

SPACE ACT AGREEMENT  
BETWEEN  
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
AND ASTROBOTIC TECHNOLOGY INC.  
**FOR LUNAR CATALYST**

ARTICLE 1. AUTHORITY AND PARTIES

In accordance with the National Aeronautics and Space Act (51 U.S.C. § 20113), this Agreement is entered into by the National Aeronautics and Space Administration, located at 300 E Street SW, Washington, DC 20546 (hereinafter referred to as "NASA") and Astrobotic Technology Inc., located at 2515 Liberty Ave., Pittsburgh PA 15222 (hereinafter referred to as "Partner" or "Astrobotic"). NASA and Partner may be individually referred to as a "Party" and collectively referred to as the "Parties."

ARTICLE 2. PURPOSE

This agreement is an amended version of Space Act Agreement #18242, which went into effect on September 30, 2014.

NASA recognizes that private-sector investment in technologies intended to enable commercial lunar activities has been increasing. In addition to recognizing these activities NASA wants to encourage and enable commercial successes to cultivate the increased innovation and entrepreneurship in the commercial space transportation sector. The "Lunar Cargo Transportation and Landing by Soft Touchdown" (Lunar CATALYST) initiative, is consistent with the National Space Transportation Policy. Per this policy, NASA is "committed to encouraging and facilitating a viable, healthy, and competitive U.S. Commercial space transportation industry".

This initiative also supports the internationally shared space exploration goals of the Global Exploration Roadmap (GER) that NASA and 11 other space agencies around the world released in August 2013. The GER acknowledges the value of public-private partnerships and commercial services to enable sustainable exploration of asteroids, the Moon and Mars.

This initiative is managed with the Advance Exploration Systems (AES) Division with the Human Exploration and Operations Mission Directorate at NASA Headquarters. AES develops prototype systems and demonstrates key capabilities to reduce the risk and costs of future human spaceflight missions. AES is pioneering innovative ways to drive a rapid pace of progress, streamline management, enable public-private partnerships, and utilize limited resources and the NASA workforce more effectively.

The purpose of the Lunar CATALYST initiative is for NASA to encourage the development of U.S. private-sector robotic lunar landers capable of successfully delivering small (30 to 100 kg) and medium (250 to 500 kg) class payloads to the lunar surface using U.S. commercial launch capabilities. This no-funds-exchanged Space Act Agreement (SAA) with the Partner enables provision and coordination of NASA in-kind contributions at no cost to the Partner, of NASA civil servant technical expertise, access to NASA test facilities, the loaning of equipment, and software.

## ARTICLE 3. RESPONSIBILITIES

### A. NASA will use reasonable efforts to:

1. Provide internal coordination for access to NASA subject matter experts in the following categories: flight and ground software, avionics and electrical power systems, simulation provision and support, guidance and navigation for landing, propulsion, integration/systems engineering, space communications, trajectory design, structures, composites, thermal, testing;
2. Provide internal coordination for access or use of NASA facilities to include: environmental testing, propulsion testing, communication systems, assembly, computing, mechanical/structures testing, flight testing;
3. Provide internal coordination for the loaning of NASA property as requested by the Partner;
4. Provide internal coordination for the transfer or usage of software as requested by the Partner in accordance with Article 9H3d of this SAA;
5. Provide, upon request and subject to NASA's software release requirements and approval, a separate Software Usage Agreement for NASA software that permits the commercialization of any derivative works developed by partner under this agreement;
6. Participate in technical reviews as coordinated with the Partner;
7. Consider and provide appropriate representation in Partner business functions as requested and coordinated by the Partner;
8. Participate in Lunar CATALYST Community Forums;
9. Participate in Lunar CATALYST annual reviews that assess Partner progress against agreed-to technical and financial milestones, result in a decision of whether to proceed to the next annual review, and coordinate a detailed review of NASA in-kind contributions for the next fiscal year.

