

NONREIMBURSABLE SPACE ACT AGREEMENT SAA1-39241  
BETWEEN  
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
LANGLEY RESEARCH CENTER  
AND  
AIBOT US SUPPLY, LLC  
FOR  
FLIGHT-TEST SYSTEM IDENTIFICATION FOR ELECTRIC VERTICAL  
TAKE-OFF AND LANDING (EVTOL) AIRCRAFT

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 Langley Research Center, located at Langley Research Center, Hampton, VA 23681 (hereinafter referred to as "NASA" or "NASA LaRC") and AIBOT US Supply LLC located at 2883 E. Spring St., Ste 200, Long Beach, CA 90806-2467 (hereinafter referred to as "Partner" or "AIBOT"). 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 collaboration is to demonstrate a method for identifying electric vertical takeoff and landing (eVTOL) aircraft aero-propulsive models using flight test data. NASA Langley experts have devised a technique for eVTOL aircraft system identification through a high-fidelity flight simulation and have applied a similar approach in wind-tunnel testing. NASA intends to partner with AIBOT to demonstrate this eVTOL aircraft system identification method using AIBOT's prototype eVTOL aircraft, with the goal of publishing the results in a conference paper or journal article. To achieve this, NASA and AIBOT will jointly develop a dynamic model of AIBOT's eVTOL aircraft by collaborating on implementation and execution of the system identification approach. This partnership is pivotal in demonstrating a system identification method that can accelerate flight testing for eVTOL aircraft, benefiting the entire industry and advancing NASA's missions.

ARTICLE 3. RESPONSIBILITIES

A. NASA LaRC will use reasonable efforts to:

1. Participate in a kickoff meeting and monthly technical interchange meetings to discuss project objectives.
2. Design and deliver system identification excitation signals specific to AIBOT's eVTOL aircraft.
3. Provide guidance on integration of system identification excitation signals into the flight control system.

4. Provide guidance on execution of system identification flight testing throughout the eVTOL vehicle's operational flight envelope.
5. Analyze flight data received from AIBOT to assess the data quality for system identification and provide feedback/recommendations as required.
6. Identify an aero-propulsive model for AIBOT's eVTOL aircraft across the transition envelope.
7. Deliver the final aero-propulsive model to AIBOT in the form of a set of polynomial response surface equations.
8. Lead the writing and release of a technical publication documenting the flight-test system identification effort for AIBOT's eVTOL aircraft. (The publication will include AIBOT co-authors as appropriate.)

B. Partner will use reasonable efforts to:

1. Participate in a kickoff meeting and periodic technical interchange meetings to discuss project objectives.
2. Provide vehicle information to NASA to assist with the flight-test system identification experiment design.
3. Integrate the system identification excitation signals into the eVTOL vehicle's flight control system. Each control input excitation signal will be summed with the corresponding control effector command from the control system just before the commanded actuator position and rate limits (i.e., the system identification excitation signals will be injected into control effector commands downstream of the flight control laws).
4. Perform simulations to ensure proper implementation of system identification inputs and safe flight testing.
5. Execute system identification flight testing across the transition envelope of the eVTOL aircraft.
6. Provide flight data from system identification experiments to NASA that is suitable for aero-propulsive modeling.
7. Compare the flight-derived vehicle model delivered by NASA to the computationally-derived baseline model and provide feedback to NASA on the similarities/differences.
8. Allow publication of vehicle information, plots of flight data, and flight-derived modeling results as required for a technical paper documenting an aircraft system identification study. Vehicle information would include, for example: total vehicle mass, reference geometry (a reference length to give a rough scale of the aircraft), proprotor diameter, number/location (schematic)/description of control effectors, a high-level description of the instrumentation system, the flight-test system identification experiment design, and reference flight conditions. Flight data would include, for example, time history signals of true airspeed, airflow angles, body-axis velocity, body-axis translational acceleration, body-axis angular rates, Euler orientation angles, altitude, air data, control effector deflection angles, and propulsor rotational speeds. System identification modeling results would include, for example: model prediction signals compared to flight data signals, the identified aero-propulsive model structure, parameter estimates/uncertainty, and

prediction error metrics. At the discretion of AIBOT, the axis scale for the flight data signals and parameter estimates may be removed or scaled to protect vehicle proprietary information.

#### ARTICLE 4. SCHEDULE AND MILESTONES

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

1. NASA LaRC and AIBOT to hold a kickoff meeting to discuss project objectives.	Within one (1) month following Effective Date of agreement
2. NASA LaRC will design and deliver flight-test system identification excitation signals to AIBOT.	NLT September 30, 2023
3. AIBOT shall integrate the system identification excitation signals into the vehicle's flight control system (with guidance from NASA LaRC as required/desired).	NLT October 30, 2023
4. NASA LaRC and AIBOT to establish a written flight test plan for the system identification effort.	NLT November 30, 2023
5. AIBOT shall conduct the first system identification flight-test maneuver (with guidance from NASA LaRC as required/desired).	NLT December 15, 2023
6. AIBOT shall complete system identification testing across the eVTOL vehicle's transition envelope (with guidance from NASA LaRC as required/desired).	NLT May 1, 2024
7. NASA LaRC will deliver a transition aero-propulsive model developed from the flight test data to AIBOT. (Note that NASA LaRC will also analyze data and deliver incremental model updates throughout the system identification effort.)	NLT July 1, 2024
8. NASA LaRC will lead the publication of a technical paper documenting the system identification study (with AIBOT co-authors as appropriate).	NLT January 30, 2025
9. NASA LaRC and AIBOT to participate in technical interchange and status meetings at least once per month.	On a monthly basis
10. NASA LaRC and AIBOT will closely coordinate on the flight test efforts used for system identification. NASA LaRC will not be able to attend flight tests in-person but will make a strong effort to provide real-time support via phone/email/virtual meetings as required to meet flight test	As required during flight testing

and research objectives.	
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#### 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

