

COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2 (CCSC2)

UNFUNDED SPACE ACT AGREEMENT
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AND
VAST SPACE, LLC
FOR
COLLABORATIONS FOR COMMERCIAL SPACE CAPABILITIES 2

ARTICLE 1. AUTHORITY AND PARTIES

In accordance with the National Aeronautics and Space Act (51 U.S.C. § 20113(e)), this Agreement is entered into by the National Aeronautics and Space Administration (hereinafter referred to as "NASA") and Vast Space, LLC located at 2851 Orange Avenue, Long Beach, California 90755 (hereinafter referred to as "Partner" or "Vast"). NASA and Partner may be individually referred to as a "Party" and collectively referred to as the "Parties."

ARTICLE 2. PURPOSE

The purpose of this Agreement is to facilitate the Partner's concept maturation and eventual implementation of the Partner's space station modules described in Appendix 1. Support provided by NASA under this Agreement will be summarized by the Parties in writing in Appendix 2, NASA Furnished Services, Facilities, and Technologies. As part of the work in this Agreement, the Parties may work in collaboration in some areas and that support will be agreed upon and documented in a Technical Implementation Plan(s) (TIP) in advance of such support being provided. Partner's activity, as identified in Article 4, is related to this Agreement but is not a Partner responsibility under this Agreement, except where described elsewhere in this Agreement and/or in any TIP. Partner may, but is not required to, fund at private expense Independent Research and Development (IRAD) efforts in support of or related to Partner's space station modules as described below. In the event that Partner shares with NASA pursuant to this Agreement the data produced under such separate IRAD efforts, such data shall be treated as Background Data, unless agreed otherwise in any TIP. This Agreement is aligned with NASA's strategy for advancing commercial space-related efforts that primarily benefit the development and growth of a robust and competitive U.S. commercial economy in low Earth orbit. The Parties anticipate that the Partner's space station modules could include the following general types of functions:

- a) Crewed or uncrewed space destinations of any type and combination, including ones that principally reside in space, sortie from/to space, are crew tended, and/or that may reconfigure.

Vast's space station modules will provide a crewed LEO space destination for U.S. Government and commercial customers within 5 years. This capability will principally benefit low Earth orbit

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and will be safe, reliable, and cost effective so that non-government customers can also afford the capabilities.

b) Capabilities for in-space research, manufacturing and/or assembly.

Vast's space station modules are designed to be a platform for customers to execute a variety of in-space activities in varying gravity environments, including research, manufacturing, and assembly, in addition to acting as a test and demonstration platform for Vast's larger space station development program.

ARTICLE 3. RESPONSIBILITIES

A. NASA will use reasonable efforts to:

1. Provide a point of contact for Partner within the Commercial Space Capabilities office within 30 days after the effective date of this Agreement.
2. Review data provided by Partner.
3. Attend regularly scheduled meetings with Partner regarding the past period's milestones and upcoming activities.
4. If requested by Partner, and within 30 days of each regularly scheduled meeting, provide Partner a written acknowledgement of milestone completion if NASA ascertains that the milestones of the previous quarter have been accomplished. Nothing in the acknowledgement of milestone completion shall be construed to imply that NASA endorses or sponsors any Partner product or service resulting from activities conducted under this Agreement. NASA's acknowledgement shall not be construed to imply approval or endorsement of the safety, reliability or appropriateness of any Partner design, system, architecture or testing methodology.
5. Attend and observe Partner milestones, at its discretion and after coordination with Partner.
6. Provide access to requested NASA technical data, lessons learned, expertise support, services, facilities, equipment, and NASA-developed technologies, on a non-interference basis as resources permit. NASA furnished services, facilities, and technologies that may be provided, shall be summarized in Appendix 2 and may be further defined in the TIP(s).

B. Partner will use reasonable efforts to:

1. Provide NASA with data regarding its progress towards the milestones identified in Article 4.
2. Conduct regularly scheduled meetings with NASA regarding the past period's milestones, demonstrating that the success criteria have been met, and discuss upcoming activities.

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3. Provide equipment as identified and described in any TIP. All equipment provided by Partner to NASA shall include documentation stating build, revision, and traceability information and remains the property of the Partner at all times.
4. Fulfill its obligations in any TIP.

ARTICLE 4. SCHEDULE AND MILESTONES

The Milestones below are intended to provide a measure of Partner's overall progress, but are not a Partner responsibility under this Agreement, except where described elsewhere in this Agreement:

<p>Milestone #1: SAA Kickoff Meeting Upon execution of the SAA, Vast shall hold a kickoff meeting to familiarize all Vast employees with the capabilities and assets potentially available via the Agreement.</p> <p>Success Criteria: Conclusion of the meeting and successful resolution of any questions raised by Vast employees about the SAA.</p>	May 2023
<p>Milestone #2: Attitude Navigation Hardware Development Test</p> <p>Vast shall verify the functionality of a candidate off-the-shelf IMU in-flight aboard an Orbiter spacecraft.</p> <p>Success Criteria: Data collected from test that is sufficient to determine whether or not the candidate IMU hardware is spaceworthy without additional modification.</p>	June 2023
<p>Milestone #3: Sub-Scale Demo Module Preliminary Design Review (PDR)</p> <p>Vast shall conduct a Sub-Scale Demo Module PDR in accordance with Vast's programmatic phase and milestone definitions and processes.</p> <p>Success Criteria: Vast Review Board concurs that the PDR has successfully executed all PDR exit criteria and all Requests for Action (RFAs) have a viable path to closure within an acceptable timeframe.</p>	July 2023

