepts of Operation (ConOps) and Airspace Procedure Investigations for UAM in New York City	2/17/2023	2/16/2028	Non-Reimbursable	\$767,172	LaRC	SAA1-36825, Annex 1	Aeronautics	View Signed Agreement
899	36825	Port Authority of New York and New Jersey	Urban Air Mobility (UAM) and Advanced Air Mobility (AAM) Exploratory Research for New York City	2/17/2023	2/16/2028	Non-Reimbursable	\$0	LaRC	SAA1-36825	Aeronautics	View Signed Agreement
900	36809	Oklahoma State University	Exploration of Thermoacoustic Stack Designs	7/11/2022	10/11/2023	Non-Reimbursable	\$13,376	LaRC	SAA1-36809	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
901	36768	The City of Hampton Police Department	Storage of Ammunition and Access to Firing Range	4/10/2023	7/1/2024	Non-Reimbursable	\$7,555	LaRC	SAA1-36768	Institutional and Mission Support	View Signed Agreement
902	36718	Hexcel Corporation	Investigation of Novel Acoustic Liner Concepts	6/10/2022	6/10/2024	Non-Reimbursable	\$20,634	LaRC	SAA1-33328, Annex 2	Aeronautics	View Signed Agreement
903	36549	Paradigm Materials	Development of AERoBOND Materials Co-Cure Assembly of Composite Structures	5/26/2022	11/26/2023	Non-Reimbursable	\$141,864	LaRC	SAA1-36549	Aeronautics	View Signed Agreement
904	36476	TUFTS UNIVERSITY	INVESTIGATION OF SILK-BASED MATERIALS FOR SPACE APPLICATIONS	4/26/2022	10/26/2023	Non-Reimbursable	\$13,434	LaRC	SAA1-36475-Annex 1	Space Technology	View Signed Agreement
905	36475	TUFTS UNIVERSITY	COLLABORATIVE RESEARCH, DEVELOPMENT, AND TESTING OPPORTUNITIES	4/26/2022	4/26/2027	Non-Reimbursable	\$0	LaRC	SAA1-36475	Space Technology	View Signed Agreement
906	36469	Raytheon Technologies Corporation	Design, Development, and Assessment of Noise Reduction Technology for Quiet Aircraft	6/22/2022	12/22/2023	Non-Reimbursable	\$34,882	LaRC	SAA1-36468, Annex 1	Aeronautics	View Signed Agreement
907	36468	Raytheon Technologies Corporation	Metamaterial-Based Acoustic Liner Design Methods	6/22/2022	6/21/2027	Non-Reimbursable	\$0	LaRC	SAA1-36468	Aeronautics	View Signed Agreement
908	36451	Outpost Technologies Corporation	CONCEPTUAL DESIGN OF HIAD FOR REUSABLE SATELLITE	8/9/2022	9/30/2024	Reimbursable	\$413,737	LaRC	SAA1-36450-ANNEX 1	Space Technology	View Signed Agreement
909	36450	Outpost Technologies Corporation	DESIGN AND FABRICATION OF A HIAD TO ENABLE RETURN AND RECOVERY OF SATELLITES FOR REUSE	8/9/2022	8/9/2027	Reimbursable	\$0	LaRC	SAA1-36450	Space Technology	View Signed Agreement
910	36429	VENUS AEROSPACE CORPORATION	High Mach Aircraft Research, Development and Collaboration	3/24/2023	3/24/2025	Non-Reimbursable	\$253,610	LaRC	SAA1-36428, Annex 1	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
911	36428	VENUS AEROSPACE CORPORATION	HYPERSONIC AIRCRAFT & ROCKET PROPULSION RESEARCH, DEVELOPMENT, AND COLLABORATION	3/24/2023	3/24/2028	Non-Reimbursable	\$0	LaRC	SAA1-36428	Aeronautics	View Signed Agreement
912	36364	Air Force Research Laboratory	Measurements of supersonic flow on an elliptic cone	8/23/2022	10/23/2023	Non-Reimbursable	\$4,298	LaRC	IA1-36363, Annex 1	Aeronautics	View Signed Agreement
913	36363	Air Force Research Laboratory	COLLABORATIVE RESEARCH AND DEVELOPMENT IN THE AREA OF HIGH-SPEED LOW DISTURBANCE TUNNELS	8/23/2022	8/23/2027	Non-Reimbursable	\$0	LaRC	IA1-36363	Aeronautics	View Signed Agreement
914	36331	University of Arizona Applied Research Corporation	SPACE MIRROR APERTURE ASSEMBLY	5/23/2022	1/23/2024	Non-Reimbursable	\$54,458	LaRC	SAA1-36330-ANNEX 1	Space Technology	View Signed Agreement
915	36330	University of Arizona Applied Research Corporation	COLLABORATIVE RESEARCH, DEVELOPMENT, AND TESTING OPPORTUNITIES	5/23/2022	5/23/2027	Non-Reimbursable	\$0	LaRC	SAA1-36330	Space Technology	View Signed Agreement
916	36327	The Longbow Group, LLC	Evaluation of Prognostic Services for Autonomous Air Vehicles in Urban Environments	4/29/2022	4/29/2025	Non-Reimbursable	\$457,165	LaRC	SAA1-34272, Annex 2	Aeronautics	View Signed Agreement
917	36302	Newport News Public School District	Fabrication of Wood Shipping Crates and Reduced Gravity Gloveboxes	3/22/2022	9/30/2026	Non-Reimbursable	\$34,268	LaRC	SAA1-36296, Annex 2	Space Technology, Education and/or Public Engagement	View Signed Agreement
918	36297	Newport News Public School District	Fabrication of Storage Lockers for the International Space Station (ISS)	3/17/2022	9/30/2026	Non-Reimbursable	\$34,268	LaRC	SAA1-36296, Annex 1	Space Technology, Education and/or Public Engagement	View Signed Agreement
919	36296	Newport News Public School District	High Schools United with NASA to Create Hardware (HUNCH) Program	3/17/2022	3/17/2027	Non-Reimbursable	\$0	LaRC	SAA1-36296	Space Technology, Education and/or Public Engagement	View Signed Agreement
920	36277	The Boeing Company	SYSTEM-WIDE SAFETY RESEARCH	5/24/2022	5/24/2026	Non-Reimbursable	\$539,092	LaRC	SAA1-33523, Annex 2	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
921	36205	VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY	CUBESAT COMPOSITE BOOM TECHNOLOGY DEMONSTRATION PROJECT	8/15/2022	9/30/2023	Non-Reimbursable	\$44,156	LaRC	SAA1-36204-Annex 1	Space Technology	View Signed Agreement
922	36204	VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY	COLLABORATIVE RESEARCH, DEVELOPMENT, AND TESTING OPPORTUNITIES	8/15/2022	8/15/2027	Non-Reimbursable	\$0	LaRC	SAA1-36204	Space Technology	View Signed Agreement
923	36148	BLUE ORIGIN, LLC	Flight Testing of 3-D Imaging Flash Lidar Sensor for Safe Lunar Landing	4/5/2022	1/15/2024	Non-Reimbursable	\$177,233	LaRC	SAA1-36148	Space Technology	View Signed Agreement
924	36144	Sierra Nevada Corporation	Induced Loads and Environments Support for the ISS CRS2 Program	2/18/2022	9/30/2024	Reimbursable	\$60,890	LaRC	Task Plan 005	Space Technology	View Signed Agreement
925	36136	Honeybee Robotics, Ltd	Evaluation of Passive Lunar Dust Mitigation Materials in the PlanetVac Collection Chamber	4/18/2022	3/31/2025	Non-Reimbursable	\$25,777	LaRC	SAA1-36136	Space Technology	View Signed Agreement
926	36115	RAYTHEON COMPANY	BOLT and BOLT-Derivative Research Collaboration	5/6/2022	9/30/2024	Non-Reimbursable	\$737,395	LaRC	SAA1-36114, Annex 1	Aeronautics	View Signed Agreement
927	36114	RAYTHEON COMPANY	HYPERSONIC TECHNOLOGIES RESEARCH, DEVELOPMENT & TESTING	5/6/2022	5/6/2027	Non-Reimbursable	\$0	LaRC	SAA1-36114	Aeronautics	View Signed Agreement
928	36063	FLEXcon Company, Inc.	EVALUATION OF LUNAR DUST SIMULANT ADHESION ON ADVANCED COMMERCIAL MATERIALS	2/24/2022	2/24/2024	Non-Reimbursable	\$55,913	LaRC	SAA1-36063	Space Technology	View Signed Agreement
929	35879	Textron Aviation, Inc.	Composite Aircraft Dynamic Material Response	1/15/2022	1/15/2024	Non-Reimbursable	\$119,278	LaRC	SAA1-35879	Aeronautics	View Signed Agreement
930	35811	Raytheon Technologies Intelligence and Space	ExoSPEAR Coherent Lidar Tracking System Upgrade	12/17/2021	10/17/2023	Reimbursable	\$68,112	LaRC	SAA1-35810, Annex 1	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
931	35810	Raytheon Technologies Intelligence and Space	Optical Remote Sensing for Space Applications in Robotics and Surveillance	12/17/2021	12/17/2026	Reimbursable	\$0	LaRC	SAA1-35810	Space Technology	View Signed Agreement
932	35777	Psionic, LLC	Subject Matter Expertise Support for Commercialization of Navigation Doppler Lidar Generation 4 Technology	12/13/2021	12/31/2023	Reimbursable	\$65,467	LaRC	SAA1-35776, Annex 1	Space Technology	View Signed Agreement
933	35776	Psionic, LLC	Space Technology Commercialization for Measurement and Materials Applications	12/13/2021	12/13/2026	Reimbursable	\$0	LaRC	SAA1-35776	Space Technology	View Signed Agreement
934	35643	North Carolina State University	Optimization, Multifunctionality, and Active Control of Deployable Composite Structures, Annex 1	1/28/2022	1/28/2026	Non-Reimbursable	\$2,352,564	LaRC	SAA1-35642, Annex 1	Space Technology	View Signed Agreement
935	35642	NORTH CAROLINA STATE UNIVERSITY	Optimization, Multifunctionality, and Active Control of Deployable Composite Structures	1/28/2022	1/28/2026	Non-Reimbursable	\$0	LaRC	SAA1-35642	Space Technology	View Signed Agreement
936	35630	Northrop Grumman Corporation	Freejet Demonstrator	3/30/2022	9/30/2023	Reimbursable	\$1,391,575	LaRC	SAA2-403514, Annex 3	Aeronautics	View Signed Agreement
937	35566	University of Texas at El Paso	Evaluation of Additive Manufacturing Print Quality via Standardized Test Artifact	1/20/2022	1/20/2027	Non-Reimbursable	\$138,810	LaRC	SAA1-35566	Aeronautics	View Signed Agreement
938	35421	Federal Aviation Administration	Sustainable and Scalable Advanced Air Mobility (AAM) Operations	12/3/2021	1/4/2026	Non-Reimbursable	\$752,758	LaRC	31919, Annex 2	Aeronautics	View Signed Agreement
939	35418	Blue Origin, LLC	New Glenn Launch Vehicle Flight Dynamics Assessment	12/10/2021	9/30/2023	Reimbursable	\$270,505	LaRC	SAA2-403403, Annex 5	Space Technology	View Signed Agreement
940	35362	The Boeing Company	ecoDemonstrator Emissions Testing	5/4/2022	5/4/2025	Non-Reimbursable	\$509,681	LaRC	SAA1-35361, Annex 1	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
941	35361	The Boeing Company	Aerospace Research Development	5/4/2022	5/4/2027	Non-Reimbursable	\$0	LaRC	SAA1-35361	Aeronautics	View Signed Agreement
942	35097	Old Dominion University	Annex to Collaboration Research, Development, and Testing	8/19/2021	12/31/2024	Non-Reimbursable	\$9,027	LaRC	SAA1-34376, Annex 4	Aeronautics	View Signed Agreement
943	35070	Varda Space Industries	EDL Analysis Support	8/16/2021	8/16/2024	Reimbursable	\$139,290	LaRC	SAA1-35070	Space Technology	View Signed Agreement
944	35035	National Institute of Standards and Technology (NIST)	Verification of Software and Autonomous Systems	9/30/2021	9/30/2026	Non-Reimbursable	\$68,836	LaRC	IA1-35035	Aeronautics	View Signed Agreement
945	34765	TEXAS A&M UNIVERSITY	Hypervelocity impact (HVI), and High Velocity Microparticle Impact (HVMI) testing	1/18/2022	1/18/2024	Non-Reimbursable	\$385,882	LaRC	SAA1-34764, Annex 1	Aeronautics	View Signed Agreement
946	34764	TEXAS A&M UNIVERSITY	COLLABRITIVE RESEARCH AND DEVELOPMENT IN THE AREA OF HYPERSONIC TECHNOLOGIES	1/18/2022	1/18/2027	Non-Reimbursable	\$0	LaRC	SAA1-34764	Aeronautics	View Signed Agreement
947	34717	Massachusetts Institute of Technology	Self-Erectable Lunar Tower for Instrument (SELT1) Development	7/6/2021	7/6/2024	Non-Reimbursable	\$694,498	LaRC	SAA1-34717	Human Exploration and Operations, Space Technology	View Signed Agreement
948	34377	Old Dominion University	Visual Attention Allocation and Trust in Human-Autonomy Teaming	5/3/2021	5/3/2026	Non-Reimbursable	\$527,702	LaRC	SAA1-34376, Annex 1	Aeronautics	View Signed Agreement
949	34376	Old Dominion University	Collaboration Research, Development, and Testing	5/3/2021	5/3/2026	Non-Reimbursable	\$0	LaRC	SAA1-34376	Aeronautics	View Signed Agreement
950	34288	Arizona State University	Investigation of Bio-Inspired Material Surfaces for Dust Mitigation in Space Applications	4/5/2021	4/5/2024	Non-Reimbursable	\$16,910	LaRC	SAA1-34287, Annex 1	Space Technology, Education and/or Public Engagement, Technology Transfer	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
951	34287	Arizona State University	Collaborative Aerospace Research and Outreach	4/5/2021	4/5/2026	Non-Reimbursable	\$0	LaRC	SAA1-34287	Space Technology, Education and/or Public Engagement, Technology Transfer	View Signed Agreement
952	34272	The Longbow Group, LLC	Unmanned Systems Collaborative testing at Fort Monroe	4/12/2021	4/12/2026	Non-Reimbursable	\$0	LaRC	SAA1-34272	Aeronautics	View Signed Agreement
953	34241	MATERIALS RESEARCH AND DESIGN, INC	Carbon/Carbon Aeroshell Testing to Delay Hypersonic Boundary-Layer Transition	2/9/2022	12/31/2025	Non-Reimbursable	\$245,701	LaRC	SAA1-34241	Aeronautics	View Signed Agreement
954	34215	Stevens Institute of Technology	Boundary Layer Measurements with Advanced Diagnostics	5/4/2021	9/30/2025	Non-Reimbursable	\$302,727	LaRC	SAA1-34215	Aeronautics	View Signed Agreement