### B. Partner will use reasonable efforts to:

1. Provide regular status of the Partner's progress in developing the proposed lunar lander capability, including but not limited to status in achieving the milestones documented in Article 4;
2. Maintain coordination with NASA of requested subject matter experts in the categories listed in Article 3A;
3. Maintain coordination with NASA for requested access or use of facility types listed in Article 3A;
4. Maintain coordination with NASA for requested loans of NASA property;
5. Maintain coordination with NASA for requested transfer or usage of software in accordance with Article 9H3d of this SAA;
6. Identify and coordinate technical reviews for which NASA participation is requested;
7. Identify and coordinate company business functions where NASA representation is requested;
8. Participate in Lunar CATALYST Community Forums;
9. Provide a Lunar CATALYST annual review that provides an assessment of the Partner's progress against agreed-to technical and financial milestones. If the NASA decision is to proceed to the next annual review, the partner participates in a detailed review with NASA of requested in-kind contributions for the next fiscal year.

**ARTICLE 4. SCHEDULE AND MILESTONES**

New milestones have been established for this amended version of the Space Act Agreement, and these shall replace the uncompleted milestones from the original SAA.

**Completed Milestones from the original SAA:**

<p><b>Milestone 1: Kickoff Meeting</b>                  Subsequent to Space Act Agreement execution and initiation of the Lunar CATALYST program, Astrobotic shall host a kickoff meeting to describe the plan for program implementation, which includes status and plan for Design, Development, Testing, &amp; Evaluation (DDT&amp;E), integrated schedule, financing, supplier engagement, risks and anticipated mitigations</p> <p><u>Success criterion:</u> Successful completion of the kickoff review as described above.</p>	<p>Completed September 2014</p>
<p><b>Milestone 2: Validation of Visual Navigation and Hazard Avoidance on Vertical Takeoff Vertical Landing (VTVL) rocket</b>                  Astrobotic will run visual navigation and hazard avoidance on a prototype landing sensor on a VTVL rocket simulating the final 250m of descent to touchdown. Visual navigation and hazard detection and avoidance will run closed loop.</p> <p><u>Success criterion:</u> Landing sensor and software runs real time, determines position with sufficient accuracy for guidance and successfully selects a safe landing location.</p>	<p>Completed November 2014</p>
<p><b>Milestone 3: Environmental qualification of Engineering Design Unit (EDU) sensor head and motor control testbeds</b>                  Astrobotic will perform environmental qualification of engineering development units of a motor control system and sensor head for the lunar lander.</p> <p><u>Success criterion:</u> Electronics survive environmental testing. Critical software elements demonstrated to run at required rates.</p>	<p>Completed December 2014</p>
<p><b>Milestone 4: Environmental qualification of EDU processor for landing</b>                  Astrobotic will perform environmental qualification of engineering development units of the processing electronics for lunar lander.</p> <p><u>Success criterion:</u> Electronics qualified to survive mission environment. Critical software elements demonstrated to run at required rates.</p>	<p>Completed December 2014</p>

<p><b>Milestone 5: Financial Milestone 1</b> Astrobotic will raise at least an amount in the door for robotic lunar lander development in 2014 (Jan-Dec) that is consistent with the 2014 lander development numbers included in Appendix B.7 of the Lunar CATALYST proposal, calculated by summing first lunar mission costs in 2014 for all WBS items 1.0-5.0 in total dollars. This value is calculated as revenue plus financing minus any payments for launch vehicle procurement or expenditures not relevant to lunar capabilities.</p> <p><u>Success criterion:</u> All necessary documentation is completed and total revenue plus financing is confirmed as evidenced by bank statement.</p>	<p>Completed April 2015</p>
<p><b>Milestone 6: End-to-End Mission Simulation</b> Astrobotic will develop a simulation of the intended lunar mission from launch through landing incorporating mission planning tools.</p> <p><u>Success criterion:</u> Simulations must include verification of attitude control, trajectory planning, pose estimation, and fuel usage from launch to landing.</p>	<p>Completed April 2015</p>
<p><b>Milestone 8: Validation of beta flight software with engineering units of sensing and computing hardware</b> Astrobotic will perform validation of engineering units of landing sensing and computing in a test flight.</p> <p><u>Success criterion:</u> Visual navigation, hazard detection, and landing site selection software operate online during flight on engineering units of sensors and computing.</p>	<p>Completed January 2016</p>
<p><b>Milestone 9: Main engine and Reaction Control System (RCS) hot fire tests</b> Astrobotic will perform hotfire static and vacuum chamber tests on lander main engine and RCS engines</p> <p><u>Success criterion:</u> Engines demonstrate capability to execute lunar landing trajectory.</p>	<p>Partially Completed. Main engine hotfire completed June 2016</p>