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<p>Milestone #4: Oxygen Pressurization Demonstration</p> <p>Vast shall conduct an in-house tank loading demonstration on the oxygen system.</p> <p>Success Criteria:</p> <p>Demonstrate successful pressurization of a flight-representative oxygen tank to nominal loading pressure.</p>	November 2023
<p>Milestone #5: Large Window Pressure Test</p> <p>Vast shall characterize the functionality of its novel design for a window under anticipated pressures.</p> <p>Success Criteria:</p> <p>Data collected from test that is sufficient either to verify fundamental acceptability of tested design or indicate a redesign, per Structures requirement subset.</p>	January 2024
<p>Milestone #6: Air Revitalization Characterization Test</p> <p>Vast shall characterize the CO₂-scrubbing functionality of its air revitalization subsystem in anticipated environments using in-house test equipment.</p> <p>Success Criteria:</p> <p>Data collected from test that is sufficient either to verify fundamental acceptability of tested design or indicate a redesign, per ECLSS requirement subset.</p>	March 2024
<p>Milestone #7: Sub-Scale Demo Module Critical Design Review (CDR)</p> <p>Vast shall conduct a Sub-Scale Demo Module CDR in accordance with Vast's programmatic phase and milestone definitions and processes.</p> <p>Success Criteria:</p> <p>Vast Review Board concurs that the CDR has successfully executed all CDR exit criteria and all Requests for Action (RFAs) have a viable path to closure within an acceptable timeframe.</p>	May 2024

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<p>Milestone #8: Sub-Scale Solar Array Deployment Test</p> <p>Vast shall conduct an in-house deployment test of the solar array subassembly of the Sub-Scale Demo Module in a flight-representative configuration.</p> <p>Success Criteria:</p> <p>Demonstrate successful deployment of the solar array, per Mechanisms requirement subset.</p>	November 2024
<p>Milestone #9: Sub-Scale Demo Module Test Readiness Review (TRR)</p> <p>Vast shall conduct an Integrated Demo Module TRR in accordance with Vast's programmatic phase and milestone definitions and processes.</p> <p>Success Criteria:</p> <p>Vast Review Board concurs that the Demo Module has been successfully fully integrated and is ready to initiate integrated testing.</p>	January 2025
<p>Milestone #10: Hardware-In-The-Loop Mission Simulation</p> <p>Vast shall conduct a hardware-in-the-loop mission simulation in its Mission Control Center using its integrated facilities and Mission software.</p> <p>Success Criteria:</p> <p>All mission simulation and training objectives established by stakeholders prior to the event have been met or identified for later re-simulation during a particular upcoming event.</p>	February 2025
<p>Milestone #11: Sub-Scale Demo Module Delivery to Launch Site</p> <p>Vast shall deliver the Sub-Scale Demo Module SAR to the launch provider's launch facility for vehicle integration.</p> <p>Success Criteria:</p> <p>Sub-Scale Demo Module is received by launch provider at their launch integration facility.</p>	August 2025

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<p>Milestone #12: Sub-Scale Demo Module Launch</p> <p>Vast Sub-Scale Demo Module shall be launched into orbit by launch provider.</p> <p>Success Criteria:</p> <p>Vast Demo Module is successfully launched.</p>	December 2025
<p>Milestone #13: Full-Scale Demo Module Preliminary Design Review (PDR)</p> <p>Vast shall conduct a Full-Scale Demo Module PDR in accordance with Vast's programmatic phase and milestone definitions and processes.</p> <p>Success Criteria:</p> <p>Vast Review Board concurs that the PDR has successfully executed all PDR exit criteria and all Requests for Action (RFAs) have a viable path to closure within an acceptable timeframe.</p>	October 2025
<p>Milestone #14: Sub-Scale Demo Module Crew Mission</p> <p>A private crewed mission of 2-4 individuals shall be conducted onboard the Sub-Scale Demo Module.</p> <p>Success Criteria:</p> <p>Crew are able to dock to and ingress the space station.</p>	March 2026
<p>Milestone #15: Sub-Scale Demo Module Spin Test 1</p> <p>Vast shall conduct the first orbital spin test of the Sub-Scale Demo Module.</p> <p>Success Criteria:</p> <p>Demonstrate successful spin-up to a fractional RPM, and successful spin-down to 0 RPM.</p>	July 2026

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<p>Milestone #16: Sub-Scale Demo Module Spin Test 2</p> <p>Vast shall conduct the second orbital spin test of the Sub-Scale Demo Module.</p> <p>Success Criteria:</p> <p>Demonstrate successful spin-up to full RPM, as defined by Mission requirement subset.</p>	October 2026
<p>Milestone #17: Full-Scale Demo Module Critical Design Review (CDR)</p> <p>Vast shall conduct a Full-Scale Demo Module CDR in accordance with Vast's programmatic phase and milestone definitions and processes.</p> <p>Success Criteria:</p> <p>Vast review board concurs that the CDR has successfully executed all CDR exit criteria and all Requests for Action (RFAs) have a viable path to closure within an acceptable timeframe.</p>	January 2027
<p>Milestone #18: Full-Scale Solar Array Deployment Test</p> <p>Vast shall conduct an in-house deployment test of the solar array subassembly of the Full-Scale Demo Module in a flight-representative configuration.</p> <p>Success Criteria:</p> <p>Demonstrate successful deployment of the solar array, per Mechanisms requirement subset.</p>	April 2027
<p>Milestone #19: Full-Scale Launch Separation System Test</p> <p>Vast shall conduct a test of the launch separation system, ensuring buy-in from launch vehicle responsible engineers.</p> <p>Success Criteria:</p> <p>Demonstrate successful operation of the launch separation system, per Mechanisms requirement subset.</p>	July 2027

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<p>Milestone #20: Full-Scale Pressure Hull Proof Test</p> <p>Vast shall verify the functionality of its hull under proof pressures.</p> <p>Success Criteria:</p> <p>Primary pressure hull system holds pressure, per Structures requirements subset.</p>	October 2027
<p>Milestone #21: Full-Scale Demo Module Test Readiness Review (TRR)</p> <p>Vast shall conduct an Integrated Full-Scale Demo Module TRR in accordance with Vast’s programmatic phase and milestone definitions and processes.</p> <p>Success Criteria:</p> <p>Vast Review Board concurs that the Full-Scale Demo Module has been successfully fully integrated and is ready to initiate integrated testing.</p>	March 2028
<p>Milestone #22: Full-Scale Hardware-In-The-Loop Mission Simulation</p> <p>Vast shall conduct a Full-Scale hardware-in-the-loop mission simulation in its Mission Control Center using its integrated facilities and Mission software.</p> <p>Success Criteria:</p> <p>All mission simulation and training objectives established by stakeholders prior to the event have been met or identified for later re-simulation during a particular upcoming event.</p>	April 2028

ARTICLE 5. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, (31 U.S.C. § 1341).