955	33681	BNNT, LLC	annex to DEVELOPMENT AND OPTIMIZATION OF BORON NITRIDE NANOTUBES	10/1/2021	8/21/2024	Non-Reimbursable	\$94,999	LaRC	SAA1-30606, Annex 2	Space Technology	View Signed Agreement
956	33586	NAVAL SUBMARINE MEDICAL RESEARCH LABORATORY	RESEARCH ON WARFIGHTER PERFORMANCE	2/4/2022	2/4/2027	Non-Reimbursable	\$24,546	LaRC	IA1-33586	Aeronautics	View Signed Agreement
957	33524	The Boeing Company	Integration, Demonstration and Exploration of Autonomous Systems	2/7/2022	2/7/2025	Non-Reimbursable	\$215,012	LaRC	SAA1-33523, Annex 1	Aeronautics	View Signed Agreement
958	33523	The Boeing Company	Aerospace Research Technology, Development, Testing and Evaluation	2/7/2022	2/7/2027	Non-Reimbursable	\$0	LaRC	SAA1-33523	Aeronautics	View Signed Agreement
959	33356	OptoKnowledge Systems, Inc.	HYMETS TESTING USING REMOTE SPECTRAL SENSORS	1/4/2021	9/30/2024	Reimbursable	\$35,106	LaRC	SAA1-33356	Aeronautics	View Signed Agreement
960	33328	Hexcel Corporation	Investigation of Manufacturing Techniques for Novel Acoustic Liners	9/15/2020	9/15/2025	Non-Reimbursable	\$0	LaRC	SAA1-33328	Aeronautics	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
961	33280	Federal Aviation Administration	USING THE OVERARCHING PROPERTIES IN NOVEL EXAMPLES - PHASE II	11/20/2020	11/10/2023	Non-Reimbursable	\$3,557,295	LaRC	SAA1-30149, Annex 3	Aeronautics	View Signed Agreement
962	33199	SkyCorp, Inc.	Skycorp Orbital Logistics Vehicle	3/1/2021	3/1/2026	Reimbursable	\$0	LaRC	SAA1-33199	Space Technology	View Signed Agreement
963	32988	Texas A&M University	System-Wide Safety Research in Advanced Air Mobility (AAM)	3/16/2021	3/16/2026	Non-Reimbursable	\$328,412	LaRC	SAA1-32987, Annex 1	Aeronautics	View Signed Agreement
964	32987	Texas A&M University	Advanced Air Mobility Research and Testing	3/16/2021	3/16/2026	Non-Reimbursable	\$0	LaRC	SAA1-32987	Aeronautics	View Signed Agreement
965	32809	IKONICS Corporation	Investigation of Liner Facesheet Manufacturing Innovations	8/13/2020	8/13/2025	Non-Reimbursable	\$0	LaRC	SAA1-32809	Aeronautics	View Signed Agreement
966	32792	Radford University	Collaboration between NASA and Radford University's Modeling and Simulation Institute	8/3/2020	8/3/2025	Non-Reimbursable	\$0	LaRC	SAA1-32792	Education and/or Public Engagement	View Signed Agreement
967	32735	National Institute of Aerospace	Transition Prediction and Control for Blunt Hypersonic Configurations with Hemispherical and Ogival Nosedtips	7/22/2020	4/30/2024	Reimbursable	\$12,630	LaRC	SAA1-31764, ANNEX 2	Aeronautics	View Signed Agreement
968	32707	Lockheed Martin	Wind Tunnel Testing	4/12/2021	4/12/2026	Reimbursable	\$0	LaRC	SAA1-32707	Aeronautics	View Signed Agreement
969	32700	Worcester Polytechnic Institute	Research Collaboration between Worcester Polytechnic Institute and NASA Langley Research Center	7/20/2020	7/20/2025	Non-Reimbursable	\$65,084	LaRC	SAA1-32700	Aeronautics	View Signed Agreement
970	32663	Mississippi State University	Stitched/Resin-Infused Composites Material Characterization and Sub-Component Development	10/2/2020	2/22/2024	Non-Reimbursable	\$197,631	LaRC	SAA1-32662, Annex 1	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
971	32662	Mississippi State University	Cooperative Stitched Composite Structures Development and Characterization	10/2/2020	10/2/2025	Non-Reimbursable	\$0	LaRC	SAA1-32662	Aeronautics	View Signed Agreement
972	32651	JOHNS HOPKINS UNIVERSITY / APPLIED PHYSICS LAB	Dynamic Balance Proof of Concept Study	9/3/2020	9/30/2024	Non-Reimbursable	\$270,898	LaRC	SAA1-32651	Aeronautics	View Signed Agreement
973	32643	University of California San Diego	COLLABORATIVE AEROSPACE RESEARCH AND OUTREACH	11/17/2020	11/17/2025	Non-Reimbursable	\$0	LaRC	SAA1-32643	Space Technology	View Signed Agreement
974	32601	Purdue University	COLLABORATIVE AEROSPACE RESEARCH AND OUTREACH	7/16/2020	7/16/2025	Non-Reimbursable	\$0	LaRC	SAA1-32601	Space Technology	View Signed Agreement
975	32576	Carnegie Mellon University	Carnegie Mellon University (CMU) Collaboration with NASA LaRC on the Research and Development of the Qualification of Additively Manufactured Parts	7/13/2020	7/13/2025	Non-Reimbursable	\$675,580	LaRC	SAA1-32576	Aeronautics	View Signed Agreement
976	32569	US Army Combat Capabilities Development Command	The Re-establishment of Vertical Lift Research Centers of Excellence	5/3/2021	5/3/2026	Non-Reimbursable	\$331,608	LaRC	IA1-32569	Aeronautics	View Signed Agreement
977	32508	UNIVERSITY OF NORTH DAKOTA	Investigation of Novel Wear-Resistant Materials for Space Applications	7/24/2020	7/24/2024	Non-Reimbursable	\$39,258	LaRC	SAA1-32507-Annex 1	Space Technology	View Signed Agreement
978	32507	UNIVERSITY OF NORTH DAKOTA	Collaborative Aerospace and Research	7/24/2020	7/24/2025	Non-Reimbursable	\$0	LaRC	SAA1-32507	Space Technology	View Signed Agreement
979	32449	L3HARRIS TECHNOLOGIES, INC.	Aerospace Research Development Testing and Evaluation Support	12/15/2020	12/15/2025	Reimbursable	\$0	LaRC	SAA1-32449	Aeronautics, Science	View Signed Agreement
980	32320	THE UNIVERSITY OF TEXAS AT SAN ANTONIO	Shock Wave Boundary Layer Interactions	11/19/2020	9/30/2024	Non-Reimbursable	\$328,711	LaRC	SAA1-32320	Aeronautics	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
981	32298	THE VIRGINIA AIR AND SPACE CENTER AND CITY OF HAMPTON	A Joint Public Lecture Series Entitled The Sigma Series	7/30/2020	7/30/2025	Non-Reimbursable	\$105,598	LaRC	SAA1-32298	Education and/or Public Engagement	View Signed Agreement
982	32242	University of North Carolina at Chapel Hill	Mentoring for Commercializing Emerging Technologies Studies	8/10/2021	8/10/2026	Non-Reimbursable	\$9,313	LaRC	SAA1-32242	Technology Transfer	View Signed Agreement
983	32166	VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY	Air Quality Monitoring Site	8/13/2020	8/13/2025	Non-Reimbursable	\$47,380	LaRC	IA1-32166	Science	View Signed Agreement
984	32088	INTEL CORPORATION	Development of high thermal conductivity material for next generation processors	8/17/2021	8/17/2026	Reimbursable	\$0	LaRC	SAA1-32088	Space Technology	View Signed Agreement
985	32044	National Institute for Aviation Research-Wichita State University (niar)	Composites NDE standards library and database administration	4/24/2020	4/24/2025	Non-Reimbursable	\$23,548	LaRC	SAA1-32044	Aeronautics	View Signed Agreement
986	32036	Hermeus Corporation	Collaboration for Aerospace Research, Development and Testing	11/9/2020	11/9/2025	Non-Reimbursable	\$0	LaRC	SAA1-32036	Aeronautics	View Signed Agreement
987	31974	TEXAS A&M UNIVERSITY	Boundary Layer Turbulence (BOLT) Flight II Experiments	4/23/2021	9/30/2024	Non-Reimbursable	\$256,604	LaRC	SAA1-31974	Aeronautics	View Signed Agreement
988	31870	Federal Aviation Administration	Advanced Additive Manufacturing Technologies	5/7/2020	5/7/2025	Non-Reimbursable	\$0	LaRC	IA1-31870	Aeronautics	View Signed Agreement
989	31765	National Institute of Aerospace	Novel Concepts for Transition Delay in Hypersonic Boundary Layers Support	7/17/2020	4/30/2024	Reimbursable	\$12,630	LaRC	SAA1-31764, Annex 1	Aeronautics	View Signed Agreement
990	31764	National Institute of Aerospace	RESEARCH, EDUCATIONAL OUTREACH, AND TESTING ACTIVITIES	7/17/2020	7/17/2025	Reimbursable	\$0	LaRC	SAA1-31764	Aeronautics, Science, Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
991	31663	THE SPACESHIP COMPANY	Collaboration to Commercialize High Mach Aircraft	3/20/2020	3/20/2025	Non-Reimbursable	\$0	LaRC	SAA1-31663	Aeronautics	View Signed Agreement
992	31140	GENERAL ATOMICS AERONAUTICAL SYSTEMS, INC.	Evaluation of Acoustic Liners for Fan Noise Reduction	10/9/2019	10/9/2024	Reimbursable	\$0	LaRC	SAA1-31140	Aeronautics	View Signed Agreement
993	30831	U.S. Department of Defense	STATISTICAL ENGINEERING INFORMATION EXCHANGE	9/22/2021	9/22/2026	Non-Reimbursable	\$292,435	LaRC	IA1-30831	Institutional and Mission Support	View Signed Agreement
994	30707	MOOG, INC	Autonomous Flight Control Development for Electric VTOL Vehicles	1/18/2020	12/31/2023	Non-Reimbursable	\$124,163	LaRC	SAA1-30706, Annex 1	Aeronautics	View Signed Agreement
995	30706	MOOG, INC	AEROSPACE RESEARCH TECHNOLOGY AND DEVELOPMENT	1/18/2020	1/18/2025	Non-Reimbursable	\$0	LaRC	SAA1-30706	Aeronautics	View Signed Agreement
996	30606	BNNT, LLC	DEVELOPMENT AND OPTIMIZATION OF BORON NITRIDE NANOTUBES	8/21/2019	8/21/2024	Non-Reimbursable	\$0	LaRC	SAA1-30606	Space Technology	View Signed Agreement
997	29851	Exothermics, Inc.	Thermochemical Response of UHT Hypersonic Leading-Edge Candidates	3/26/2019	9/30/2024	Reimbursable	\$89,262	LaRC	SAA1-29851	Aeronautics	View Signed Agreement
998	29424	Williamsburg-James City County Public Schools	High School Students United With NASA to Create Hardware Program	2/6/2019	2/6/2024	Non-Reimbursable	\$0	LaRC	SAA1-29424	Science, Space Technology, Education and/or Public Engagement	View Signed Agreement
999	29215	Purdue University	Deployable Composite Sail Structure Materials Modeling Research	2/22/2019	9/30/2023	Non-Reimbursable	\$15,826	LaRC	SAA1-29213, Annex 2	Space Technology	View Signed Agreement
1000	29213	Purdue University	Deployable Composite Solar Sail Structural Research	2/21/2019	2/21/2024	Non-Reimbursable	\$0	LaRC	SAA1-29213	Space Technology	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1001	28789	Wichita State University	Acoustic and Aero Liner Research	10/1/2018	10/1/2023	Non-Reimbursable	\$0	LaRC	SAA1-28789	Aeronautics, Education and/or Public Engagement	View Signed Agreement
1002	39498	PSIONIC, LLC	Validating No-Light Lunar Landing Technology	7/20/2023	7/19/2028	Funded	\$3,145,500	LaRC	FSAA-39498	Space Technology	View Signed Agreement
1003	39500	Freedom Photonics, LLC	Highly Efficient Watt-Class Direct Diode LIDAR for Remote Sensing	7/20/2023	7/19/2028	Funded	\$1,556,378	LaRC	FSAA-39500	Space Technology	View Signed Agreement
1004	39501	PROTOINNOVATIONS, LLC	Lunar Surface Mobility Coordinator Software	7/20/2023	7/20/2028	Funded	\$6,174,917	LaRC	FSAA-39501	Space Technology	View Signed Agreement
1005	39502	Zeno Power Systems, LLC	Harmonia: A Universal Americium-241 Radioisotope Power Supply for Artemis	7/20/2023	7/20/2028	Funded	\$15,000,010	LaRC	FSAA-39502	Space Technology	View Signed Agreement
1006	39657	Maxar Space LLC	Demand Services for Space Environmental Effects Testing	9/29/2023	9/29/2024	Reimbursable	\$259,552	MSFC	SAA8-2339656.1	Institutional and Mission Support	View Signed Agreement
1007	39656	Maxar Space LLC	Space Environmental Effects Testing	9/29/2023	9/29/2028	Reimbursable	\$0	MSFC	SAA8-2339656	Institutional and Mission Support	View Signed Agreement
1008	39619	UNIVERSITY OF PITTSBURGH	Fireball Network Station at Allegheny Observatory	9/21/2023	9/21/2028	Non-Reimbursable	\$1,618	MSFC	SAA8-2339619	Science	View Signed Agreement
1009	39496	United Launch Alliance	ULA PAF Structural Test _ FID	9/28/2023	9/28/2024	Reimbursable	\$5,649,109	MSFC	SAA8-1726580.18	Institutional and Mission Support	View Signed Agreement
1010	39470	UNITED LAUNCH ALLIANCE, LLC	ULA Vulcan Engine Reuse Scale (VERS) Hypersonic Inflatable Aerodynamic Decelerator (HIAD)	7/20/2023	7/20/2028	Funded	\$25,000,000	MSFC	39470	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1011	39469	LOCKHEED MARTIN	Joining Demonstrations In-Space (JOINS)	7/20/2023	7/20/2028	Funded	\$9,053,467	MSFC	39469	Space Technology	View Signed Agreement
1012	39468	Redwire Space Inc	Infrastructure Manufacturing with Lunar Regolith - Mason	7/20/2023	7/20/2028	Funded	\$12,910,000	MSFC	39468	Space Technology	View Signed Agreement
1013	39440	ThinkOrbital Inc.	ANALYSIS AND MODELING OF IN-SPACE WELDING	9/27/2023	9/27/2025	Non-Reimbursable	\$12,001	MSFC	SAA8-2339439.1	Space Technology, Institutional and Mission Support	View Signed Agreement
1014	39439	ThinkOrbital Inc.	SPACE EXPLORATION TECHNOLOGY DEVELOPMENT FOR IN-SPACE WELDING	9/27/2023	9/27/2028	Non-Reimbursable	\$0	MSFC	SAA8-2339439	Space Technology, Institutional and Mission Support	View Signed Agreement