**New/Updated Milestones:**

The planned major milestones for the activities defined in the "Responsibilities" Article are as follows:

<p><b>Milestone 7: Critical Design Review (CDR)</b> Astrobotic shall conduct a System CDR in accordance with the CDR definition.</p> <p><u>Success criterion:</u> The design presented describes detailed form, fit, and function characteristics; the selected functional characteristics designated for acceptance testing; and the acceptance test requirements.</p>	<p>April 2018</p>
<p><b>Milestone 9-1: Reaction Control System (RCS) hot fire test</b> Astrobotic will perform hot-fire static and vacuum chamber tests on RCS engine</p> <p><u>Success criterion:</u> Characterize RCS engine performance under temperature and vacuum conditions.</p>	<p>May 2018</p>
<p><b>Milestone 10: Financial Milestone 2</b> Astrobotic will raise at least an amount in the door for robotic lunar lander development that is consistent with the 2014-2015 lander development numbers included in Appendix B.7 of the Lunar CATALYST proposal, calculated by summing first lunar mission costs for all WBS items 1.0-5.0 in total dollars. This value is calculated as revenue plus financing minus any payments for launch vehicle procurement or expenditures not relevant to lunar capabilities.</p> <p><u>Success criterion:</u> All necessary documentation is completed and total revenue plus financing is confirmed as evidenced by bank statement.</p>	<p>June 2018</p>
<p><b>Milestone 11: Lander Propulsion Qualification Test</b> Astrobotic will perform a terrestrial qualification test of their lunar lander propulsion system.</p> <p><u>Success criterion:</u> Propulsion system demonstrates capability to execute lunar landing trajectory.</p>	<p>September 2018</p>
<p><b>Milestone 12: Primary Structure Complete</b>  Peregrine Primary Flight Structure hardware complete and ready for integration with avionics, propulsion, and other subsystem hardware.</p> <p><u>Success criterion:</u> Astrobotic SR&amp;MA approves Primary Structure completion prior to integration.</p>	<p>October 2018</p>