ARTICLE 6. PRIORITY OF USE

Any schedule or milestone in this Agreement is estimated based upon the Parties’ current understanding of the projected availability of NASA goods, services, facilities, or equipment. In

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the event that NASA's projected availability changes, Partner shall be given reasonable notice of that change, so that the schedule and milestones may be adjusted accordingly. The Parties agree that NASA's use of the goods, services, facilities, or equipment shall have priority over the use planned in this Agreement. Should a conflict arise, NASA in its sole discretion shall determine whether to exercise that priority. Likewise, should a conflict arise as between two or more non-NASA Partners, NASA, in its sole discretion, shall determine the priority as between those Partners. This Agreement does not obligate NASA to seek alternative government property or services under the jurisdiction of NASA at other locations.

ARTICLE 7. NONEXCLUSIVITY

This Agreement is not exclusive; accordingly, NASA may enter into similar agreements for the same or similar purpose with other private or public entities.

ARTICLE 8. LIABILITY

A. The objective of this Article is to establish a cross-waiver of liability in the interest of encouraging participation in the exploration, exploitation, and use of outer space. The Parties intend that the cross-waiver of liability be broadly construed to achieve this objective.

B. For purposes of this Article:

1. The term "Damage" means:

- a. Bodily injury to, or other impairment of health of, or death of, any person;
- b. Damage to, loss of, or loss of use of any property;
- c. Loss of revenue or profits; or
- d. Other direct, indirect, or consequential Damage.

2. The term "Launch Vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries Payloads, persons, or both.

3. The term "Payload" means all property to be flown or used on or in a Launch Vehicle.

4. The term "Protected Space Operations" means all Launch Vehicle or Transfer Vehicle activities and Payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an agreement for launch services. Protected Space Operations begins at the signature of this Agreement and ends when all activities done in implementation of this Agreement are completed. It includes, but is not limited to:

- a. Research, design, development, test, manufacture, assembly, integration, operation, or use of Launch Vehicles or Transfer Vehicles, Payloads, or instruments, as well as related support equipment and facilities and services; and
- b. All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services. "Protected Space Operations" excludes activities on Earth that are conducted on return from space to develop further a Payload's product or process for use other than for the activities within the scope of an agreement for launch services.

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5. The term “Related Entity” means:

- a. A contractor or subcontractor of a Party at any tier;
- b. A user or customer of a Party at any tier; or
- c. A contractor or subcontractor of a user or customer of a Party at any tier. The terms “contractor” and “subcontractor” include suppliers of any kind. The term “Related Entity” may also apply to a State, or an agency or institution of a State, having the same relationship to a Party as described in paragraphs B.5.a. through B.5.c. of this Article, or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph B.4. above.

6. The term “Transfer Vehicle” means any vehicle that operates in space and transfers Payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A Transfer Vehicle also includes a vehicle that departs from and returns to the same location on a space object.

C. Cross-waiver of liability:

1. Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in paragraphs C.1.a. through C.1.d. of this Article based on Damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for Damage, whatever the legal basis for such claims, against:

- a. The other Party;
- b. A party to another NASA agreement that includes flight on the same Launch Vehicle;
- c. A Related Entity of any entity identified in paragraphs C.1.a. or C.1.b. of this Article; or
- d. The employees of any of the entities identified in paragraphs C.1.a. through C.1.c. of this Article.

2. In addition, each Party shall extend the cross-waiver of liability, as set forth in paragraph C.1. of this Article, to its own Related Entities by requiring them, by contract or otherwise, to:

- a. Waive all claims against the entities or persons identified in paragraphs C.1.a. through C.1.d. of this Article; and
- b. Require that their Related Entities waive all claims against the entities or persons identified in paragraphs C.1.a. through C.1.d. of this Article.

3. For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, which entered into force on September 1, 1972, where the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

4. Notwithstanding the other provisions of this Article, this cross-waiver of liability shall not be applicable to:

- a. Claims between a Party and its own Related Entity or between its own Related Entities;

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- b. Claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to this Agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health of, or death of, such person;
- c. Claims for Damage caused by willful misconduct;
- d. Intellectual property claims;
- e. Claims for Damage resulting from a failure of a Party to extend the cross-waiver of liability to its Related Entities, pursuant to paragraph C.2. of this Article; or
- f. Claims by a Party arising out of or relating to another Party's failure to perform its obligations under this Agreement.

5. Nothing in this Article shall be construed to create the basis for a claim or suit where none would otherwise exist.

D. To the extent that activities under this Agreement are not within the definition of "Protected Space Operations," defined above, the following unilateral waiver of claims applies to activities under this Agreement.

1. Partner hereby waives any claims against NASA, its employees, its related entities, (including, but not limited to, contractors and subcontractors at any tier, grantees, investigators, customers, users, and their contractors and subcontractors, at any tier) and employees of NASA's related entities for any injury to, or death of, Partner employees or the employees of Partner's related entities, or for damage to, or loss of, Partner's property or the property of its related entities arising from or related to activities conducted under this Agreement, whether such injury, death, damage, or loss arises through negligence or otherwise, except in the case of willful misconduct.

2. Partner further agrees to extend this unilateral waiver to its related entities by requiring them, by contract or otherwise, to waive all claims against NASA, its related entities, and employees of NASA and employees of NASA's related entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement.

ARTICLE 9. LIABILITY - PRODUCT LIABILITY

With respect to products or processes resulting from a Party's participation in an SAA, each Party that markets, distributes, or otherwise provides such product, or a product designed or produced by such a process, directly to the public will be solely responsible for the safety of the product or process.