1015	39384	THE UNIVERSITY OF TENNESSEE SPACE INSTITUTE	Fireball Network Station at UTSI	8/31/2023	8/31/2028	Non-Reimbursable	\$1,486	MSFC	SAA8-2339384	Education and/or Public Engagement	View Signed Agreement
1016	39277	Sierra Space	Design and Manufacturing Review for Rocket Engine Components	9/14/2023	9/14/2026	Reimbursable	\$59,000	MSFC	SAA8-2339276.1	Science	View Signed Agreement
1017	39276	Sierra Space	Rocket Engine Development and Test	9/14/2023	9/14/2028	Reimbursable	\$0	MSFC	SAA8-2339276	Science	View Signed Agreement
1018	39225	United Launch Alliance	ULA Centaur V STA1 Stand Restoration	9/22/2023	9/22/2024	Reimbursable	\$1,701,762	MSFC	SAA8-1726580.17	Institutional and Mission Support	View Signed Agreement
1019	39223	United Launch Alliance	United Launch Alliance (ULA) Cryogenic Pressure Cycling Test -Centaur V Structural Test Article STA 1.5	8/2/2023	8/2/2024	Reimbursable	\$7,483,597	MSFC	SAA8-1726580.15	Institutional and Mission Support	View Signed Agreement
1020	39183	THE BOEING COMPANY	DISASSEMBLY AND EVALUATION OF CST100 COMPONENTS	8/22/2023	2/22/2024	Reimbursable	\$45,474	MSFC	CCtCap8-2339183	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1021	39175	Huntsville City Football Club	Space Exploration Education and Engagement	9/20/2023	9/20/2028	Non-Reimbursable	\$0	MSFC	SAA8-2339175	Education and/or Public Engagement	View Signed Agreement
1022	39171	OBERLIN COLLEGE AND CONSERVATORY	Fireball Network Station at Oberlin	9/1/2023	9/1/2028	Non-Reimbursable	\$2,402	MSFC	SAA8-2339171	Education and/or Public Engagement	View Signed Agreement
1023	39159	BLUE ORIGIN, LLC	Annex for BE-3 Waterflow Testing	7/21/2023	7/21/2024	Reimbursable	\$588,023	MSFC	SAA8-1931648.3	Science	View Signed Agreement
1024	38978	International Business Machines (IBM) Corporation	annex to the Discovery, Access and Use of Large Science Datasets	7/12/2023	7/12/2025	Non-Reimbursable	\$844,194	MSFC	SAA8-2233097.2	Science	View Signed Agreement
1025	38965	U.S. Space & Rocket Center	annex to Build a scaled model of the HLS Starship and funded by the U.S. Space and Rocket Center	7/5/2023	7/5/2024	Reimbursable	\$10,000	MSFC	SAA8-2338251.3	Education and/or Public Engagement	View Signed Agreement
1026	38951	ST. BERNARD SHERIFFS DEPARTMENT	St. Bernard Sheriff's Department	6/12/2023	6/12/2028	Non-Reimbursable	\$6,754	MSFC	SAA8-2338951	Human Exploration and Operations	View Signed Agreement
1027	38911	Brigham Young University	Study of SLS Liftoff Trajectories to Estimate Acoustic Parameters	6/30/2023	6/30/2024	Non-Reimbursable	\$22,823	MSFC	SAA8-2338911	Human Exploration and Operations	View Signed Agreement
1028	38861	Torre Space and Power Systems, LLC	Plasma Chamber Testing of MHD Electrical Generator Test Articles	5/26/2023	5/26/2024	Reimbursable	\$54,404	MSFC	SAA8-2338860.1	Human Exploration and Operations, Space Technology, Institutional and Mission Support	View Signed Agreement
1029	38860	Torre Space and Power Systems, LLC	Space Environment Recreation and Plasma Generation	5/26/2023	5/26/2028	Reimbursable	\$0	MSFC	SAA8-2338860	Human Exploration and Operations, Space Technology, Institutional and Mission Support	View Signed Agreement
1030	38859	geCKo Materials, PBC	Space Environmental Effects Testing of geCKo Materials Dry Adhesive	5/26/2023	5/26/2024	Reimbursable	\$70,419	MSFC	SAA8-2338858.1	Institutional and Mission Support	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1031	38858	geCKo Materials, PBC	Space Environmental Effects and Materials Testing	5/26/2023	5/26/2028	Reimbursable	\$0	MSFC	SAA8-2338858	Institutional and Mission Support	View Signed Agreement
1032	38832	NORTHROP GRUMMAN SYSTEMS CORPORATION	SMART DEMO SRTM	7/17/2023	7/17/2024	Reimbursable	\$119,367	MSFC	SAA8-2338831.1	Institutional and Mission Support	View Signed Agreement
1033	38831	NORTHROP GRUMMAN SYSTEMS CORPORATION	The 2023 SMART DEMO SRTM	7/17/2023	7/17/2028	Reimbursable	\$0	MSFC	SAA8-2338831	Institutional and Mission Support	View Signed Agreement
1034	38821	United Launch Alliance	ULA Centaur V STA 2 Instrumentation	5/2/2023	5/2/2024	Reimbursable	\$828,946	MSFC	SAA8-1726580.14	Aeronautics	View Signed Agreement
1035	38815	NeXolve	Radiation and UV Test on NeXolve Materials	6/22/2023	6/22/2024	Reimbursable	\$50,553	MSFC	SAA8-2338815	Space Technology	View Signed Agreement
1036	38779	HIRAM COLLEGE	Fireball Network Station at Hiram College	5/24/2023	5/24/2028	Non-Reimbursable	\$1,969	MSFC	SAA8-2338779	Education and/or Public Engagement	View Signed Agreement
1037	38768	United Launch Alliance	Centaur V STA1 Post-Test	5/5/2023	5/5/2024	Reimbursable	\$5,373,897	MSFC	SAA8-1726580.13	Aeronautics	View Signed Agreement
1038	38747	Above:Space Development Corporation	NEW Rotating GNC Testbed Characterization Via Air-Bearing	5/18/2023	11/18/2023	Reimbursable	\$7,674	MSFC	SAA8-2338746.1	Human Exploration and Operations	View Signed Agreement
1039	38746	Above:Space Development Corporation	Development of Commercial Space Station Technology	5/18/2023	5/18/2028	Reimbursable	\$0	MSFC	SAA8-2338746	Human Exploration and Operations	View Signed Agreement
1040	38692	U.S SPACE AND ROCKET CENTER	Annex to ALABAMA SPACE SCIENCE EXHIBIT COMMISSION	4/18/2023	4/18/2024	Non-Reimbursable	\$93,464	MSFC	SAA8-2031097.3	Human Exploration and Operations, Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1041	38629	LOCKHEED MARTIN	Photogrammetry Support for Subscale Burst Test	5/24/2023	5/24/2024	Reimbursable	\$82,887	MSFC	SAA8-2134592.9	Human Exploration and Operations	View Signed Agreement
1042	38547	BLUE ORIGIN, LLC	Hot Hydrogen Testing Activities in CFEET Furnace	4/14/2023	4/17/2024	Reimbursable	\$35,827	MSFC	SAA-EA-20-29343.37	Institutional and Mission Support	View Signed Agreement
1043	38535	NANORACKS, LLC	Consultation on Lunar Communication Relay Satellite Testing	5/16/2023	5/16/2024	Reimbursable	\$49,953	MSFC	SAA8-2338534.1	Human Exploration and Operations, Space Technology	View Signed Agreement
1044	38534	NANORACKS, LLC	Deep Space Transportation Technology Development	5/16/2023	5/16/2028	Reimbursable	\$0	MSFC	SAA8-2338534	Human Exploration and Operations, Science	View Signed Agreement
1045	38491	NEW CINGULAR WIRELESS PCS, LLC	CELLULAR SERVICE MICRO-TOWERS SUPPORTING FIRSTNET	8/15/2023	8/15/2028	Reimbursable	\$2,576	MSFC	SAA8-2338491	Institutional and Mission Support	View Signed Agreement
1046	38490	Plasma Processes, Inc.	One Newton Thruster Valve Fabrication, Assembly, and Qualification <input type="checkbox"/>	6/27/2023	4/27/2024	Reimbursable	\$557,992	MSFC	SAA8-2237691.2	Human Exploration and Operations	View Signed Agreement
1047	38454	Onyx Aerospace	Bi-Propellant Throttling Cavitating Venturi Valve Design <input type="checkbox"/>	3/10/2023	12/1/2023	Reimbursable	\$153,350	MSFC	SAA8-2135668.3	Science	View Signed Agreement
1048	38441	Northeast Arkansas Career and Technical Center	TO PRODUCE HARDWARE OR OTHER USEFUL PRODUCTS UNDER THE HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE (HUNCH) PROGRAM	4/10/2023	4/10/2028	Non-Reimbursable	\$80,216	MSFC	SAA8-2338441	Human Exploration and Operations	View Signed Agreement
1049	38364	Raytheon Technologies	Raytheon Wind Tunnel HAWK Testing	6/9/2023	6/9/2024	Reimbursable	\$310,169	MSFC	SAA8-2236871.2	Institutional and Mission Support	View Signed Agreement
1050	38342	RELATIVITY SPACE, INC.	annex to Rocket Engine Development and Test	5/19/2023	5/19/2025	Reimbursable	\$189,115	MSFC	SAA8-2033020.3	Space Technology, Institutional and Mission Support	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1051	38290	Iowa State University	Annex to Microwave Nondestructive Evaluation (NDE) Studies Titled: MICROWAVE IMAGING OF CEMENTITIOUS LUNAR SAMPLE	3/3/2023	3/3/2024	Non-Reimbursable	\$1,648	MSFC	SAA8-2134143.2	Education and/or Public Engagement, Technology Transfer	View Signed Agreement
1052	38276	Spirit Aero Systems	Annex to Collaboration in Aeronautical Vehicle Manufacturing	7/18/2023	7/18/2024	Reimbursable	\$20,000	MSFC	SAA8-1828434.4	Institutional and Mission Support	View Signed Agreement
1053	38252	U.S. Space & Rocket Center	F-1 Rocket Engine Move at the U.S. Space and Rocket Center	3/29/2023	1/29/2024	Reimbursable	\$30,299	MSFC	SAA8-2338251.1	Science	View Signed Agreement
1054	38251	U.S. Space & Rocket Center	F-1 Rocket Engine Move at the U.S. Space & Rocket Center	3/29/2023	3/29/2028	Reimbursable	\$0	MSFC	SAA8-2338251		View Signed Agreement
1055	38185	ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY	Fireball Network Station at Kitt Peak National Observatory (KPNO)	9/28/2023	9/28/2028	Non-Reimbursable	\$2,201	MSFC	SAA8-2338185	Science, Education and/or Public Engagement, Institutional and Mission Support	View Signed Agreement
1056	38065	SHELL INTERNATIONAL EXPLORATION AND PRODUCTION, INC	Foam Insulation Test Specimen Preparation and Performance of Testing	4/24/2023	4/24/2024	Reimbursable	\$119,500	MSFC	SAA8-2338064.1	Institutional and Mission Support	View Signed Agreement
1057	38064	SHELL INTERNATIONAL EXPLORATION AND PRODUCTION, INC	DEVELOPMENT AND CHARACTERIZATION OF LIQUID HYDROGEN STORAGE, TRANSFER, AND TRANSPORTATION TECHNOLOGIES	4/19/2023	4/19/2028	Reimbursable	\$0	MSFC	SAA8-2338064	Institutional and Mission Support	View Signed Agreement
1058	38020	OffWorld, Incorporated	Payload Integration Activities for GOAL Spacecraft; SLS Secondary Payload	7/26/2023	12/26/2026	Non-Reimbursable	\$448,493	MSFC	SAA8-2338020	Space Technology, Technology Transfer, Institutional and Mission Support	View Signed Agreement
1059	37932	BLUE ORIGIN, LLC	Engineering Analysis and Testing	1/18/2023	1/18/2025	Reimbursable	\$500,000	MSFC	SAA8-2237932.28	Institutional and Mission Support	View Signed Agreement
1060	37919	BWXT Advanced Technologies, LLC.	BWXT Coating Test for N2 Flow	5/23/2023	5/23/2028	Reimbursable	\$0	MSFC	SAA8-2337919	Science	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1061	37846	Virgin Orbit	Virgin Orbit Newton 4 Testing (Phase II)	2/15/2023	2/15/2024	Reimbursable	\$546,020	MSFC	SAA8-2237846.6	Institutional and Mission Support	View Signed Agreement
1062	37795	LOCKHEED MARTIN	annex to Exchange of Technical Expertise in Support of Deep Space Exploration	12/8/2022	12/31/2023	Reimbursable	\$920,492	MSFC	SAA8-2134592.7	Human Exploration and Operations	View Signed Agreement
1063	37775	SIERRA SPACE CORP.	annex to EXPLORATION AND COMMERCIAL LOW EARTH ORBIT (LEO) TECHNOLOGY DEVELOPMENT AND RISK REDUCTION ACTIVITIES	2/1/2023	8/1/2024	Reimbursable	\$12,883,384	MSFC	SAA8-2236912.3	Human Exploration and Operations, Space Technology	View Signed Agreement
1064	37751	DYNETICS CORP.	Thermal System Assessments □	11/17/2022	11/17/2023	Reimbursable	\$25,000	MSFC	SAA8-2237750.1	Science	View Signed Agreement
1065	37750	DYNETICS CORP.	Thermal System Assessments	11/17/2022	11/17/2027	Reimbursable	\$0	MSFC	SAA8-2237750	Human Exploration and Operations	View Signed Agreement
1066	37734	Collins Aerospace	Collins Aerospace Test at Hot Gas Facility	11/30/2022	11/30/2023	Reimbursable	\$31,445	MSFC	SAA8-2237734	Institutional and Mission Support	View Signed Agreement
1067	37719	Corvid Technologies	WIND TUNNEL TESTING	11/22/2022	11/22/2023	Reimbursable	\$170,763	MSFC	SAA8-2237718.1	Institutional and Mission Support	View Signed Agreement
1068	37718	Corvid Technologies	Exchange of Technical Expertise for Commercial Space Transportation	11/22/2022	11/22/2027	Reimbursable	\$0	MSFC	SAA8-2237718	Institutional and Mission Support	View Signed Agreement
1069	37692	Plasma Processes, Inc.	One Newton Thruster Valve Design and Qualification□ □	12/9/2022	2/9/2024	Reimbursable	\$139,269	MSFC	SAA8-2237691.1	Human Exploration and Operations	View Signed Agreement