<p><b>Milestone 13: Hardware in the loop end-to-end simulation</b> Astrobotic will perform an end-to-end simulation of the lunar landing with engineering unit hardware in the loop</p> <p><u>Success criterion:</u> Hardware-in-the-Loop (HIL) testing complete on full mission profile.</p>	December 2018
<p><b>Milestone 14: Financial Milestone 3</b> Astrobotic will raise at least an amount in the door for robotic lunar lander development that is consistent with the 2014-2016 lander development numbers included in Appendix B.7 of the Lunar CATALYST proposal, calculated by summing first lunar mission costs for all WBS items 1.0-5.0 in total dollars. This value is calculated as revenue plus financing minus any payments for launch vehicle procurement or expenditures not relevant to lunar capabilities.</p> <p><u>Success criterion:</u> All necessary documentation is completed and total revenue plus financing is confirmed as evidenced by bank statement.</p>	December 2018
<p><b>Milestone 15: Kickoff for Second Mission</b> Astrobotic shall conduct a Kickoff Review for a second mission with the lander reconfigured for a mission carrying a medium class lunar surface payload. Astrobotic shall host a kickoff meeting to describe the plan for program/implementation, which includes status and plan for DDT&amp;E, integrated schedule, financing, supplier engagement, risks and anticipated mitigations</p> <p><u>Success criterion:</u> Successful completion of the kickoff review as described above.</p>	June 2019
<p><b>Milestone 16: Test Readiness Review and Flight Lander Assembled</b> Astrobotic will assemble a flight-ready lunar lander and perform a Test Readiness Review to assess readiness for environmental testing.</p> <p><u>Success criterion:</u> The as-built state of the lander is described including the detailed form, fit, and function of the system as it was built and the detailed testing plan is presented.</p>	July 2019
<p><b>Milestone 17: Lunar Lander Environment Testing Complete</b> Astrobotic will perform environmental testing including thermal vacuum, shake, mass properties, and electromagnetic interference/electromagnetic compatibility (EMI/EMC) to validate flight-readiness of the lunar lander</p> <p><u>Success criterion:</u> Lander passes flight environmental testing to validate flight readiness. Result is a flight-ready lander with the capability to deliver small and medium class payloads to the Moon.</p>	September 2019

## 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 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 AND RISK OF LOSS

A. Each Party hereby waives any claim against the other Party, employees of the other Party, the other Party's Related Entities (including but not limited to contractors and subcontractors at any tier, grantees, investigators, customers, users, and their contractors or subcontractor at any tier), or employees of the other Party's Related Entities for any injury to, or death of, the waiving Party's employees or the employees of its Related Entities, or for damage to, or loss of, the waiving Party'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.

B. Each Party further agrees to extend this cross-waiver to its Related Entities by requiring them, by contract or otherwise, to waive all claims against the other Party, Related Entities of the other Party, and employees of the other Party or of its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement. Additionally, each Party shall require that their Related Entities extend this cross-waiver to their Related Entities by requiring them, by contract or otherwise, to waive all claims against the other Party, Related Entities of the other Party, and employees of the other Party or of its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement.

## ARTICLE 9. 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 required by law or court order to be disclosed.
  - 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.
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 under paragraphs A.3., B. or H. of this Article 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 under paragraphs A.3., B. and H. of this Article.



### **Proprietary Data Notice**

The data herein include Proprietary Data and are restricted under the Data Rights provisions of Lunar CATALYST Space Act Agreement No. 18242

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 in the performance of this Agreement.

#### **C. Data First Produced by NASA Under this Agreement**

If Partner requests that Data first produced by NASA or its Related Entities 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. During this restricted period the Data may be disclosed and used (under suitable protective conditions) in the performance of this Agreement, and thereafter for any purpose. Neither Party shall disclose such Data without the other’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 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 no indication of restriction under paragraphs A.3., B, C, or H of this Article (i.e., Data has 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 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.
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: Data and analysis related to Astrobotics' lunar lander systems, subsystems, components, and software conceived, created, developed, recorded, or otherwise in existence prior to the date of the last signature on this Agreement, including but not limited to the development, design, analysis, manufacturing, production, test, assembly, and launch of the Peregrine lunar lander. This includes data on component selection; landing accuracy performance, hazard detection and avoidance; engine specific impulse; propulsion layout; structural design specifics; test results, statistical analysis, simulations, models, or projections; financial details, projections, and tables; customer leads; market projections; trajectory and mission design information including planned sequence and timing of events and details related to the launch and cruise phases.
  - b. Third Party Proprietary Data: Specifications on all third party components or services, including capabilities, price, dimensions, or other relevant details.
  - c. Controlled Government Data: None.
  - d. 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. NASA software to be provided includes the following: Core Flight System (CFS) software suite (GSC-15996-1, GSC-16007-1, GSC-16009-1, GSC-16010-1, GSC-16011-1, GSC-16012-1, GSC-16123-1, GSC-16125-1, GSC-16126-1, GSC-16127-1, GSC-16129-1, GSC-16151-1, GSC-16232-1, GSC-16917).

