

**ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AMES RESEARCH CENTER
AND JOBY AERO, INC
UNDER SPACE ACT UMBRELLA AGREEMENT
NO. 35648, DATED 6/3/2022
(ANNEX NUMBER 2)**

ARTICLE 1. PURPOSE

This Annex Two to the Non-Reimbursable Space Act Umbrella Agreement SAA2-403660 (the “Umbrella Agreement”) between Joby Aero, Inc. (“Joby” or “Partner”) and NASA Ames Research Center (“NASA or “NASA ARC”) shall be for the purpose of collaborating on the development of automated production processes for thermoplastic composite fuselage components. The objective of this proof-of-concept work will be to demonstrate that these large safety-critical components can be manufactured quickly and meet crashworthiness safety requirements using automated production processes for thermoplastic composite components. NASA and Joby will develop and demonstrate advanced production processes to create thermoplastic composite fuselage components designed for a future iteration of the Joby S4 eVTOL aircraft. This collaboration will expand an experience base in the production of thermoplastic composite components for safety-critical aerospace applications and data that can be used in the development of certification criteria for thermoplastic composite production processes and components for aerospace applications.

The legal authority for this Annex, consistent with the Umbrella Agreement, is in accordance with the Space Act, Other Transactions Authority (OTA), 51 U.S.C. § 20113(e).

ARTICLE 2. RESPONSIBILITIES

A. NASA ARC will use reasonable efforts to:

1. Operate and maintain the automated composite manufacturing facility in Bldg N210 at NASA Ames in support of the development of thermoplastic composite material manufacturing processes for fuselage components.
2. Modify the automated manufacturing facility in Bldg N210 at NASA ARC to achieve required mold heating and cooling requirements.
3. Grant Partner observational access to the manufacturing process in Bldg 210 consistent with NASA safety guidelines, when appropriate.
4. Provide composite manufacturing subject matter experts (SME) to work with SMEs with similar expertise from Joby Aero in the development of automated composite manufacturing processes and manufacture of fuselage components.

5. Provide access to all manufacturing process data produced during the execution of this Annex.
6. Comply with all NASA, OSHA, and Ames requirements related to the modification, maintenance, and operation of the automated composite manufacturing facility in Bldg N210.
7. Publish the results of the collaboration.

B. Partner will use reasonable efforts to:

1. Provide all composite raw materials that meet NASA ARC safety criteria.
2. Provide all composite component tooling required for the manufacture of composite fuselage components that meets the facility safety criteria.
3. Provide required background engineering data and performance specifications for the composite fuselage components to be manufactured.
4. Provide composite manufacturing subject matter experts (SME) to work with SMEs with similar expertise from NASA in the development of automated composite manufacturing processes and fuselage components.
5. Provide component inspection services and resulting data required to assess specification compliance for the fuselage components manufactured.
6. Comply with NASA facility regulations, policies and guidelines while on NASA Ames Research Center, including, but not limited to, environmental, safety, and security standards.
7. Publish the results of the collaboration.

ARTICLE 3. SCHEDULE AND MILESTONES

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

| Milestone | Estimated Completion Date |
|--|----------------------------------|
| Joby to provide background fuselage component physical properties requirements | 1 month after Effective Date |
| Joby to provide background composite material manufacturing process requirements | 1 month after Effective Date |

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|---|--------------------------------|
| NASA to define facility modification requirements | 2 months after Effective Date |
| NASA to complete facility modifications | 4 months after Effective Date |
| Joby and NASA to implement and refine manufacturing process | 6 months after Effective Date |
| Joby and NASA to manufacture prototype fuselage components | 8 months after Effective Date |
| Joby to evaluate fuselage component properties | 10 months after Effective Date |
| Joby and NASA to update composite material manufacturing process requirements | 11 months after Effective Date |
| NASA to update facility modification requirements | 11 months after Effective Date |
| NASA to complete additional facility modifications | 14 months after Effective Date |
| Joby and NASA to implement and refine updated manufacturing process | 16 months after Effective Date |
| Joby and NASA to manufacture updated prototype fuselage components | 18 months after Effective Date |
| Joby and NASA to evaluate updated fuselage component properties | 20 months after Effective Date |
| Joby and NASA to document results on the manufacturing process and publish joint technical paper on the manufacturing process | 24 months after Effective Date |

ARTICLE 4. 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 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of

two years.

- B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, 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 provided.
1. Background Data: The Disclosing Party's Background Data, if any, will be identified in a separate technical document.
 2. Third Party Proprietary Data: The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.
 3. Controlled Government Data: The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.
 4. The following software and related Data will be provided to Partner under a separate Software Usage Agreement: None.

ARTICLE 6. TERM OF ANNEX

This Annex 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, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

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

ARTICLE 8. POINTS OF CONTACT

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

Management Points of Contact

NASA Ames Research Center
Nahri Ahn
Agreement Manager
Moffett Field, CA 94035
Phone: 650-604-1179
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Joby Aero, Inc.
Joe Brennan
Composites Manufacturing & Assembly Lead
333 Encinal St.
Santa Cruz, CA 95060

Phone:
joe.brennan@jobyaviation.com

Technical Points of Contact

NASA Ames Research Center
Jay Fletcher
Associated Director for Projects
Moffett Field, CA 94035
Phone: 650-604-1846
jay.w.fletcher@nasa.gov

Joby Aero, Inc.
John Geriguis
Advanced Development Lead
2155 Delaware Ave, Suite 225
Santa Cruz, CA 95060-5735
Phone: TBD
john.geriguis@joby.aero

ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

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

**NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
AMES RESEARCH CENTER**

JOBY AERO, INC.

BY: _____
Dr. Huy K. Tran
Director of Aeronautics

DocuSigned by:
Joe Brennan
BY: _____
37E0768396A140E...
Joe Brennan
Composites Manufacturing Lead

DATE: _____

4/13/2023
DATE: _____