1070	37691	Plasma Processes, Inc.	One Newton Thruster Valve Design and Qualification	12/9/2022	12/9/2027	Reimbursable	\$0	MSFC	SAA8-2237691	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1071	37625	Onyx Aerospace	Bi-Propellant Throttling Cavitating Venturi Valve Design	10/18/2022	10/18/2024	Reimbursable	\$367,517	MSFC	SAA8-2135668.2	Human Exploration and Operations	View Signed Agreement
1072	37582	UNIVERSITY OF ALABAMA	annex to Earth Science and Space Exploration Technology Development	3/27/2023	3/27/2026	Non-Reimbursable	\$69,770	MSFC	SAA8-2235160.2	Science	View Signed Agreement
1073	37581	BLUE ORIGIN, LLC	annex to Engineering Analysis and Testing	12/1/2022	2/7/2025	Reimbursable	\$4,984,419	MSFC	SAA-EA-20-29343.24	Institutional and Mission Support	View Signed Agreement
1074	37491	SIERRA SPACE CORP.	Full Scale Softgoods Burst Test annex to EXPLORATION AND COMMERCIAL LOW EARTH ORBIT (LEO) TECHNOLOGY DEVELOPMENT AND RISK REDUCTION ACTIVITIES	2/1/2023	2/1/2024	Reimbursable	\$1,078,861	MSFC	SAA8-2236912.2	Human Exploration and Operations	View Signed Agreement
1075	37465	BLUE ORIGIN, LLC	Support and Data analysis for Flow Induced Vibration Testing Dual Flexhose configuration	10/24/2022	10/24/2023	Reimbursable	\$81,138	MSFC	SAA8-2235543.4	Aeronautics	View Signed Agreement
1076	37330	Amazon Kuiper Manufacturing Enterprises, LLC	Space Environment Exposure Testing	10/11/2022	10/11/2023	Reimbursable	\$36,832	MSFC	SAA8-2237329.1	Space Technology, Institutional and Mission Support	View Signed Agreement
1077	37329	Amazon Kuiper Manufacturing Enterprises, LLC	Space Environmental Effects Testing of Materials and Systems	10/11/2022	10/11/2027	Reimbursable	\$0	MSFC	SAA8-2237329	Space Technology, Institutional and Mission Support	View Signed Agreement
1078	37311	Ursa Major Technologies	annex to Rocket Engine Development Support	9/22/2022	9/22/2024	Reimbursable	\$53,302	MSFC	SAA8-1931298.4	Human Exploration and Operations	View Signed Agreement
1079	37285	BLADE DYNAMICS LLLP	Blade Dynamics LLLP SAA	3/30/2023	9/30/2025	Reimbursable	\$250,000	MSFC	SAA8-2237285	Human Exploration and Operations	View Signed Agreement
1080	37199	Albertville High School	ALBERTVILLE HIGH SCHOOL / HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE (HUNCH) PROGRAM	8/17/2022	8/17/2027	Non-Reimbursable	\$77,626	MSFC	SAA8-2237199	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1081	37160	Lockheed Martin Corporation	Lockheed Martin Corporation Space Systems	1/1/2023	12/31/2027	Reimbursable	\$750,000	MSFC	SAA8-2237160	Human Exploration and Operations	View Signed Agreement
1082	37108	BLUE ORIGIN, LLC	Annex 23 to Engineering Analysis and Testing	9/22/2022	2/7/2025	Reimbursable	\$2,495,619	MSFC	SAA-EA-20-29343.23	Human Exploration and Operations, Institutional and Mission Support	View Signed Agreement
1083	37044	Agile Space Industries	Engineering Support and Component Development	9/13/2022	9/13/2025	Reimbursable	\$15,560	MSFC	SAA8-2237043.1	Space Technology	View Signed Agreement
1084	37043	Agile Space Industries	Development of Space Propulsion Systems	9/13/2022	9/13/2027	Reimbursable	\$0	MSFC	SAA8-2237043	Space Technology	View Signed Agreement
1085	36979	Aerojet Rocketdyne	Critical Skills Development in Solid Propulsion with Aerojet Rocketdyne	9/12/2022	9/12/2024	Non-Reimbursable	\$157,429	MSFC	SAA8-2236864.1	Human Exploration and Operations	View Signed Agreement
1086	36969	BLUE ORIGIN, LLC	Review and Analysis of Motion Magnification Data during Rocket Engine Testing	10/19/2022	10/19/2023	Reimbursable	\$15,426	MSFC	SAA8-2235543.3	Human Exploration and Operations, Science, Space Technology	View Signed Agreement
1087	36962	Marshall Child Development Center, Inc.	Demand Services for the Marshall Child Development Center	7/15/2022	7/15/2027	Non-Reimbursable	\$1,424,462	MSFC	SAA8-2236962	Institutional and Mission Support	View Signed Agreement
1088	36954	MicroLink Devices, Inc	Space Environmental Effects (SEE) on Solar Array Materials	7/25/2022	7/25/2024	Reimbursable	\$44,065	MSFC	SAA8-2236954	Institutional and Mission Support	View Signed Agreement
1089	36951	Blue Origin Florida, LLC	annex to Production Implementation	8/2/2022	8/2/2024	Reimbursable	\$134,385	MSFC	SAA8-2032094.2	Institutional and Mission Support	View Signed Agreement
1090	36913	SIERRA SPACE CORP	SUBSCALE SOFTGOODS CREEP TESTING	8/14/2022	8/14/2025	Reimbursable	\$1,736,290	MSFC	SAA8-2236912.1	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1091	36912	SIERRA SPACE CORP.	EXPLORATION AND COMMERCIAL LOW EARTH ORBIT (LEO) TECHNOLOGY DEVELOPMENT AND RISK REDUCTION ACTIVITIES	8/14/2022	8/14/2027	Reimbursable	\$0	MSFC	SAA8-2236912	Human Exploration and Operations	View Signed Agreement
1092	36910	AEROJET ROCKETDYNE, INC	Solid Rocket Motor Design and Materials Testing	1/9/2023	1/9/2024	Reimbursable	\$245,398	MSFC	SAA8-2236863.1	Human Exploration and Operations	View Signed Agreement
1093	36871	Raytheon Technologies	Raytheon Wind Tunnel Testing	9/28/2022	9/28/2027	Reimbursable	\$0	MSFC	SAA8-2236871	Institutional and Mission Support	View Signed Agreement
1094	36864	Aerojet Rocketdyne	Critical Skills Development in Solid Propulsion with Aerojet Rocketdyne	9/12/2022	9/12/2024	Non-Reimbursable	\$0	MSFC	SAA8-2236864	Human Exploration and Operations, Institutional and Mission Support	View Signed Agreement
1095	36863	AEROJET ROCKETDYNE, INC	Solid Rocket Motor Design and Materials Testing	1/9/2023	1/9/2028	Reimbursable	\$0	MSFC	SAA8-2236863	Human Exploration and Operations	View Signed Agreement
1096	36848	Alabama A&M University	annex to COLLABORATIVE AGREEMENT FOR SYNERGISTIC TECHNOLOGIES	4/12/2023	4/12/2027	Non-Reimbursable	\$30,922	MSFC	SAA8-2236843.2	Space Technology	View Signed Agreement
1097	36844	Alabama A&M University	Tensile Test	9/12/2022	9/12/2024	Non-Reimbursable	\$59,057	MSFC	SAA8-2236843.1	Space Technology	View Signed Agreement
1098	36843	Alabama A&M University	COLLABORATIVE AGREEMENT FOR SYNERGISTIC TECHNOLOGIES	9/12/2022	9/12/2027	Non-Reimbursable	\$0	MSFC	SAA8-2236843	Space Technology	View Signed Agreement
1099	36787	EMBRY-RIDDLE AERONAUTICAL UNIVERSITY	Fireball Network Station at ERAU	7/6/2022	7/6/2027	Non-Reimbursable	\$1,540	MSFC	SAA8-2236787	Science, Education and/or Public Engagement, Institutional and Mission Support	View Signed Agreement
1100	36786	THE UNIVERSITY OF CENTRAL FLORIDA BOARD OF TRUSTEES	Fireball Network Station at UCF	7/21/2022	7/21/2027	Non-Reimbursable	\$2,571	MSFC	SAA8-2236786	Science, Education and/or Public Engagement, Institutional and Mission Support	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1101	36726	Pivotal Space, Inc.	Integrated Launch Architecture Analysis	8/2/2022	9/30/2023	Reimbursable	\$26,558	MSFC	SAA8-2235062.2	Space Technology	View Signed Agreement
1102	36713	LOCKHEED MARTIN	Qual Level Mobility Hardware Testing in V20 at MSFC	12/16/2022	12/16/2024	Reimbursable	\$313,428	MSFC	SAA8-2134592.3	Institutional and Mission Support	View Signed Agreement
1103	36708	BLUE ORIGIN, LLC	annex 13 to Engineering Analysis and Testing - Engine Materials and Processes Support	8/30/2022	2/8/2025	Reimbursable	\$640,146	MSFC	SAA-EA-20-29343.13	Institutional and Mission Support	View Signed Agreement
1104	36701	BLUE ORIGIN, LLC	Blue Origin Hot Gas Testing of Materials @ Hot Gas Test Facility	9/29/2022	9/29/2024	Reimbursable	\$500,000	MSFC	SAA8-2236701.12	Institutional and Mission Support	View Signed Agreement
1105	36700	BLUE ORIGIN, LLC	Blue Origin BE-7 10K LOX TPA	6/30/2022	6/30/2024	Reimbursable	\$2,723,390	MSFC	SAA8-202934.11	Institutional and Mission Support	View Signed Agreement
1106	36699	BLUE ORIGIN, LLC	Blue Origin BE-7 10K LH2 TPA	6/30/2022	6/30/2024	Reimbursable	\$2,755,264	MSFC	SAA8-2236699.10	Institutional and Mission Support	View Signed Agreement
1107	36698	BLUE ORIGIN, LLC	Blue Origin TCA v3.0	6/30/2022	6/30/2024	Reimbursable	\$3,708,102	MSFC	SAA8-2236698.9	Institutional and Mission Support	View Signed Agreement
1108	36614	BLUE ORIGIN, LLC	annex to Engineering Analysis and Testing	6/13/2022	6/13/2024	Reimbursable	\$73,004	MSFC	SAA8-2236614.8	Space Technology	View Signed Agreement
1109	36602	RUAG Space USA, Inc	RUAG ISA QM2 Strain Gages Instrumentation	9/14/2022	12/31/2023	Reimbursable	\$2,216,779	MSFC	SAA8-1829459.5	Institutional and Mission Support	View Signed Agreement
1110	36322	The Academies at Jonesboro High School	THE ACADEMIES AT JONESBORO HIGH SCHOOL TO PRODUCE HARDWARE OR OTHER USEFUL PRODUCTS UNDER THE HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE (HUNCH) PROGRAM	3/29/2022	3/29/2027	Non-Reimbursable	\$80,282	MSFC	SAA8-2236322	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1111	36321	Priceville High School	PRICEVILLE HIGH SCHOOL TO PRODUCE HARDWARE OR OTHER USEFUL PRODUCTS UNDER THE HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE (HUNCH) PROGRAM	4/12/2022	4/12/2027	Non-Reimbursable	\$80,282	MSFC	SAA8-2236321	Human Exploration and Operations	View Signed Agreement
1112	36317	Charles Henderson High School	Charles Henderson High School Troy, Alabama / High Schools United with NASA to Create Hardware (HUNCH) Program	11/1/2022	11/1/2027	Non-Reimbursable	\$80,282	MSFC	SAA8-2236317	Human Exploration and Operations	View Signed Agreement
1113	36310	Dodge County High School	Dodge County School - Georgia / High Schools United with NASA to Create Hardware (HUNCH) Program	3/22/2022	3/22/2027	Non-Reimbursable	\$80,282	MSFC	SAA8-2236310	Human Exploration and Operations	View Signed Agreement
1114	36307	Walker County School District by and through the Walker County Board of Education	Fireball Network Station at WCSD	4/15/2022	4/15/2027	Non-Reimbursable	\$1,429	MSFC	SAA8-2236307	Science, Education and/or Public Engagement, Institutional and Mission Support	View Signed Agreement
1115	36164	BLUE ORIGIN, LLC	Annex for waterflow testing of scaled pump configurations in extreme environments	2/27/2022	12/31/2023	Reimbursable	\$1,156,995	MSFC	SAA8-1931648.2	Aeronautics	View Signed Agreement
1116	36134	Lockheed Martin Space	Lockheed Martin Test @ HGF	6/10/2022	6/10/2024	Reimbursable	\$376,140	MSFC	SAA8-2032638.2	Institutional and Mission Support	View Signed Agreement
1117	36107	The University of Texas at El Paso	Annex 1	1/20/2023	1/20/2025	Reimbursable	\$18,234	MSFC	SAA8-2336106.1	Institutional and Mission Support	View Signed Agreement
1118	36106	The University of Texas at El Paso	UTEP-NASA OSAM Collaboration	1/20/2023	1/20/2028	Reimbursable	\$0	MSFC	SAA8-2336106	Institutional and Mission Support	View Signed Agreement
1119	36010	RUAG Space USA, Inc	annex to Ruag Engineering Services	2/7/2022	12/31/2023	Reimbursable	\$56,210	MSFC	SAA8-1829459.4	Institutional and Mission Support	View Signed Agreement
1120	35924	Astra Space Operations, Inc.	Collaboration on slosh mitigation via disruptive modal coupling	1/14/2022	1/13/2024	Reimbursable	\$109,344	MSFC	SAA8-2135923.1	Space Technology	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1121	35923	Astra Space Operations, Inc.	Launch Vehicle Technology Development	1/14/2022	1/13/2027	Reimbursable	\$0	MSFC	SAA8-2135923	Space Technology	View Signed Agreement
1122	35880	Google LLC	annex to THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	7/1/2022	7/1/2024	Non-Reimbursable	\$807,352	MSFC	SAA8-1930011.2	Science	View Signed Agreement
1123	35704	ROCKET LAB USA, INC.	Design Development and Integration Consultation	3/16/2022	3/16/2025	Reimbursable	\$428,171	MSFC	SAA8-2135703.1	Human Exploration and Operations, Space Technology	View Signed Agreement
1124	35703	Rocket Lab USA, Inc.	Exchange of Technical Expertise for Commercial Space Transportation	3/16/2022	3/16/2027	Reimbursable	\$0	MSFC	SAA8-2135703	Human Exploration and Operations, Space Technology	View Signed Agreement
1125	35668	Onyx Aerospace	Multi-purpose Service Module Study	1/12/2022	1/11/2027	Reimbursable	\$0	MSFC	SAA8-2135668	Human Exploration and Operations	View Signed Agreement
1126	35544	BLUE ORIGIN, LLC	Engines Development	4/21/2022	4/21/2024	Reimbursable	\$516,719	MSFC	SAA8-2235543.1	Institutional and Mission Support	View Signed Agreement