ARTICLE 10. LIABILITY - PRODUCT LIABILITY INDEMNIFICATION

In the event the U.S. Government incurs any liability based upon Partner's, or Partner's Related Entity's, use or commercialization of products or processes resulting from a Party's participation under this Agreement, Partner agrees to indemnify and hold the U.S. Government harmless against such liability, including costs and expenses incurred by the U.S. Government in

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defending against any suit or claim for such liability.

ARTICLE 11. LIABILITY - INSURANCE FOR DAMAGE TO NASA PROPERTY

A. If Partner requests and is approved use of NASA facility(ies) to conduct activities under this Agreement, Partner shall, at no cost to NASA, maintain throughout the duration of said use, insurance covering claims for bodily injury, personal injury, death, property damage, or other loss or damages arising from any activities conducted under this Agreement at such limits and upon such terms as are acceptable to NASA in its reasonable discretion and as documented in the TIP, and shall provide NASA acceptable evidence of such insurance. Policy(ies) for property insurance must cover the cost of repair or replacement (as reasonably determined by NASA) of any U.S. Government property (real or personal) damaged as a result of activities conducted under this Agreement.

B. By signing this Agreement, Partner agrees that all insurance required under this Agreement will be in effect and will be issued by companies with a credit rating of at least "A-" and a financial size category of at least "VIII" in the current edition of Best's Insurance Reports (or its equivalent successor, or, if there is no equivalent successor rating, otherwise mutually acceptable to the Parties) and are licensed to do and doing business in all states in which activities will be conducted under the Agreement. NASA is not obligated to provide access to its facilities or equipment under this Agreement until and unless the insurance required by this section is in effect. Any deductibles selected by Partner for any insurance coverage shall be the sole responsibility of Partner.

ARTICLE 12. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. General

1. "Related Entity" as used in this Data Rights Article means a contractor, subcontractor, grantee, or other entity having a legal relationship with NASA or Partner that is assigned, tasked, or contracted to perform activities under this Agreement.
2. "Data" means recorded information, regardless of form, the media on which it is recorded, or the method of recording.
3. "Proprietary Data" means Data embodying trade secrets developed at private expense or commercial or financial information that is privileged or confidential, and that includes a restrictive notice, unless the Data is:
 - a. known or available from other sources without restriction;
 - b. known, possessed, or developed independently, and without reference to the Proprietary Data;
 - c. made available by the owners to others without restriction; or
 - d. required by law or court order to be disclosed.
4. Data exchanged under this Agreement is exchanged without restriction except as otherwise provided herein.
5. Notwithstanding any restrictions provided in this Article, the Parties are not restricted in the use, disclosure, or reproduction of Data provided under this Agreement that meets one of the exceptions in 3., above. If a Party believes that any exceptions apply, it shall notify the other Party before any unrestricted use, disclosure, or reproduction of the Data.

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6. The Parties will not exchange preexisting Proprietary Data under this Agreement unless authorized herein or in writing by the owner.
7. If the Parties exchange Data having a notice that the Receiving Party deems is ambiguous or unauthorized, the Receiving Party shall tell the Providing Party. If the notice indicates a restriction, the Receiving Party shall protect the Data under this Article unless otherwise directed in writing by the Providing Party.
8. The Data rights herein apply to the employees and Related Entities of Partner. Partner shall ensure that its employees and Related Entity employees know about and are bound by the obligations under this Article.
9. Disclaimer of Liability: NASA is not restricted in, or liable for, the use, disclosure, or reproduction of Data without a restrictive notice or for Data Partner gives, or is required to give, the U.S. Government without restriction.
10. Partner may use the following or a similar restrictive notice:

Proprietary Data Notice

The data herein include Proprietary Data and are restricted under the Data Rights provisions of Space Act Agreement [provide applicable identifying information].

Partner should also mark each page containing Proprietary Data with the following or a similar legend: "Proprietary Data – Use And Disclose Only Under the Notice on the Title or Cover Page."

B. Data First Produced by Partner Under this Agreement

If Data first produced by Partner or its Related Entities under this Agreement is given to NASA, and the Data is Proprietary Data, and it includes a restrictive notice, NASA will use reasonable efforts to protect it. The Data will be disclosed and used (under suitable protective conditions) only for U.S. Government purposes.

C. Data First Produced by NASA Under this Agreement

If Partner requests that Data first produced by NASA under this Agreement be protected, and NASA determines it would be Proprietary Data if obtained from Partner, NASA will mark it with a restrictive notice and use reasonable efforts to protect it for five (5) years after its development unless specified for a lesser period in the TIP. During this restricted period the Data may be disclosed and used (under suitable protective conditions) for U.S. Government purposes only, and thereafter for any purpose. Partner must not disclose the Data without NASA's written approval during the restricted period. The restrictions placed on NASA do not apply to Data disclosing a NASA owned invention for which patent protection is being considered.

D. Publication of Results

The National Aeronautics and Space Act (51 U.S.C. § 20112) requires NASA to provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof. As such, NASA may publish unclassified and non-Proprietary Data resulting

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from work performed under this Agreement. The Parties will coordinate publication of results allowing a reasonable time to review and comment.

E. Data Disclosing an Invention

If the Parties exchange Data disclosing an invention for which patent protection is being considered, and the furnishing Party identifies the Data as such when providing it to the Receiving Party, the Receiving Party shall withhold it from public disclosure for a reasonable time (one (1) year unless otherwise agreed or the Data is restricted for a longer period herein).

F. Copyright

Data exchanged with a copyright notice and with no restrictive notice is presumed to be published. The following royalty-free licenses apply:

1. If indicated on the Data that it was produced outside of this Agreement, it may be reproduced, distributed, and used to prepare derivative works only for carrying out the Receiving Party's responsibilities under this Agreement.
2. Data without the indication of F.1. is presumed to be first produced under this Agreement. Except as otherwise provided in paragraph E. of this Article, and in the Invention and Patent Rights Article of this Agreement for protection of reported inventions, the Data may be reproduced, distributed, and used to prepare derivative works for any purpose.