4. For Data with a restrictive notice and Data identified in this Agreement, Receiving Party shall:

- a. Use, disclose, or reproduce the Data only as necessary under this Agreement;
- b. Safeguard the Data from unauthorized use and disclosure;
- c. Allow access to the 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 the 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 as required by paragraphs A.3., B, and H of this Article, and gives it to NASA within ten (10) calendar days after disclosure.

### ARTICLE 10. 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.
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).

#### 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. Unless the Parties agree on an additional or more restrictive notice, 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 without the payment of royalties thereon or therefore.

## ARTICLE 11. USE OF NASA NAME AND 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 12. RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND MEDIA

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

## ARTICLE 13. DISCLAIMER OF WARRANTY

Technical information and data provided by NASA or Partner under this Agreement are provided “as is”. No warranty related to availability, title, or suitability for any particular use, nor any implied warranty of merchantability or fitness for a particular purpose, is provided under this Agreement. Neither NASA nor Partner makes express or implied warranties as to any intellectual property, or information provided under this Agreement, or that the information or data to be furnished hereunder will accomplish intended results or are safe for any purpose including the intended purpose. Neither NASA, nor Partner, nor Partner’s respective contractors shall be liable for any direct, general, special, consequential, indirect, or incidental damages attributed to such information or data furnished under this Agreement.

## ARTICLE 14. PRODUCTS LIABILITY

- A. With respect to products or processes resulting from a Party's participation in this Agreement, 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.
- B. 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 defending against any suit or claim for such liability.

## ARTICLE 15. 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 16. 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, and facility and IT system/application access.
- 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.

#### ARTICLE 17. TERM OF AGREEMENT

This Agreement becomes effective upon the date of the last signature below (“Effective Date”) and shall remain in effect until the completion of all obligations of both Parties hereto, or September 30, 2019, whichever comes first.

#### ARTICLE 18. RIGHT TO TERMINATE

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

#### ARTICLE 19. 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 Risk of Loss” and “Intellectual Property Rights” related clauses shall survive such expiration or termination of this Agreement.

#### ARTICLE 20. POINTS OF CONTACT

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

NASA  
Nantel Suzuki  
Program Executive, Lander Technologies  
NASA Headquarters, Suite 7074  
300 E Street, SW  
Washington, DC 20546  
Phone: ■■■-■■■-■■■■  
Email: nantel.h.suzuki@nasa.gov

Astrobotic Technology, Inc.  
John Thornton  
CEO Astrobotic Technology, Inc.  
2515 Liberty Avenue  
Pittsburgh, PA 15222  
Phone: ■■■-■■■-■■■■  
Email: john.thornton@astrobotic.com

## ARTICLE 21. 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 22. 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. Partner shall take all reasonable safety measures consistent with standard industry practice.

## ARTICLE 23. MODIFICATIONS

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

## ARTICLE 24. 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 officials possessing original or delegated authority to execute this Agreement.

## ARTICLE 25. 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 26. 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 27. LOAN OF GOVERNMENT PROPERTY


In the event any NASA equipment is to be loaned to Partner in support of the activities under this Agreement, the parties shall be required to complete and enter into NASA Form 893, Loan of NASA Equipment, in order to effect any such loan.


ARTICLE 28. 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 AND SPACE  
ADMINISTRATION

ASTROBOTIC TECHNOLOGY, INC.

BY:   
\_\_\_\_\_  
William H. Gerstenmaier  
Associate Administrator for Human  
Exploration and Operations  
300 E Street, SW  
Washington, DC 20546

BY:   
\_\_\_\_\_  
John Thornton  
CEO Astrobotic Technology, Inc.  
2515 Liberty Avenue  
Pittsburgh, PA 15222

DATE: 9/28/17

DATE: 9/26/2017