1127	35543	BLUE ORIGIN, LLC	Exchange of Technical Expertise for commercial space transportation	4/21/2022	4/21/2027	Reimbursable	\$0	MSFC	SAA8-2235543	Institutional and Mission Support	View Signed Agreement
1128	35509	Arizona Board of Regents, on Behalf of University of Arizona	Fireball Network Station at MMTO	2/24/2022	2/24/2027	Non-Reimbursable	\$2,125	MSFC	SAA8-2135509	Science, Education and/or Public Engagement, Institutional and Mission Support	View Signed Agreement
1129	35508	Arizona Board of Regents on behalf of The University of Arizona	Fireball Network Station at MLO	2/7/2022	2/7/2027	Non-Reimbursable	\$1,485	MSFC	SAA8-2135508	Science, Education and/or Public Engagement, Institutional and Mission Support	View Signed Agreement
1130	35435	OCHSNER CLINIC FOUNDATION	Ochsner Clinic Foundation	11/1/2021	10/31/2026	Reimbursable	\$400,000	MSFC	SAA8-2135435	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1131	35161	UNIVERSITY OF ALABAMA	COLLABORATIVE AGREEMENT FOR APPLIED EARTH SCIENCE	8/17/2022	8/17/2024	Non-Reimbursable	\$60,005	MSFC	SAA8-2235160.1	Science	View Signed Agreement
1132	35160	UNIVERSITY OF ALABAMA	Earth Science and Space Exploration Technology Development	8/17/2022	8/17/2027	Non-Reimbursable	\$0	MSFC	SAA8-2235160	Science	View Signed Agreement
1133	35130	NVIDIA Corporation	THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	2/8/2022	2/8/2024	Non-Reimbursable	\$807,352	MSFC	SAA8-2135129.1	Science	View Signed Agreement
1134	35129	NVIDIA Corporation	THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	2/8/2022	2/8/2027	Non-Reimbursable	\$0	MSFC	SAA8-2135129	Science	View Signed Agreement
1135	35062	Pivotal Space, Inc.	SSTO Thrust Augmented Nozzle Investigation	4/27/2022	4/27/2027	Reimbursable	\$0	MSFC	SAA8-2235062	Space Technology	View Signed Agreement
1136	34963	Defense Advanced Research Projects Agency	DEMONSTRATION ROCKET FOR AGILE Cislunar OPERATIONS (DRACO)	11/4/2021	11/4/2026	Non-Reimbursable	\$52,584	MSFC	SAA8-2134963	Space Technology	View Signed Agreement
1137	34821	NEW MEXICO STATE UNIVERSITY	Fireball Network Station at New Mexico State University	8/11/2021	8/11/2026	Non-Reimbursable	\$1,447	MSFC	SAA8-2134821	Science	View Signed Agreement
1138	34742	Amazon Web Services, Inc.	annex to THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	1/4/2022	1/4/2024	Non-Reimbursable	\$807,352	MSFC	SAA8-1929988.3	Science	View Signed Agreement
1139	34695	Vivace Corporation	Vivace Corporation Demand Services	7/1/2021	6/30/2026	Reimbursable	\$1,200,000	MSFC	SAA8-2134695	Human Exploration and Operations	View Signed Agreement
1140	34614	Lusher Charter High School	Lusher Charter High School / High Schools United with NASA to Create Hardware (HUNCH) Program	9/14/2021	9/13/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2134614	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1141	34613	East Central High School - Mississippi	East Central High School - Mississippi / High Schools United with NASA to Create Hardware (HUNCH) Program	9/8/2021	9/8/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2134613	Human Exploration and Operations	View Signed Agreement
1142	34607	HUNTSVILLE CITY SCHOOLS	annex TO PRODUCE HARDWARE OR OTHER USEFUL PRODUCTS UNDER THE HUNCH (HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE) PROGRAM	6/16/2021	6/16/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2031925.3	Human Exploration and Operations	View Signed Agreement
1143	34592	LOCKHEED MARTIN	Exchange of Technical Expertise in Support of Deep Space Exploration	8/5/2021	8/5/2026	Reimbursable	\$0	MSFC	SAA8-2134592	Human Exploration and Operations, Space Technology	View Signed Agreement
1144	34566	ABL Space Systems Company	ANNEX BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GEORGE C. MARSHALL SPACE FLIGHT CENTER AND ABL SPACE SYSTEMS COMPANY FOR PROPULSION DEVELOPMENT	8/23/2021	8/23/2025	Reimbursable	\$48,461	MSFC	SAA8-2134565.1	Space Technology	View Signed Agreement
1145	34565	ABL Space Systems Company	REIMBURSABLE SPACE ACT UMBRELLA AGREEMENT BETWEEN THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GEORGE C. MARSHALL SPACE FLIGHT CENTER AND ABL SPACE SYSTEMS COMPANY FOR PROPULSION DEVELOPMENT	8/23/2021	8/23/2026	Reimbursable	\$0	MSFC	SAA8-2134565	Space Technology	View Signed Agreement
1146	34560	LOCKHEED MARTIN	Exchange of Technical Expertise for commercial space transportation	7/14/2021	7/14/2026	Reimbursable	\$0	MSFC	SAA8-2134560	Human Exploration and Operations	View Signed Agreement
1147	34251	Innovative Rocket Technologies Inc.	IROCKET Propulsion Technology	6/7/2021	6/7/2026	Reimbursable	\$0	MSFC	SAA8-2134251	Space Technology, Technology Transfer	View Signed Agreement
1148	34231	Beau Chene High School	Beau Chene High School - Louisiana / High Schools United with NASA to Create Hardware (HUNCH) Program	3/10/2021	3/10/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2134231	Human Exploration and Operations	View Signed Agreement
1149	34161	Amazon Web Services, Inc.	annex to THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	1/4/2022	1/4/2024	Non-Reimbursable	\$688,028	MSFC	SAA8-1929988.2	Science	View Signed Agreement
1150	34144	Iowa State University	Microwave Millimeter Wave Studies	9/28/2021	12/31/2023	Non-Reimbursable	\$19,374	MSFC	SAA8-2134143.1	Space Technology	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1151	34143	Iowa State University	Microwave Nondestructive Evaluation (NDE) Studies	9/28/2021	9/28/2026	Non-Reimbursable	\$0	MSFC	SAA8-2134143	Space Technology	View Signed Agreement
1152	34107	General Atomics	DRACO High Temperature Tie Rod Flow Testing	3/17/2022	3/17/2024	Reimbursable	\$269,061	MSFC	SAA8-2133900.4	Human Exploration and Operations, Space Technology	View Signed Agreement
1153	34106	General Atomics	DRACO High Temperature Fuel Column Testing	3/17/2022	3/17/2024	Reimbursable	\$147,814	MSFC	SAA8-2133900.3	Human Exploration and Operations, Space Technology	View Signed Agreement
1154	34105	General Atomics	DRACO High Temperature Flow Channel Testing	3/17/2022	3/17/2024	Reimbursable	\$151,889	MSFC	SAA8-2133900.2	Human Exploration and Operations, Space Technology	View Signed Agreement
1155	34034	Career Academies of Decatur	Career Academies of Decatur for HUNCH Program	2/2/2021	2/2/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2134034	Human Exploration and Operations	View Signed Agreement
1156	34032	Hewitt-Trussville High School	Hewitt-Trussville High School / High Schools United with NASA to Create Hardware (HUNCH) Program	4/29/2021	4/29/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2134032	Human Exploration and Operations	View Signed Agreement
1157	33949	Brewer High School	Brewer High School for High Schools United with NASA to Create Hardware (HUNCH) Program	4/29/2021	4/29/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2133949	Human Exploration and Operations	View Signed Agreement
1158	33935	THE BOEING COMPANY	Boeing XSP Composite Tank	2/11/2021	12/31/2023	Reimbursable	\$1,020,079	MSFC	SAA8-2133935	Institutional and Mission Support	View Signed Agreement
1159	33900	General Atomics	DRACO High Temperature Component Testing	9/28/2021	9/28/2026	Reimbursable	\$0	MSFC	SAA8-2133900	Human Exploration and Operations, Space Technology	View Signed Agreement
1160	33735	Textron Systems Corporation	Textron Systems Marine and Land Systems	12/8/2020	12/31/2023	Reimbursable	\$80,000	MSFC	SAA8-2133735	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1161	33720	BK MANUFACTURING, INC	BK Manufacturing, Inc.	12/9/2020	12/9/2025	Reimbursable	\$525,000	MSFC	SAA8-2133720	Human Exploration and Operations	View Signed Agreement
1162	33696	Howe Industries LLC	Nuclear Thermal Propulsion System Development	12/14/2020	12/14/2025	Reimbursable	\$0	MSFC	SAA8-2033696	Space Technology	View Signed Agreement
1163	33671	Dade County Middle School	Dade County Middle School for High Schools United with NASA to Create Hardware (HUNCH) Program	1/6/2021	1/6/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2033671	Human Exploration and Operations	View Signed Agreement
1164	33670	Dade County High School	Dade County High School for High Schools United with NASA to Create Hardware (HUNCH) Program	1/6/2021	1/6/2026	Non-Reimbursable	\$67,643	MSFC	SAA8-2033670	Human Exploration and Operations	View Signed Agreement
1165	33668	Maxwell High School of Technology	Maxwell High School of Technology for High Schools United with NASA to Create Hardware (HUNCH) Program	12/14/2020	12/14/2025	Non-Reimbursable	\$67,643	MSFC	SAA8-2033668	Human Exploration and Operations	View Signed Agreement
1166	33667	Franklin County High School	FRANKLIN COUNTY HIGH SCHOOL FOR HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE (HUNCH) PROGRAM	11/5/2020	11/5/2025	Non-Reimbursable	\$77,585	MSFC	SAA8-2033667	Human Exploration and Operations	View Signed Agreement
1167	33666	McDonald County High School	MCDONALD COUNTY HIGH SCHOOL FOR HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE (HUNCH) PROGRAM	12/1/2020	12/1/2025	Non-Reimbursable	\$77,585	MSFC	SAA8-2033666	Human Exploration and Operations	View Signed Agreement
1168	33662	Meade County High School	MEADE COUNTY HIGH SCHOOL FOR HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE (HUNCH) PROGRAM	11/5/2020	11/5/2025	Non-Reimbursable	\$77,585	MSFC	SAA8-2033662	Human Exploration and Operations	View Signed Agreement
1169	33654	Mt. Pleasant High School	Mt. Pleasant High School - Tennessee / High Schools United with NASA to Create Hardware (HUNCH) Program.	12/7/2020	12/7/2025	Non-Reimbursable	\$77,585	MSFC	SAA8-2033654	Human Exploration and Operations	View Signed Agreement
1170	33653	Dekalb County Technology Center	Dekalb County Technology Center for High Schools United with NASA to Create Hardware (HUNCH) Program	11/19/2020	11/19/2025	Non-Reimbursable	\$77,585	MSFC	SAA8-2033653	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1171	33652	Marshall County Technical School	Marshall County Technical School for High Schools United with NASA to Create Hardware (HUNCH) Program	11/30/2020	11/30/2025	Non-Reimbursable	\$77,585	MSFC	SAA8-2033652	Human Exploration and Operations	View Signed Agreement
1172	33651	Laurel High School	Laurel High School for High Schools United with NASA to Create Hardware (HUNCH) Program	12/15/2020	12/15/2025	Non-Reimbursable	\$77,585	MSFC	SAA8-2033651	Human Exploration and Operations	View Signed Agreement
1173	33647	Earnest Pruett Center of Technology	Earnest Pruett Center of Technology/High Schools United with NASA to Create Hardware (HUNCH) Program	3/24/2021	3/24/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2033647	Human Exploration and Operations	View Signed Agreement
1174	33646	McGavock High School	McGavock High School - Tennessee / High Schools United with NASA to Create Hardware (HUNCH) Program	3/17/2021	3/17/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2033646	Human Exploration and Operations	View Signed Agreement
1175	33645	LINCOLN COUNTY HIGH SCHOOL	Lincoln County High School - Tennessee / High Schools United with NASA to Create Hardware (HUNCH) Program	11/13/2020	11/13/2025	Non-Reimbursable	\$77,585	MSFC	SAA8-2033645	Human Exploration and Operations	View Signed Agreement
1176	33627	HUNTSVILLE CITY SCHOOLS	Huntsville City School for High Schools United with NASA to Create Hardware (HUNCH) Program - Jemison Annex	6/16/2021	6/16/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2031925.1	Human Exploration and Operations	View Signed Agreement
1177	33577	Tellus Science Museum	Fireball Network Station at Tellus Science Museum	12/7/2020	12/7/2025	Non-Reimbursable	\$1,674	MSFC	SAA8-2033577	Science	View Signed Agreement
1178	33491	Venus Aerospace Corporation	Propulsion consultation to support design of novel thrust chamber concepts	3/1/2021	3/1/2024	Reimbursable	\$6,918	MSFC	SAA8-2033490.1	Human Exploration and Operations	View Signed Agreement