G. Data Subject to Export Control

Whether or not marked, technical data subject to the export laws and regulations of the United States provided to Partner under this Agreement must not be given to foreign persons or transmitted outside the United States without proper U.S. Government authorization.

H. Handling of Background, Third Party Proprietary, and Controlled Government Data

1. NASA or Partner (as Disclosing Party) may provide the other Party or its Related Entities (as Receiving Party):
 - a. Proprietary Data developed at Disclosing Party's expense outside of this Agreement (referred to as Background Data);
 - b. Proprietary Data of third parties that Disclosing Party has agreed to protect or is required to protect under the Trade Secrets Act (18 U.S.C. § 1905) (referred to as Third Party Proprietary Data); and
 - c. U.S. Government Data, including software and related Data, Disclosing Party intends to control (referred to as Controlled Government Data).
2. All Background, Third Party Proprietary and Controlled Government Data provided by Disclosing Party to Receiving Party shall be marked by Disclosing Party with a restrictive notice and protected by Receiving Party in accordance with this Article.

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3. Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data.
- a. Background Data: The Disclosing Party's Background Data, if any, will be identified in a separate technical document.
 - b. Third Party Proprietary Data: The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.
 - c. Controlled Government Data: The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.
 - d. Notwithstanding H.4., NASA software and related Data will be provided to Partner under a separate Software Usage Agreement (SUA). Partner shall use and protect the related Data in accordance with this Article. Unless the SUA authorizes retention, or Partner enters into a license under 37 C.F.R. Part 404, the related Data shall be disposed of as NASA directs: [insert name and NASA Case No. of the software; if none, insert "None."]
4. For such Data identified with a restrictive notice pursuant to H.2. including such Data identified pursuant to this Article, Receiving Party shall:
- a. Use, disclose, or reproduce such Data only as necessary under this Agreement;
 - b. Safeguard such Data from unauthorized use and disclosure;
 - c. Allow access to such Data only to its employees and any Related Entity requiring access under this Agreement;
 - d. Except as otherwise indicated in 4.c., preclude disclosure outside Receiving Party's organization;
 - e. Notify its employees with access about their obligations under this Article and ensure their compliance, and notify any Related Entity with access about their obligations under this Article; and
 - f. Dispose of such Data as Disclosing Party directs.

I. Oral and visual information

If Partner discloses Proprietary Data orally or visually, NASA will have no duty to restrict, or liability for disclosure or use, unless Partner:

1. Orally informs NASA before initial disclosure that the Data is Proprietary Data, and
2. Reduces the Data to tangible form with a restrictive notice and gives it to NASA within ten (10) calendar days after disclosure.

ARTICLE 13. INTELLECTUAL PROPERTY RIGHTS - INVENTION AND PATENT RIGHTS

A. General

1. NASA has determined that 51 U.S.C. § 20135(b) does not apply to this Agreement. Therefore, title to inventions made (conceived or first actually reduced to practice) under this Agreement remain with the respective inventing party(ies). No invention or patent rights are exchanged or granted under this Agreement, except as provided herein.

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2. "Related Entity" as used in this Invention and Patent Rights Article means a contractor, subcontractor, grantee, or other entity having a legal relationship with NASA or Partner assigned, tasked, or contracted with to perform activities under this Agreement.
3. The invention and patent rights herein apply to employees and Related Entities of Partner. Partner shall ensure that its employees and Related Entity employees know about and are bound by the obligations under this Article.

B. NASA Inventions

NASA will use reasonable efforts to report inventions made under this Agreement by its employees. Upon request, NASA will use reasonable efforts to grant Partner, under 37 C.F.R. Part 404, a negotiated license to any NASA invention made under this Agreement. This license is subject to paragraph E.1. of this Article.

C. NASA Related Entity Inventions

NASA will use reasonable efforts to report inventions made under this Agreement by its Related Entity employees, or jointly between NASA and Related Entity employees, where NASA has the right to acquire title. Upon request, NASA will use reasonable efforts to grant Partner, under 37 C.F.R. Part 404, a negotiated license to any of these inventions where NASA has acquired title. This license is subject to paragraph E.2. of this Article.

D. Joint Inventions With Partner

The Parties will use reasonable efforts to report, and cooperate in obtaining patent protection on, inventions made jointly between NASA employees, Partner employees, and employees of either Party's Related Entities. Upon timely request, NASA may, at its sole discretion and subject to paragraph E. of this Article:

1. refrain from exercising its undivided interest inconsistently with Partner's commercial business; or
2. use reasonable efforts to grant Partner, under 37 C.F.R. Part 404, an exclusive or partially exclusive negotiated license.

E. Rights to be Reserved in Partner's License

Any license granted Partner under paragraphs B., C., or D. of this Article is subject to the following:

1. For inventions made solely or jointly by NASA employees, NASA reserves the irrevocable, royalty-free right of the U.S. Government to practice the invention or have it practiced on behalf of the United States or on behalf of any foreign government or international organization pursuant to any existing or future treaty or agreement with the United States.
2. For inventions made solely or jointly by employees of a NASA Related Entity, NASA reserves the rights in 1. above, and a revocable, nonexclusive, royalty-free license retained by the Related Entity under 14 C.F.R. § 1245.108 or 37 C.F.R. § 401.14 (e).

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F. Protection of Reported Inventions

For inventions reported under this Article, the Receiving Party shall withhold all invention reports or disclosures from public access for a reasonable time (1 year unless otherwise agreed or unless restricted longer herein) to facilitate establishment of patent rights.

G. Patent Filing Responsibilities and Costs

1. The invention and patent rights herein apply to any patent application or patents covering an invention made under this Agreement. Each Party is responsible for its own costs of obtaining and maintaining patents covering sole inventions of its employees. The Parties may agree otherwise, upon the reporting of any invention (sole or joint) or in any license granted.

2. Partner shall include the following in patent applications for an invention made jointly between NASA employees, its Related Entity employees and Partner employees:

The invention described herein may be manufactured and used by or for the U.S. Government for U.S. Government purposes without the payment of royalties thereon or therefor.