A. Each Party hereby waives any claim against the other Party or one or more of its Related Entities (defined below) for any injury to, or death of, the waiving Party or one or more 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. Partner further agrees to extend this waiver to its related entities by requiring them, by contract or otherwise, to waive all claims against NASA and its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement. For purposes of this Agreement, "Related Entities" shall mean contractors and subcontractors of a Party at any tier; grantees, investigators, customers, and users of a Party at any tier and their contractors or subcontractor at any tier; or, employees of the Party or any of the foregoing.

C. Notwithstanding the other provisions of this Article, the waivers of liability set forth in this section shall not be applicable to:

- i. Claims between a Party and its own Related Entity or between its own Related Entities;
- ii. Claims made by a natural person, his/her estate, survivors, or anyone claiming by or through him/her (except when such person or entity is a Party to this Agreement or is otherwise bound by the terms of this waiver) for bodily injury to, or other impairment of health of, or death of, such person;
- iii. Claims for damage caused by willful misconduct;
- iv. Intellectual property claims;
- v. Claims for damage resulting from a failure of a Party to extend the waiver of liability to its Related Entities, pursuant to paragraph B of this Article; or
- vi. Claims by a Party arising out of or relating to another Party's failure to perform its obligations 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. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

Information and data exchanged under this Agreement is exchanged without restrictions unless required by national security regulations (e.g., classified information) or as otherwise provided in this Agreement or agreed to by the Parties for specifically identified information or data (e.g., information or data specifically marked with a restrictive notice).

#### ARTICLE 11. INTELLECTUAL PROPERTY RIGHTS - RIGHTS IN RAW DATA GENERATED UNDER THE AGREEMENT

##### 1. Raw Data

Raw data (i.e., unanalyzed data) and related Data produced under this Agreement is reserved to Principal Investigators (and Co-Investigators if any) named in this Agreement for scientific analysis and first publication rights for 12 months beginning with receipt of the Data in a form suitable for analysis. Subject to the provisions of the Intellectual Property Rights - Data Rights Article of this Agreement, NASA and Partner may also use the Data during the restricted period. This use will not prejudice the investigators' first publication rights.

##### 2. Final Results

(a). Final results shall be made available to the scientific community through publication in appropriate journals or other established channels as soon as practicable and consistent with good scientific practice. Under the Publication of Results provision of the Intellectual Property Rights - Data Rights clause of this Agreement, the Parties shall coordinate proposed publications allowing a reasonable time for review and comment.

(b). NASA and Partner have a royalty-free right to reproduce, distribute, and use published final results for any purposes. Partner must notify publisher of NASA's rights.

## ARTICLE 12. 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. 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 therefore.

[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 13. 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 14. 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.

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 15. 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 16. 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 17. 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, 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.

ARTICLE 18. 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 two years from the Effective Date, whichever comes first.

ARTICLE 19. RIGHT TO TERMINATE

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

ARTICLE 20. 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 21. 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	
<u>NASA Langley Research Center</u> Corey G. Diebler Supervisory AST, Stability, Control & Perform Mail Stop: 308 Langley Research Center Hampton, VA 23681 Phone: 757.864.8447 Fax: 757.864.7722 corey.diebler@nasa.gov	<u>AIBOT US Supply, LLC</u> Monica Syal Aircraft Design and Aerodynamics 2883 E. Spring St. Ste 200 Long Beach, CA 90806-2467 Phone: 562.283.3286 monica.syal@maviate.us
Technical Points of Contact	
<u>NASA Langley Research Center</u> Benjamin M. Simmons Research AST, Stability, Control & Perform Mail Suite: 308 Langley Research Center Hampton, VA 23681 Phone: 757.864.1519 benjamin.m.simmons@nasa.gov	<u>AIBOT US Supply, LLC</u> Mike Lyons 2883 E Spring St. Ste 200 Long Beach, CA 90806-2467 Phone: 562.283.3286 mike.lyons@maviate.us

## ARTICLE 22. 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 23. 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."

ARTICLE 24. MODIFICATIONS

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

ARTICLE 25. 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 26. 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 27. INDEPENDENT RELATIONSHIP

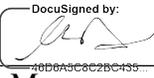
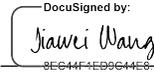
This Agreement is not intended to constitute, create, give effect to or otherwise recognize a joint venture, partnership, or formal business organization, or agency agreement of any kind, and the rights and obligations of the Parties shall be only those expressly set forth herein.

ARTICLE 28. LOAN OF GOVERNMENT PROPERTY

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

ARTICLE 29. 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 LANGLEY RESEARCH CENTER	AIBOT US SUPPLY, LLC
BY: _____ John H. Koelling Director, Aeronautics Research Directorate	BY:  _____ Max Ma President
DATE: _____	DATE: 9/25/2023
	AIBOT US SUPPLY, LLC  BY:  _____ Jerry Wang Executive Chairman  DATE: 9/26/2023