1179	33490	Venus Aerospace Corporation	Support design, development and testing of novel cryogenic engine concepts	3/1/2021	3/1/2026	Reimbursable	\$0	MSFC	SAA8-2033490	Human Exploration and Operations	View Signed Agreement
1180	33447	AST&Science, LLC	Spacecraft Component Testing	11/3/2020	11/3/2025	Reimbursable	\$0	MSFC	SAA8-2033447	Space Technology	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1181	33444	G-Space, Inc.	THERMOPHYSICAL PROPERTIES MEASUREMENTS USING ELECTROSTATIC LEVITATION	11/20/2020	11/20/2025	Reimbursable	\$0	MSFC	SAA8-2033444	Science	View Signed Agreement
1182	33295	Microsoft Corporation	THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	8/11/2021	8/11/2026	Non-Reimbursable	\$685,153	MSFC	SAA8-2133294.1	Science	View Signed Agreement
1183	33294	Microsoft Corporation	THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	8/11/2021	8/11/2026	Non-Reimbursable	\$0	MSFC	SAA8-2133294	Science	View Signed Agreement
1184	33098	International Business Machines Corporation	THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	11/2/2022	11/2/2024	Non-Reimbursable	\$803,315	MSFC	SAA8-2233097.1	Science	View Signed Agreement
1185	33097	International Business Machines IBM Corporation, through its Thomas J. T.J. Watson Research Center	the Discovery, Access and Use of Large Science Datasets	11/2/2022	11/2/2027	Non-Reimbursable	\$0	MSFC	SAA8-2233097	Science	View Signed Agreement
1186	33021	RELATIVITY SPACE, INC.	Design and manufacturing review for rocket engine components	10/14/2020	10/14/2023	Reimbursable	\$45,056	MSFC	SAA8-2033020.1	Space Technology	View Signed Agreement
1187	33020	RELATIVITY SPACE, INC.	Rocket Engine Development and Test	10/14/2020	10/14/2025	Reimbursable	\$0	MSFC	SAA8-2033020	Space Technology	View Signed Agreement
1188	32804	UNIVERSITY OF ALABAMA	Space Exploration Technology Development	2/1/2021	2/1/2026	Non-Reimbursable	\$0	MSFC	SAA8-2132804	Human Exploration and Operations, Space Technology	View Signed Agreement
1189	32788	X-Bow Launch Systems Inc.	COLLABORATION ON ENGINEERING TECHNOLOGIES FOR EARTH, LUNAR AND SPACE APPLICATIONS	1/19/2021	1/19/2026	Non-Reimbursable	\$0	MSFC	SAA8-2032788	Space Technology	View Signed Agreement
1190	32718	Methuselah Foundation	The Centennial Challenges Lunar Nutrition Challenge	8/28/2020	9/30/2024	Non-Reimbursable	\$1,314,936	MSFC	SAA8-2032718	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1191	32638	Lockheed Martin Space	Exchange of Technical Expertise for commercial space transportation	6/24/2020	6/24/2025	Reimbursable	\$0	MSFC	SAA8-2032638	Human Exploration and Operations	View Signed Agreement
1192	32551	ARCTIC SLOPE TECHNICAL SERVICES, INC.	Artificial intelligence computer software for space flight systems	9/28/2020	9/28/2025	Non-Reimbursable	\$0	MSFC	SAA8-2032551	Human Exploration and Operations	View Signed Agreement
1193	32353	Cullman Area Technology Academy	TO PRODUCE HARDWARE OR OTHER USEFUL PRODUCTS UNDER THE HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE (HUNCH) PROGRAM	9/23/2020	9/23/2025	Non-Reimbursable	\$72,338	MSFC	SAA8-2032353	Education and/or Public Engagement	View Signed Agreement
1194	32156	Imperx, Inc.	Rugged Space Rated High Definition – Serial Data Interface (HD-SDI) Camera	5/11/2020	11/23/2023	Non-Reimbursable	\$239,458	MSFC	SAA8-2032156	Human Exploration and Operations	View Signed Agreement
1195	32094	Blue Origin Florida, LLC	Production Implementation	6/11/2020	6/11/2025	Reimbursable	\$0	MSFC	SAA8-2032094	Human Exploration and Operations	View Signed Agreement
1196	32069	KT Engineering Corporation	Annex to FASTRAC Powerpack Testing and Aerospike Nozzle Analysis in Support of USAF ARISE Program	3/24/2020	2/5/2025	Reimbursable	\$352,878	MSFC	SAA8-2031673.2	Aeronautics	View Signed Agreement
1197	31926	HUNTSVILLE CITY SCHOOLS	Huntsville City School for High Schools United with NASA to Create Hardware (HUNCH) Program - Grissom Annex	6/16/2021	6/16/2026	Non-Reimbursable	\$77,585	MSFC	SAA8-2031925.2	Human Exploration and Operations	View Signed Agreement
1198	31925	HUNTSVILLE CITY SCHOOLS	TO PRODUCE HARDWARE OR OTHER USEFUL PRODUCTS UNDER THE HUNCH (HIGH SCHOOLS UNITED WITH NASA TO CREATE HARDWARE) PROGRAM	6/16/2021	6/16/2026	Non-Reimbursable	\$0	MSFC	SAA8-2031925	Human Exploration and Operations	View Signed Agreement
1199	31673	KT Engineering Corporation	FASTRAC Powerpack Testing and Aerospike Nozzle Analysis in Support of USAF ARISE Program	2/5/2020	2/5/2025	Reimbursable	\$0	MSFC	SAA8-2031673	Aeronautics	View Signed Agreement
1200	31653	University of Louisiana at Lafayette	SAA8-2031653 Thermophysical Properties Testing in the Electrostatic Levitation Laboratory	10/19/2020	10/19/2025	Reimbursable	\$0	MSFC	SAA8-2031653	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1201	31648	BLUE ORIGIN, LLC	Extreme Environment Testing and Evaluation of Material Properties	12/11/2019	12/11/2024	Reimbursable	\$0	MSFC	SAA8-1931648	Aeronautics	View Signed Agreement
1202	31571	INTUITIVE MACHINES, LLC	Development of Lunar Lander Systems Technologies	3/19/2020	3/19/2025	Reimbursable	\$0	MSFC	SAA8-2031571	Space Technology	View Signed Agreement
1203	31535	ATK Launch Systems Inc.	Exchange of Technical Expertise for commercial space transportation	12/9/2019	12/9/2024	Reimbursable	\$0	MSFC	SAA8-1931535	Institutional and Mission Support	View Signed Agreement
1204	31419	Unites States Air Force	Additive Construction Research	8/31/2021	8/31/2024	Non-Reimbursable	\$61,589	MSFC	SAA8-2031419	Human Exploration and Operations	View Signed Agreement
1205	31298	Ursa Major Technologies	Rocket Engine Development Support	10/30/2019	10/30/2024	Reimbursable	\$0	MSFC	SAA8-1931298	Human Exploration and Operations, Space Technology	View Signed Agreement
1206	31130	SPACE SYSTEMS LORAL, LLC	Room-Temperature-Vulcanized (RTV) Adhesive Coating Material Test	10/21/2019	10/21/2024	Reimbursable	\$54,683	MSFC	SAA8-1931129.1	Human Exploration and Operations	View Signed Agreement
1207	31129	SPACE SYSTEMS LORAL, LLC	Space Environmental Effects Testing and Characterization of Material, Power, and Communication Systems	10/21/2019	10/21/2024	Reimbursable	\$0	MSFC	SAA8-1931129	Human Exploration and Operations	View Signed Agreement
1208	31098	U.S SPACE AND ROCKET CENTER	USSRC OPERATE AS MARSHALL SPACE FLIGHT CENTER OFFICIAL VISITOR CENTER	1/26/2021	1/26/2026	Non-Reimbursable	\$117,037	MSFC	SAA8-2031097.1	Education and/or Public Engagement	View Signed Agreement
1209	31097	U.S SPACE AND ROCKET CENTER	U.S. Space and Rocket Center Space Act Umbrella Agreement	1/26/2021	1/26/2026	Non-Reimbursable	\$0	MSFC	SAA8-2031097	Education and/or Public Engagement	View Signed Agreement
1210	30898	RHA Materials, LLC	Non-contact measurements of thermophysical properties of materials	11/30/2020	11/30/2025	Reimbursable	\$0	MSFC	SAA8-1930898	Science	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1211	30516	ASTROBOTIC TECHNOLOGY, INC	Engineering Analysis and development for Commercial Lunar Lander and Payload Services	1/27/2020	1/27/2025	Reimbursable	\$0	MSFC	SAA8-1930516	Space Technology	View Signed Agreement
1212	30233	BLUE ORIGIN, LLC	Blue Origin On Demand Services	7/9/2019	7/9/2024	Reimbursable	\$6,350,000	MSFC	SAA8-1830232.1		View Signed Agreement
1213	30232	BLUE ORIGIN, LLC	DEMAND SERVICES AND GENERAL SUPPORT TO TEST STAND 4670	7/9/2019	7/9/2024	Reimbursable	\$0	MSFC	SAA8-1830232	Institutional and Mission Support	View Signed Agreement
1214	30143	Cellco Partnership d/b/a Verizon Wireless	FOR OPERATION OF TELECOMMUNICATIONS EQUIPMENT IN BUILDING 4476	11/26/2019	11/26/2024	Reimbursable	\$141,961	MSFC	SAA8-1930143	Institutional and Mission Support	View Signed Agreement
1215	30136	Interstellar Technologies Corporation	Propulsion Engineering Analysis, Consultation, Feasibility Studies and Space Vehicle Development Activities	9/18/2019	9/18/2024	Reimbursable	\$0	MSFC	SAA8-1930136	Human Exploration and Operations, Space Technology	View Signed Agreement
1216	30011	Google LLC	THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	10/21/2019	10/21/2024	Non-Reimbursable	\$0	MSFC	SAA8-1930011	Science, Education and/or Public Engagement	View Signed Agreement
1217	29999	RUAG Space USA, Inc	RUAG Centaur V Structural Tests	9/10/2019	12/31/2023	Reimbursable	\$18,396,484	MSFC	SAA8-1829459.2	Space Technology	View Signed Agreement
1218	29988	Amazon Web Services, Inc.	THE DISCOVERY, ACCESS AND USE OF LARGE SCIENCE DATASETS	1/6/2020	1/6/2025	Non-Reimbursable	\$0	MSFC	SAA8-1929988	Science	View Signed Agreement
1219	29985	Massachusetts Institute of Technology	SPACE EXPLORATION TECHNOLOGY DEVELOPMENT IN MOTION MAGNIFICATION TECHNIQUES	5/28/2019	5/27/2024	Non-Reimbursable	\$67,372	MSFC	SAA8-1929985	Human Exploration and Operations	View Signed Agreement
1220	29535	United Launch Alliance	ULA Integrated Fluid System Test (IFST)	6/6/2019	10/31/2023	Reimbursable	\$17,204,361	MSFC	SAA8-1726580.5	Institutional and Mission Support	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1221	29459	RUAG Space USA, Inc	Ruag Engineering Services	1/24/2019	1/24/2024	Reimbursable	\$0	MSFC	SAA8-1829459	Institutional and Mission Support	View Signed Agreement
1222	28434	Spirit Aero Systems	Collaboration in Aeronautical Vehicle Manufacturing	4/25/2019	4/25/2024	Reimbursable	\$0	MSFC	SAA8-1828434	Human Exploration and Operations	View Signed Agreement
1223	28013	CITY OF NEW ORLEANS, LA	City of New Orleans, LA Temporary Emergency Shelter for City Employees at MAF	3/28/2019	3/28/2024	Non-Reimbursable	\$137,705	MSFC	SAA8-1828013	Human Exploration and Operations	View Signed Agreement
1224	27934	UNIVERSITY OF PITTSBURGH	Fireball Network Station at Allegheny Observatory	10/4/2018	10/4/2023	Non-Reimbursable	\$1,701	MSFC	SAA8-1827934	Science	View Signed Agreement
1225	27541	SIERRA NEVADA CORP	Design and manufacturing review for rocket engine components	6/11/2020	12/31/2023	Reimbursable	\$55,514	MSFC	SAA8-2027540.1	Human Exploration and Operations, Science	View Signed Agreement
1226	27540	SIERRA NEVADA CORPORATION	Rocket Engine Development and Test	6/11/2020	6/11/2025	Reimbursable	\$0	MSFC	SAA8-2027540	Human Exploration and Operations, Science	View Signed Agreement
1227	27244	United Launch Alliance	ULA Vulcan Upper Stage Test	2/21/2018	10/31/2023	Reimbursable	\$32,774,148	MSFC	SAA8-1726580.3	Aeronautics	View Signed Agreement
1228	26580	United Launch Alliance	Launch Vehicle Manufacturing and Test Support	10/31/2017	10/30/2024	Reimbursable	\$0	MSFC	SAA8-1726580	Human Exploration and Operations, Space Technology	View Signed Agreement
1229	39142	Blue Origin, LLC	Annex Two to Reimbursable Umbrella Agreement between the National Aeronautics and Space Administration John C. Stennis Space Center and Blue Origin, LLC for Rocket Propulsion Testing and Support	6/28/2023	6/28/2026	Reimbursable	\$5,100,000	SSC	SSAA-1053-0210	Human Exploration and Operations	View Signed Agreement
1230	38970	ABL Space Systems Company	Annex Two Between the National Aeronautics and Space Administration John C. Stennis Space Center and ABL Systems Company Under Space Act Umbrella No. 34565, dated 08/23/2021	5/31/2023	5/31/2024	Reimbursable	\$7,900	SSC	SSAA-1053-0209	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1231	38824	Blue Origin, LLC	Annex One Between National Aeronautics and Space Administration John C. Stennis Space Center and Blue Origin, LLC Under Space Act Umbrella Agreement SSAA-1053-0207	6/28/2023	6/28/2025	Reimbursable	\$295,000	SSC	SSAA-1053-0208	Human Exploration and Operations	View Signed Agreement
1232	38823	Blue Origin, LLC	Reimbursable Umbrella Agreement between the National Aeronautics and Space Administration John C. Stennis Space Center and Blue Origin, LLC for Rocket Propulsion Testing and Support	6/28/2023	6/28/2028	Reimbursable	\$0	SSC	SSAA-1053-0207	Human Exploration and Operations	View Signed Agreement