[Note: Partner should be informed that it can locate NASA technology available for licensing by visiting the following website address – <http://technology.nasa.gov>.]

ARTICLE 14. USE OF NASA NAME AND NASA EMBLEMS

A. NASA Name and Initials

Partner shall not use “National Aeronautics and Space Administration” or “NASA” in a way that creates the impression that a product or service has the authorization, support, sponsorship, or endorsement of NASA, which does not, in fact, exist. Except for releases under the “Release of General Information to the Public and Media” Article, Partner must submit any proposed public use of the NASA name or initials (including press releases and all promotional and advertising use) to the NASA Associate Administrator for the Office of Communications or designee (“NASA Communications”) for review and approval. Approval by NASA Office of Communications shall be based on applicable law and policy governing the use of the NASA name and initials.

B. NASA Emblems

Use of NASA emblems (i.e., NASA Seal, NASA Insignia, NASA logotype, NASA Program Identifiers, and the NASA Flag) is governed by 14 C.F.R. Part 1221. Partner must submit any proposed use of the emblems to NASA Communications for review and approval.

ARTICLE 15. RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND MEDIA

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NASA or Partner may, consistent with Federal law and this Agreement, release general information regarding its own participation in this Agreement as desired.

Pursuant to Section 841(d) of the NASA Transition Authorization Act of 2017, Public Law 115-10 (the "NTAA"), NASA is obligated to publicly disclose copies of all agreements conducted pursuant to NASA's 51 U.S.C. §20113(e) authority in a searchable format on the NASA website within 60 days after the agreement is signed by the Parties. The Parties acknowledge that a copy of this Agreement will be disclosed, without redactions, in accordance with the NTAA.

ARTICLE 16. DISCLAIMER OF WARRANTY

Goods, services, facilities, or equipment provided by NASA under this Agreement are provided "as is." NASA makes no express or implied warranty as to the condition of any such goods, services, facilities, or equipment, or as to the condition of any research or information generated under this Agreement, or as to any products made or developed under or as a result of this Agreement including as a result of the use of information generated hereunder, or as to the merchantability or fitness for a particular purpose of such research, information, or resulting product, or that the goods, services, facilities or equipment provided will accomplish the intended results or are safe for any purpose including the intended purpose, or that any of the above will not interfere with privately-owned rights of others. Neither the government nor its contractors shall be liable for special, consequential or incidental damages attributed to such equipment, facilities, technical information, or services provided under this Agreement or such research, information, or resulting products made or developed under or as a result of this Agreement.

ARTICLE 17. DISCLAIMER OF ENDORSEMENT

NASA does not endorse or sponsor any commercial product, service, or activity. NASA's participation in this Agreement or provision of goods, services, facilities or equipment under this Agreement does not constitute endorsement by NASA. Partner agrees that nothing in this Agreement will be construed to imply that NASA authorizes, supports, endorses, or sponsors any product or service of Partner resulting from activities conducted under this Agreement, regardless of the fact that such product or service may employ NASA-developed technology.

ARTICLE 18. COMPLIANCE WITH LAWS AND REGULATIONS

A. The Parties shall comply with all applicable laws and regulations including, but not limited to, safety; security; export control; environmental; and suspension and debarment laws and regulations. Access by a Partner to NASA facilities or property, or to a NASA Information Technology (IT) system or application, is contingent upon compliance with NASA security and safety policies and guidelines including, but not limited to, standards on badging, credentials,

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and facility and IT system/application access, including use of Interconnection Security Agreements (ISAs), when applicable.

B. With respect to any export control requirements:

1. The Parties will comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 C.F.R. Parts 120 through 130, and the Export Administration Regulations (EAR), 15 C.F.R. Parts 730 through 799, in performing work under this Agreement or any Annex to this Agreement. In the absence of available license exemptions or exceptions, the Partner shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of hardware, technical data and software, or for the provision of technical assistance.
2. The Partner shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of work under this Agreement or any Annex under this Agreement, including instances where the work is to be performed on-site at NASA and where the foreign person will have access to export-controlled technical data or software.
3. The Partner will be responsible for all regulatory record-keeping requirements associated with the use of licenses and license exemptions or exceptions.
4. The Partner will be responsible for ensuring that the provisions of this Article apply to its Related Entities.

C. With respect to suspension and debarment requirements:

1. The Partner hereby certifies, to the best of its knowledge and belief, that it has complied, and shall comply, with 2 C.F.R. Part 180, Subpart C, as supplemented by 2 C.F.R. Part 1880, Subpart C.
2. The Partner shall include language and requirements equivalent to those set forth in subparagraph C.1., above, in any lower-tier covered transaction entered into under this Agreement.

D. With respect to the requirements in Section 889 of the National Defense Authorization Act (NDAA) for Fiscal Year 2019, Public Law 115-232:

1. In performing this Agreement, Partner will not use, integrate with a NASA system, or procure with NASA funds (if applicable), "covered telecommunications equipment or services" (as defined in Section 889(f)(3) of the NDAA).
2. The Partner will ensure that the provisions of this Article apply to its Related Entities.

E. Pursuant to The Department of Defense and Full-Year Appropriation Act, Public Law 112-10, Section 1340(a); The Consolidated and Further Continuing Appropriation Act of 2012, Public Law 112-55, Section 539; and future-year appropriations (hereinafter, "the Acts"), NASA is restricted from using funds appropriated in the Acts to enter into or fund any agreement of any kind to participate, collaborate, or coordinate bilaterally with China or any Chinese-owned company, at the prime recipient level or at any subrecipient level, whether the bilateral involvement is funded or performed under a no-exchange of funds arrangement. Partner hereby certifies that it is not China or a Chinese-owned company, and that the Partner will not participate, collaborate, or coordinate bilaterally with China or any Chinese-owned company, at the prime recipient level or at any subrecipient level, whether the bilateral involvement is funded or performed under a no-exchange of funds arrangement.