1233	36997	Rocket Crafters, Inc.	For Propulsion Engineering and Testing Support	7/12/2022	7/12/2027	Reimbursable	\$0	SSC	SSAA-1053-0198	Human Exploration and Operations	View Signed Agreement
1234	36269	Rolls-Royce, Corp	Annex Four to Provide Propulsion Test Engineering Assessments	3/4/2022	2/28/2024	Reimbursable	\$351,000	SSC	SSAA-1053-0195	Human Exploration and Operations	View Signed Agreement
1235	36006	Innovative Imaging and Research Corp.	Reimbursable Space Act Agreement for Unmanned Aircraft Systems	2/9/2022	2/9/2027	Reimbursable	\$5,759	SSC	SSAA-1053-0194	Institutional and Mission Support	View Signed Agreement
1236	35664	Ursa Major Technologies	Annex Two Ursa Major Propulsion Engineering and Test Support	12/2/2021	12/2/2023	Reimbursable	\$1,443,948	SSC	SSAA-1053-0191	Human Exploration and Operations	View Signed Agreement
1237	34726	United States Army Corps of Engineers (USACE) Mobile District	Non Reimbursable Agreement between NASA SSC and USACE	6/15/2021	6/15/2026	Non-Reimbursable	\$261,142	SSC	SSAA-1050-0210	Institutional and Mission Support	View Signed Agreement
1238	34292	Louisiana Technology Transfer Office	Louisiana Transfer Technology Office for Occupancy of SSC Facilities	5/2/2021	5/2/2026	Reimbursable	\$12,778	SSC	SSAA-1051-0089	Institutional and Mission Support	View Signed Agreement
1239	34280	Aerojet Rocketdyne, Inc.	Reimbursable Space Act Agreement between The National Aeronautics and Space Administration John C. Stennis Space Center and Aerojet Rocketdyne of DE, Inc. for Occupancy of Facilities	9/29/2021	9/29/2026	Reimbursable	\$4,077,191	SSC	SSAA-1053-0182	Institutional and Mission Support	View Signed Agreement
1240	32234	Infinity Science Center, Inc.	Annex Three to Non-Reimbursable Space Act Umbrella Agreement Infinity Science Center, Inc. for Framework on a Regional Partnership	7/7/2020	7/7/2025	Non-Reimbursable	\$37,450	SSC	SSAA-1053-0173	Institutional and Mission Support	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1241	32233	Infinity Science Center, Inc.	Annex Two to Non-Reimbursable Space Act Umbrella Agreement Infinity Science Center, Inc. for Framework on a Regional Partnership	7/7/2020	7/7/2025	Non-Reimbursable	\$595,711	SSC	SSAA-1053-0172	Institutional and Mission Support	View Signed Agreement
1242	32181	Infinity Science Center, Inc.	Annex One to Nonreimbursable Space Act Umbrella Agreement Between Infinity Science Center for Framework on a Regional Partnership	7/7/2020	7/7/2025	Non-Reimbursable	\$394,746	SSC	SSAA-1053-0171	Institutional and Mission Support	View Signed Agreement
1243	32180	Infinity Science Center, Inc.	Non-Reimbursable Space Act Umbrella Agreement Infinity Science Center, Inc. for Framework on a Regional Partnership	7/7/2020	7/7/2025	Non-Reimbursable	\$0	SSC	SSAA-1053-0170	Institutional and Mission Support	View Signed Agreement
1244	32137	Launcher Space	Annex One Propulsion Test Support to Launcher Space	3/31/2020	3/31/2025	Reimbursable	\$1,887,023	SSC	SSAA-1053-0175	Human Exploration and Operations	View Signed Agreement
1245	32136	Launcher Space	Propulsion Test Support to Launcher Space	3/31/2020	3/31/2025	Reimbursable	\$0	SSC	SSAA-1053-0174	Human Exploration and Operations	View Signed Agreement
1246	31398	Rocket Lab, USA	Rocket Lab Annex One	12/14/2022	12/13/2027	Reimbursable	\$124,432	SSC	SSAA-1053-0202	Human Exploration and Operations	View Signed Agreement
1247	31397	Rocket Lab, USA	Umbrella for Rocket Lab Propulsion Testing and Related Services	12/13/2022	12/13/2027	Reimbursable	\$0	SSC	SSAA-1053-0203	Human Exploration and Operations	View Signed Agreement
1248	31147	MISSISSIPPI STATE UNIVERSITY	Umbrella Agreement for Restricted Airspace at John C. Stennis Space Center	1/14/2020	1/14/2025	Reimbursable	\$0	SSC	SSAA-1051-0081	Aeronautics	View Signed Agreement
1249	30052	Interstellar Technologies, LLC	Propulsion Engineering and Testing Support	5/6/2019	5/6/2024	Reimbursable	\$0	SSC	SSAA-1053-0162	Human Exploration and Operations	View Signed Agreement
1250	27516	State of Mississippi	Use of NASA facilities and services in support of the Mississippi Technology Transfer Office	4/9/2018	4/9/2024	Reimbursable	\$3,286,895	SSC	SSAA-1051-0077	Technology Transfer	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1251	25760	The Board of Trustees of Mississippi Institutions of Higher Learning	The Center of Higher Learning and Related University Activities	11/29/2017	11/29/2023	Reimbursable	\$3,648,000	SSC	SSAA-1051-0066	Education and/or Public Engagement	View Signed Agreement
1252	38470	Institute of Gas Technology	GTI Energy Natural Gas Heat Pump Water Heater Pilot Test	5/31/2023	1/31/2024	Non-Reimbursable	\$3,373	WFF		Institutional and Mission Support	View Signed Agreement
1253	38444	VIRGINIA SPACE FLIGHT ACADEMY	Outreach Activities	5/1/2023	4/30/2028	Non-Reimbursable	\$17,500	WFF	GSFC-23-38444	Education and/or Public Engagement	View Signed Agreement
1254	37981	NX Aviation	Range Support and Airfield Services	6/2/2023	6/1/2025	Reimbursable	\$35,456	WFF	GSFC-23-37981	Aeronautics, Institutional and Mission Support	View Signed Agreement
1255	37970	BALL AEROSPACE AND TECHNOLOGIES	SmallSat Tracking Services	1/19/2023	9/30/2023	Reimbursable	\$202,550	WFF	GSFC-23-37970	Institutional and Mission Support	View Signed Agreement
1256	37688	National Space Grant Foundation	STEM Education student Launch Opportunities	12/15/2022	12/14/2027	Non-Reimbursable	\$1,420,000	WFF	GSFC-23-37688	Education and/or Public Engagement	View Signed Agreement
1257	36436	Pluto Aerospace Inc.	Range Operational Support and Safety Review	4/20/2022	4/19/2027	Reimbursable	\$0	WFF	GSFC-22-36436	Science, Institutional and Mission Support	View Signed Agreement
1258	36427	ROCKET LAB USA	GSFC-21-32608 Rocket Lab Umbrella Agreement Annex 5 - Establishing Safety Certification for NASA Autonomous Flight Termination Unit (NAFTU) integrated on Rocket Lab hardware.	8/17/2022	8/16/2024	Reimbursable	\$250,000	WFF	GSFC-20-32608	Science, Institutional and Mission Support	View Signed Agreement
1259	36338	Virginia Department of Health	Closed Points of Dispensing (POD) Provision of Emergency Medical Prophylaxis	7/21/2022	7/20/2027	Non-Reimbursable	\$4,500	WFF		Institutional and Mission Support	View Signed Agreement
1260	36050	GULFSTREAM AEROSPACE CORP	Provide Water Ingestion testing support to Gulfstream.	7/27/2022	7/26/2024	Reimbursable	\$368,142	WFF	GSFC-22-36049	Aeronautics, Institutional and Mission Support	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1261	36049	GULFSTREAM AEROSPACE CORP	Water Ingestion Testing	7/27/2022	7/26/2027	Reimbursable	\$0	WFF	GSFC-22-36049	Aeronautics, Institutional and Mission Support	View Signed Agreement
1262	36031	Kratos Space and Missile Defense Systems, Inc.	Range Services	6/6/2022	6/5/2027	Reimbursable	\$0	WFF	GSFC-22-36031	Institutional and Mission Support	View Signed Agreement
1263	35977	Police Department of Baltimore City	Incident Response	6/21/2022	6/20/2027	Non-Reimbursable	\$4,500	WFF		Institutional and Mission Support	View Signed Agreement
1264	35896	ROCKET LAB USA	Electron Concept of Operations (CONOPS) Study	2/4/2022	2/3/2024	Reimbursable	\$25,000	WFF	GSFC-20-32608	Institutional and Mission Support	View Signed Agreement
1265	35700	Astra Space Operations Incorporated	Range Services	4/17/2022	4/16/2027	Reimbursable	\$0	WFF	GSFC-22-35700	Institutional and Mission Support	View Signed Agreement
1266	35581	Astra Space Operations Incorporated	Telemetry and Radar Support	11/4/2021	11/3/2023	Reimbursable	\$999,000	WFF	GSFC-22-35581	Institutional and Mission Support	View Signed Agreement
1267	35393	EMBRY RIDDLE AERONAUTICAL UNIVERSITY	Airglow Short-Wave Infrared (SWIR) Imager	10/18/2021	10/17/2023	Non-Reimbursable	\$26,000	WFF	GSFC-22-35393	Science	View Signed Agreement
1268	35336	ROCKET LAB USA	Annex 2 to Rocket Lab Autonomous Flight Termination System Support	10/5/2021	10/4/2023	Reimbursable	\$30,000	WFF	GSFC-21-32608	Science, Institutional and Mission Support	View Signed Agreement
1269	35274	County of Accomack	Joint Emergency Planning, Response, and Management Activities at the Wallops Flight Facility	1/7/2022	1/6/2027	Non-Reimbursable	\$4,500	WFF		Institutional and Mission Support	View Signed Agreement
1270	34693	Old Dominion University	Annex 2 for Educational Collaboration Relating to STEM Careers	10/26/2021	5/3/2026	Non-Reimbursable	\$8,211	WFF	LaRC SAA1-34376	Education and/or Public Engagement	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1271	34256	Prince George's County Health Department	Closed Points of Dispensing (POD) Provision of Mass Emergency Medical Prophylaxis	2/8/2022	2/7/2027	Non-Reimbursable	\$2,000	WFF		Institutional and Mission Support	View Signed Agreement
1272	34158	Eastern Shore Community College	Collaboration on Educational Opportunities	10/26/2021	10/25/2026	Non-Reimbursable	\$2,738	WFF	GSFC-21-34158	Education and/or Public Engagement	View Signed Agreement
1273	34157	Eastern Shore Community College	Collaboration to Facilitate Joint Research, Technology Development, and Educational Initiatives	10/26/2021	10/25/2026	Non-Reimbursable	\$0	WFF	GSFC-21-34158 NRSAA Umbrella	Education and/or Public Engagement	View Signed Agreement
1274	34097	JOHNS HOPKINS UNIVERSITY / APPLIED PHYSICS LAB	Use of the Wallops Geophysical Observatory (WGO) for the Collection of Scientific Data from Super Dual Auroral Radar Network (SUPERDARN)	7/19/2021	7/18/2026	Non-Reimbursable	\$25,441	WFF	GSFC-21-34097	Institutional and Mission Support	View Signed Agreement
1275	34092	THE REGENTS OF THE UNIVERSITY OF COLORADO	Use of the Wallops Geophysical Observatory (WGO) for the Collection of Scientific Data from the Ionospheric Radar	7/2/2021	7/1/2026	Non-Reimbursable	\$25,441	WFF	GSFC-21-34092	Institutional and Mission Support	View Signed Agreement
1276	33612	Enroute Computer Systems	Wet Runway Brake Testing	8/30/2021	8/29/2024	Reimbursable	\$460,879	WFF	GSFC-21-33611	Aeronautics, Institutional and Mission Support	View Signed Agreement
1277	33611	Enroute Computer Systems	Airfield Testing and Support	8/30/2021	8/29/2026	Reimbursable	\$0	WFF	GSFC-21-33611	Aeronautics, Institutional and Mission Support	View Signed Agreement
1278	33594	ABL Space Systems	Range Operational Support and Safety	11/9/2021	11/8/2023	Reimbursable	\$25,854	WFF	GSFC-21-33320	Science, Space Technology, Institutional and Mission Support	View Signed Agreement
1279	33320	ABL Space Systems	Aerospike Engine Engineering and Operational Support	11/9/2021	11/8/2026	Reimbursable	\$0	WFF	GSFC-21-33320	Science, Space Technology, Institutional and Mission Support	View Signed Agreement
1280	33131	Salisbury University	Test Weather Station (MESONET) system for automated weather and environmental monitoring.	11/12/2020	11/11/2025	Non-Reimbursable	\$102,500	WFF	GSFC-20-33131	Science	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1281	32608	ROCKET LAB USA	Range Services	7/8/2021	7/7/2026	Reimbursable	\$0	WFF	GSFC-21-32608	Science	View Signed Agreement
1282	32318	Blue Ridge Research and Consulting, LLC	Improving Rocket Launch Acoustic Models and Interpreting Raw Acoustical Data	5/1/2020	4/30/2025	Non-Reimbursable	\$27,290	WFF	GSFC-20-32318	Science	View Signed Agreement
1283	25541	Virginia Commercial Space Flight Authority	Operations and Activities for the Unmanned Aerial System Runway	1/9/2018	9/20/2025	Reimbursable	\$778,250	WFF	GSFC-17-25541	Aeronautics	View Signed Agreement
1284	39303	BLUE ORIGIN, LLC	Annex to WSTF Testing, Training Analysis, and Technical Expertise (Materials, Fluids, Components) for NASA-STD-6001 Test 1, Test 4 and Test 7	6/24/2022	6/23/2027	Reimbursable	\$410,275	WSTF	SAA-RA-22-36236-02	Aeronautics	View Signed Agreement
1285	39116	NORTHROP GRUMMAN	Hypervelocity Testing in Support of Northrop Grumman Corporation Space Systems	7/27/2023	7/27/2024	Reimbursable	\$46,634	WSTF	SAA-RA-23-39116	Aeronautics	View Signed Agreement
1286	38763	THE BOEING COMPANY	Annex 4 to remove and replace valves on R40 thrusters	6/5/2023	6/4/2025	Reimbursable	\$536,597	WSTF	SAA-RA-18-28204	Aeronautics	View Signed Agreement
1287	38561	WHA INTERNATIONAL, INC	Annex to WSTF Testing, Training, Analysis, and Technical Expertise (Materials, Fluids, Components)	4/1/2023	4/1/2024	Reimbursable	\$34,469	WSTF	SAA-RA-22-36170-03	Space Technology	View Signed Agreement
1288	38520	Lunar Resources, Inc.	Fire Hazards in Oxygen Systems Training and Oxygen Compatibility Assessments	6/6/2023	6/5/2028	Reimbursable	\$205,178	WSTF	SAA-RA-23-38519-01	Space Technology	View Signed Agreement
1289	38519	Lunar Resources, Inc.	FOR TESTING, ANALYSIS ACTIVITIES, AND EXCHANGE OF TECHNICAL EXPERTISE	6/6/2023	6/5/2028	Reimbursable	\$0	WSTF	SAA-RA-23-38519	Human Exploration and Operations	View Signed Agreement
1290	37939	Radian Aerospace Inc.	NASA-STD-2007-213740 Oxygen Compatibility Assessments / NASA-STD-6001 Flammability, Offgassing, and Compatibility Requirements	2/15/2023	2/14/2028	Reimbursable	\$315,520	WSTF	SAA-RA-23-34938-01	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1291	37938	Radian Aerospace Inc.	WSTF Testing, Analysis, and Technical Expertise (Materials, Fluids, Components)	2/15/2023	2/14/2028	Reimbursable	\$0	WSTF	SAA-RA-23-37938	Human Exploration and Operations	View Signed Agreement
1292	37913	Pacific Design Technologies	Propellant Exposure Testing and Analysis of Carbon Graphite Bearings	7/26/2023	7/26/2025	Reimbursable	\$37,836	WSTF	SAA-RA-23-37913	Human Exploration and Operations, Science	View Signed Agreement
1293	37912	Pacific Design Technologies	Testing, Analysis, Training, and Technical Expertise	7/26/2023	7/26/2025	Reimbursable	\$0	WSTF		Aeronautics	View Signed Agreement
1294	37901	Agile Space Industries	WSTF Training and Technical Expertise (Materials, Fluids, Components)	2/7/2023	2/6/2028	Reimbursable	\$959,517	WSTF	SAA-RA-23-37900-01	Human Exploration and Operations	View Signed Agreement
1295	37900	Agile Space Industries	TESTING, ANALYSIS, TRAINING, AND TECHNICAL EXPERTISE	2/7/2023	2/6/2028	Reimbursable	\$0	WSTF	SAA-RA-23-37900	Human Exploration and Operations	View Signed Agreement
1296	37614	ASTROBOTIC TECHNOLOGY, INC	Annex to Engineering Analysis and development for Commercial Lunar Lander and Payload Service A	12/14/2022	12/14/2023	Reimbursable	\$32,041	WSTF	SAA8-1930516-07	Human Exploration and Operations	View Signed Agreement
1297	37612	FIREFLY AEROSPACE INC.	WSTF Training and Technical Expertise (Materials, Fluids, Components)	2/7/2023	2/6/2028	Reimbursable	\$959,517	WSTF	SAA-RA-23-37611-01	Human Exploration and Operations	View Signed Agreement
1298	37611	FIREFLY AEROSPACE INC.	Testing, Analysis, Training, and Technical Expertise	2/7/2023	2/6/2028	Reimbursable	\$0	WSTF	SAA-RA-23-37611	Human Exploration and Operations	View Signed Agreement
1299	37535	Space Exploration Technologies Corp.	Annex to WSTF Testing, Training, Analysis, and Technical Expertise (Materials, Fluids, Components).	10/11/2022	10/11/2023	Reimbursable	\$19,742	WSTF	SAA-RA-21-35607-02	Human Exploration and Operations	View Signed Agreement
1300	37357	LOCKHEED MARTIN	Annex to Perform Propellant Testing and Analysis	10/11/2022	8/15/2024	Reimbursable	\$369,976	WSTF	SAA8-2134560-02	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1301	36856	BLUE ORIGIN, LLC	Annex to Engineering Analysis and Testing	10/24/2022	2/8/2025	Reimbursable	\$1,580,189	WSTF	SAA-EA-20-29343-19	Space Technology	View Signed Agreement
1302	36675	Blue Origin, LLC	Loan of NASA Owned Pressure Vessels and Transfer of Blue Origin Ground Test Results	10/18/2022	10/17/2027	Non-Reimbursable	\$21,476	WSTF	SAA-RA-22-36675	Human Exploration and Operations	View Signed Agreement
1303	36628	STELLAR EXPLORATION, INC	Testing, Analysis, Training, and Technical Expertise (Materials, Fluids, Components)	5/27/2022	5/26/2027	Reimbursable	\$696,657	WSTF	SAA-RA-22-36627-01	Human Exploration and Operations	View Signed Agreement
1304	36627	STELLAR EXPLORATION, INC	Testing, Analysis, Training, and Technical Expertise (Materials, Fluids, Components)	5/27/2022	5/26/2027	Reimbursable	\$0	WSTF	SAA-RA-22-36627	Human Exploration and Operations	View Signed Agreement
1305	36540	RAYTHEON COMPANY	Next Generation Interceptor (NGI) Hot Fire Testing	2/23/2023	8/23/2026	Reimbursable	\$9,894,012	WSTF	SAA-RA-22-36540	Human Exploration and Operations	View Signed Agreement
1306	36453	Hypercomp Engineering Inc	Hypercomp Engineering Composite Overwrapped Pressure Vessel Damage Detection Training	7/11/2022	7/10/2027	Reimbursable	\$156,234	WSTF	SAA-RA-22-36453	Human Exploration and Operations	View Signed Agreement
1307	36402	Ursa Major Technologies	Annex to Rocket Engine Development Support	10/30/2019	10/30/2024	Reimbursable	\$732,574	WSTF	SAA8-1931298-03	Human Exploration and Operations	View Signed Agreement
1308	36372	AeroJet RocketDyne	TESTING, ANALYSIS, TRAINING AND TECHNICAL EXPERTISE (MATERIALS, FLUIDS, COMPONENTS) Support	4/4/2023	4/3/2028	Reimbursable	\$15,636	WSTF	SAA-RA-22-36371-01	Space Technology	View Signed Agreement
1309	36371	AEROJET ROCKETDYNE, INC	TESTING, ANALYSIS, TRAINING AND TECHNICAL EXPERTISE (MATERIALS, FLUIDS, COMPONENTS) Support	4/4/2023	4/3/2028	Reimbursable	\$0	WSTF	SAA-RA-22-36371	Space Technology	View Signed Agreement
1310	36237	BLUE ORIGIN, LLC	Training	6/24/2022	6/23/2027	Reimbursable	\$4,796,246	WSTF	SAA-RA-22-36236-01	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority¹ under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1311	36236	BLUE ORIGIN, LLC	WSTF Testing, Training Analysis, and Technical Expertise (Materials, Fluids, Components)	6/24/2022	6/23/2027	Reimbursable	\$0	WSTF	SAA-RA-22-36236	Human Exploration and Operations	View Signed Agreement
1312	36171	WHA INTERNATIONAL, INC	Component Testing, Goods, Services and Analysis	3/4/2022	3/4/2027	Reimbursable	\$699,995	WSTF	SAA-RA-22-36170-01	Human Exploration and Operations	View Signed Agreement
1313	36170	WHA INTERNATIONAL, INC	WSTF Testing, Training, Analysis, and Technical Expertise (Materials, Fluids, Components)	3/4/2022	3/4/2027	Reimbursable	\$0	WSTF	SAA-RA-21-36170	Human Exploration and Operations	View Signed Agreement
1314	36163	AXIOM SPACE, LLC	Flight / Sensitive System Specialized Training	4/6/2022	4/6/2027	Reimbursable	\$670,253	WSTF	SAA-RA-22-36162-01	Human Exploration and Operations	View Signed Agreement
1315	36162	AXIOM SPACE, LLC	Testing, Training, Analysis, and Technical Expertise	4/6/2022	4/6/2027	Reimbursable	\$0	WSTF	SAA-RA-22-36162	Human Exploration and Operations	View Signed Agreement
1316	35722	B/E Aerospace, d.b.a. Collins Aerospace, a unit of United Technologies Corporation	Annex to Collins Aerospace Oxygen and COPV Testing, Analysis and Training Activities	3/2/2022	3/2/2025	Reimbursable	\$41,514	WSTF	SAA-RA-20-30648-02	Human Exploration and Operations	View Signed Agreement
1317	35607	Space Exploration Technologies Corp.	WSTF Testing, Training, Analysis, and Technical Expertise (Materials, Fluids, Components).	12/30/2021	12/30/2026	Reimbursable	\$0	WSTF	SAA-RA-21-35607	Human Exploration and Operations	View Signed Agreement
1318	34796	Virgin Orbit, LLC	Composite Over-wrapped Pressure Vessel Damage Detection Visual Inspection Training	10/14/2021	10/14/2026	Reimbursable	\$423,485	WSTF	SAA-RA-21-34796	Human Exploration and Operations	View Signed Agreement
1319	34328	ZIN TECHNOLOGIES, INC	NASA-STD-2007-213740 Oxygen Compatibility Assessments / NASA-STD-6001 Flammability, Offgassing, and Compatibility Requirements	5/6/2021	5/6/2026	Reimbursable	\$184,831	WSTF	SAA-RA-21-34327-01	Human Exploration and Operations	View Signed Agreement
1320	34327	ZIN TECHNOLOGIES, INC	WSTF Testing, Training, Analysis, and Technical Expertise (Materials, Fluids, Components)	5/6/2021	5/6/2026	Reimbursable	\$0	WSTF	SAA-RA-21-34327	Human Exploration and Operations	View Signed Agreement

Other Transactions Authority" under the Space Act (51 U.S.C. § 20113(e)) (report as of September 30, 2023)

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1321	34318	AEROJET ROCKETDYNE, INC	Post Boost Propulsion System (PBPS) Static Hot-fire Testing	7/20/2021	7/20/2025	Reimbursable	\$4,744,231	WSTF	SAA-RA-21-34318	Human Exploration and Operations	View Signed Agreement
1322	34307	ILC Dover LP	NASA-STD-2007-213740 Oxygen Compatibility Assessments / NASA-STD-6001 Flammability, Offgassing, and Compatibility Requirements	8/4/2021	8/4/2026	Reimbursable	\$818,467	WSTF	SAA-RA-21-34306-01	Human Exploration and Operations	View Signed Agreement
1323	34306	ILC Dover LP	WSTF Testing, Training, Analysis, and Technical Expertise (Materials, Fluids, Components)	8/4/2021	8/4/2026	Reimbursable	\$0	WSTF	SAA-RA-21-34306	Human Exploration and Operations	View Signed Agreement
1324	34081	THE BOEING COMPANY	Annex 3 to Fabricate WSTF Designed Throat Plugs for R40B Thrusters	10/26/2021	10/26/2023	Reimbursable	\$93,299	WSTF	SAA-RA-18-28204-03	Institutional and Mission Support	View Signed Agreement
1325	33315	Northrop Grumman	Exposure and Mechanical Properties Testing of FEP Propellant Tank Diaphragm Material	10/8/2021	10/8/2023	Reimbursable	\$202,897	WSTF	SAA-RA-21-33315	Human Exploration and Operations	View Signed Agreement
1326	32676	THE BOEING COMPANY	STP3 R40b Hot Fire Testing	4/29/2021	6/30/2025	Reimbursable	\$9,943,911	WSTF	SAA-RA-20-32676	Human Exploration and Operations	View Signed Agreement
1327	31581	Infinite Composites Technologies	Annex for COPV Inspection and Evaluation	5/5/2020	5/5/2025	Reimbursable	\$420,799	WSTF	SAA-RA-20-31363-02	Human Exploration and Operations	View Signed Agreement
1328	31364	Infinite Composites Technologies	NASA-STD-2007-213740 Oxygen Compatibility Assessments / NASA-STD-6001 Flammability, Offgassing, and Compatibility Requirements	5/5/2020	5/5/2025	Reimbursable	\$1,013,196	WSTF	SAA-RA-20-31363-01	Human Exploration and Operations	View Signed Agreement
1329	31363	Infinite Composites Technologies	WSTF Testing, Training, Analysis, and Technical Expertise (Materials, Fluids, Components)	5/5/2020	5/5/2025	Reimbursable	\$0	WSTF	SAA-RA-20-31363	Human Exploration and Operations	View Signed Agreement
1330	31188	Intuitive Machines, LLC	NASA Standards 6001B Testing	11/23/2020	11/23/2025	Reimbursable	\$1,013,196	WSTF	SAA-RA-20-31187-01	Human Exploration and Operations	View Signed Agreement

ROW NO.	PAM ID NO.	PARTNER NAME	TITLE/PURPOSE	SIGNATURE DATE	EXPIRATION DATE	TYPE OF AGREEMENT	TOTAL ESTIMATED VALUE	CENTER	CENTER TRACKING NUMBER (IF ANY)	EXPECTED AGENCY BENEFIT(S)	LINK TO SIGNED AGREEMENT
1331	31187	Intuitive Machines, LLC	WSTF Testing, Training, Analysis, and Technical Expertise (Materials, Fluids, Components)	11/23/2020	11/23/2025	Reimbursable	\$0	WSTF	SAA-RA-20-31187	Human Exploration and Operations	View Signed Agreement
1332	30649	B/E Aerospace, d.b.a. Collins Aerospace a unit of United Technologies Corporation	NASA-STD-6001 Flammability, Offgassing, Compatibility Testing and Training	3/31/2020	3/30/2025	Reimbursable	\$487,655	WSTF	SAA-RA-20-30648	Human Exploration and Operations	View Signed Agreement
1333	30648	B/E Aerospace, d.b.a. Collins Aerospace, a unit of United Technologies Corporation	Collins Aerospace Oxygen and COPV Testing, Analysis and Training Activities	3/31/2020	3/30/2025	Reimbursable	\$0	WSTF	SAA-RA-20-30648	Human Exploration and Operations	View Signed Agreement
1334	29610	AS and D, LLC	NASA's Composite Overwrapped Pressure Vessel (COPV) Damage Detection Course (DDC)	2/4/2019	2/4/2024	Reimbursable	\$22,767	WSTF	SAA-RA-19-29610	Human Exploration and Operations	View Signed Agreement
1335	28204	THE BOEING COMPANY	Perform R40b thruster testing and provide test data results.	9/13/2018	9/13/2025	Reimbursable	\$0	WSTF	SAA-RA-18-28204	Institutional and Mission Support	View Signed Agreement
1336	22154	Celanese International Corporation	Celanese Chemical Division Process Enhancement Testing	11/7/2018	11/7/2023	Reimbursable	\$899,660	WSTF	SAA-RA-18-22154	Institutional and Mission Support	View Signed Agreement