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- (a) Definition: "China or Chinese-owned Company" means the People's Republic of China, any company owned by the People's Republic of China, or any company incorporated under the laws of the People's Republic of China.
- (b) The restrictions in the Acts do not apply to commercial items of supply needed to perform this agreement. However, Partner shall disclose to NASA if it anticipates making any award, including those for the procurement of commercial items, to China or a Chinese-owned entity.
- (c) Subawards – The Partner shall include the substance of this provision in all subawards made hereunder.

F. Regarding requirements from the Iran, North Korea, and Syria Nonproliferation Act (P.L. 106-178, amended by P.L. 109-112, P.L. 109-353, P.L. 112-273, P.L. 116-94, 50 U.S.C. 1701 note)(INKSNA), Partner shall disclose to NASA if it intends to rely upon Russian entities for Capability. Partner shall not use Russian entities as suppliers without first receiving written approval from NASA.

- (a) Definitions: In this provision:
 - (1) The term "Russian entities" means:
 - (A) Russian persons, or
 - (B) Entities created under Russian law or owned, in whole or in part, by Russian persons or companies including, but not limited to, the following:
 - (i) The Russian Federal Space Agency (Roscosmos),
 - (ii) Any organization or entity under the jurisdiction or control of Roscosmos, or
 - (iii) Any other organization, entity or element of the Government of the Russian Federation.
 - (2) The term "extraordinary payments" means payments in cash or in kind made or to be made by the United States Government prior to December 31, 2025, for work to be performed or services to be rendered prior to that date necessary to meet United States obligations under the Agreement Concerning Cooperation on the Civil International Space Station, with annex, signed at Washington January 29, 1998, and entered into force March 27, 2001, or any protocol, agreement, memorandum of understanding, or contract related thereto.
- (b) The provisions of this clause are without prejudice to the question of whether the Partner or its supplier(s) are making extraordinary payments under section 6(a) or fall within the exceptions in section 7(1)(B) of the Act. NASA has applied the restrictions in the Act to include funding of Russian entities via U.S. partners (Awardees).
- (c) In order to obtain this written approval to use Russian entity as suppliers as defined in paragraph (a), the Partner shall provide the NASA Management Contact with the following information related to each planned new contract or subcontract and any change to an existing contract or subcontract with entities that fit the description in paragraph (a):
 - (A) A detailed description of the entity, including its name, address, and a point of contact, as well as a detailed description of the proposed subcontract including the specific purpose of payments that will be made under the subcontract.

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(B) The Partner shall provide certification that the entity is not, at the date of the approval request, on any of the lists of proscribed denied parties, especially designated nationals and entities of concern found at:

BIS's Listing of Entities of Concern

(see <http://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern/entity-list>)

BIS's List of Denied Parties

(see <http://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern/denied-persons-list>)

OFAC's List of Specially Designated Nationals

(see <http://www.treasury.gov/resource-center/sanctions/SDN-List/Pages/default.aspx>)

List of Unverified Persons in Foreign Countries (see

<http://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern/unverified-list>)

State Department's List of Parties Statutorily Debarred for Arms Export Control Act Convictions (see

https://www.pmdtc.state.gov/ddtc_public?id=ddtc_kb_article_page&sys_id=7188dac6db3cd30044f9ff621f961914)

State Department's Lists of Proliferating Entities

(see <http://www.state.gov/t/isn/c15231.htm>)

Unless relief is granted by the NASA Management Contact, the information necessary to obtain approval to subcontract shall be provided to the NASA Administrative Contact 30 business days prior to executing any planned subcontract with entities defined in paragraph (a).

(d) After receiving approval to use a Russian entity as a supplier, the Partner shall provide the NASA Management Contact with a report every six months that documents the individual payments made to an entity in paragraph (a). The reports are due on July 15th and January 15th. The July 15th report shall document all of the individual payments made from the previous January through June. The January 15th report shall document all of the individual payments made from the previous July through December. The content of the report shall provide the following information for each time a payment is made to an entity in paragraph (a):

- (1) The name of the entity
- (2) Description of the business arrangement
- (3) The amount of the payment
- (4) The date of the payment

(e) The NASA Management Contact may direct the Partner to provide additional information for any other prospective or existing contract or subcontract at any tier. The NASA Management Contact may direct the Partner to terminate for the convenience of the Government any contract

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or subcontract at any tier with an entity described in paragraph (a), subject to an equitable adjustment.

(f) The Partner shall include the substance of this clause in all its contracts, and shall require such inclusion in all other subcontracts of any tier. The Partner shall be responsible to obtain written approval from the NASA Management Contact to enter into any tier subcontract that involves entities defined in paragraph (a).

ARTICLE 19. TERM OF AGREEMENT

This Agreement becomes effective upon the date of the last signature below (“Effective Date”) and shall remain in effect for five (5) years from the Effective Date.

ARTICLE 20. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Agreement by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 21. CONTINUING OBLIGATIONS

The rights and obligations of the Parties that, by their nature, would continue beyond the expiration or termination of this Agreement, e.g., “Liability” and “Intellectual Property Rights” related clauses shall survive such expiration or termination of this Agreement.

ARTICLE 22. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Agreement.

Management Points of Contact

NASA Commercial LEO Development Program
Warren Ruemmele
Mail Stop: UA111
NASA L. B. Johnson Space Center,
Houston Texas 77058
Phone: 281.483.3662
warren.p.ruemmele@nasa.gov

Vast Space, LLC
Krystle Caponio
Chief Legal Officer
2851 Orange Avenue
Long Beach, California 90755
Phone: 310.987.3843
Krystle@vastspace.com

Administrative Points of Contact

NASA
Kelly Rubio

Vast Space, LLC
Jessie Joulain

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Mail Stop BG
NASA Johnson Space Center
Houston, TX 77058
Phone: 281.244.7890
kelly.l.rubio@nasa.gov

Legal & Compliance Manager
2851 Orange Avenue
Long Beach, California 90755
Phone: 949.324.5792
jessie@vastspace.com
legal@vastspace.com

ARTICLE 23. DISPUTE RESOLUTION

Except as otherwise provided in the Article entitled “Priority of Use,” the Article entitled “Intellectual Property Rights – Invention and Patent Rights” (for those activities governed by 37 C.F.R. Part 404), and those situations where a pre-existing statutory or regulatory system exists (e.g., under the Freedom of Information Act, 5 U.S.C. § 552), all disputes concerning questions of fact or law arising under this Agreement shall be referred by the claimant in writing to the appropriate person identified in this Agreement as the “Points of Contact.” The persons identified as the “Points of Contact” for NASA and the Partner will consult and attempt to resolve all issues arising from the implementation of this Agreement. If they are unable to come to agreement on any issue, the dispute will be referred to the signatories to this Agreement, or their designees, for joint resolution. If the Parties remain unable to resolve the dispute, then the NASA signatory or that person’s designee, as applicable, will issue a written decision that will be the final agency decision for the purpose of judicial review. Nothing in this Article limits or prevents either Party from pursuing any other right or remedy available by law upon the issuance of the final agency decision.

ARTICLE 24. INVESTIGATIONS OF MISHAPS AND CLOSE CALLS

In the case of a close call, mishap or mission failure, the Parties agree to provide assistance to each other in the conduct of any investigation. For all NASA mishaps or close calls, Partner agrees to comply with NPR 8621.1, "NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping" and JPR 8621.1 Johnson Space Center Mishap Response Plan.

ARTICLE 25. MODIFICATIONS

Any modification to this Agreement shall be executed, in writing, and signed by an authorized representative of NASA and the Partner.

ARTICLE 26. ASSIGNMENT

Neither this Agreement nor any interest arising under it will be assigned by the Partner or NASA without the express written consent of the officials executing, or successors, or higher- level

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officials possessing original or delegated authority to execute this Agreement.

ARTICLE 27. APPLICABLE LAW

U.S. Federal law governs this Agreement for all purposes, including, but not limited to, determining the validity of the Agreement, the meaning of its provisions, and the rights, obligations and remedies of the Parties.

ARTICLE 28. INDEPENDENT RELATIONSHIP

This Agreement is not intended to constitute, create, give effect to or otherwise recognize a joint venture, partnership, or formal business organization, or agency agreement of any kind, and the rights and obligations of the Parties shall be only those expressly set forth herein.

ARTICLE 29. LOAN OF GOVERNMENT PROPERTY

The parties shall enter into a NASA Form 893, Loan of NASA Equipment, for NASA equipment loaned to Partner.

ARTICLE 30. IMPLEMENTATION

Any technical support and information provided under Article 3.A.6 will be documented by the Parties in writing in Appendix 2, NASA Furnished Services, Facilities, and Technologies. As part of the work in this Agreement, the Parties may work in collaboration in some areas and that support will be agreed upon and documented in a Technical Implementation Plan(s) (TIP) in advance of such support being provided. This Agreement shall govern and take precedence over all TIPs accepted by the Parties hereunder; no TIP shall amend this Agreement except for a lesser period of protection of data first produced by NASA as stated therein. Each TIP will reasonably detail the responsibilities, schedule and milestones, and any personnel, property or facilities to be utilized thereunder, stated with sufficient clarity to support development of budgets, efficient resource allocation and sound management. Any modification to any TIP shall be executed in writing and signed by an authorized representative of NASA and Partner. In the event of a conflict between this Agreement and any TIP concerning the scope of support to be provided by NASA, the meaning of its provisions, or the rights, obligations and remedies of the Parties, this Agreement is controlling.

ARTICLE 31. SIGNATORY AUTHORITY

The signatories to this Agreement covenant and warrant that they have authority to execute this Agreement. By signing below, the undersigned agrees to the above terms and conditions.

National Aeronautics & Space
Administration

Vast Space, LLC

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Angela Hart

Angela Hart, Program Manager
Commercial LEO Development
Program

Date: 6/13/23

DocuSigned by:

Max Haot

FAC21FCB8F9D4DD...

Max Haot
President

Date: May 31, 2023

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APPENDIX 1
EXECUTIVE SUMMARY

Vast Space LLC (“Vast”) is a company organized under the laws of the United States and wholly owned by United States nationals. Vast proposes meeting NASA’s goals by supporting development of integrated LEO capabilities that significantly contribute to the sustainment of a LEO ecosystem.

To this end, Vast is developing space stations to support a continuous U.S. human presence in LEO, notably beyond the retirement of the International Space Station (ISS). A key aspect of Vast’s space station capability is artificial gravity, which is critical to enable people to live and work in space for long periods of time without the permanent side effects of microgravity.

Vast’s primary space station (“Vast Primary Station”) will operate in LEO and is a long structure that spins to provide artificial gravity, to include approximately 1G at the extremities, with a range of partial gravity waypoints along the length. The planned partial gravity environments would emulate Venus, Mars, and Moon gravities, as well as asteroid-like gravities. The station is composed of individually-launched modules with a pressurized interior. A host of ancillary non-spinning modules accompany the spinning station in a safe-distance formation. These act in a number of capacities, including transfer module(s) between visiting vehicles and the station and servicing for 0g customers while providing rapid access to the Vast Primary Station for the personnel and facilities/equipment needed for troubleshooting, repair, or medical incident response.

Developing this capability involves executing a variety of technological and operational efforts. Vast is therefore adopting an approach that breaks the undertaking down into a series of development activities. This includes production of demonstration modules (“Vast Demo Modules”), single-module crewed space stations that will be commercially available to government and non-government customers within approximately the next five years. The intent of the Demo Modules is to verify and validate the technologies and operations necessary to field a human-occupied orbital platform and create robust systems capable of executing safe, successful, and revenue-generating human spaceflight operations. The Sub-Scale Demo Module’s operational target is no earlier than 2025, and the Full-Scale Demo Module’s operational target is no earlier than 2028.

To execute on this development project, Vast has assembled a world-class team of proven human spaceflight veterans along with a new generation of engineering talent.

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APPENDIX 2:
NASA Furnished Services, Facilities, Equipment, and Technologies