

INTERAGENCY ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA) AND
UNITED STATES AIR FORCE RESEARCH LABORATORY (AFRL)
UNDER INTERAGENCY UMBRELLA AGREEMENT NO. 32716
(ANNEX NUMBER 32717)

ARTICLE 1. PURPOSE

The parties agree to share, in accordance with the terms of this Agreement, the data produced as each entity pursues their research goals in connection with advanced air mobility (“AAM”). NASA’s National Campaign (“National Campaign”) is an initiative to encourage innovation in AAM, and is designed to facilitate and advance testing and development of AAM vehicles, as well as facilitate and improve the management of air traffic in an AAM setting, towards achieving commercial AAM operations and ultimately Urban Air Mobility (UAM) Maturity Level-4 (UML-4) level operations. AFRL’s Agility Prime (“Agility Prime”) is an initiative to encourage innovation in AAM, accelerate the emerging AAM market through a collaborative strategy with commercial firms and investors, and to accelerate promising vertical take-off and landing (VTOL) designs through prototype development and military airworthiness approval. Both efforts will be gathering data that will be shared in accordance with the terms of this Agreement to verify the safety and utility of electrically powered vertical takeoff and landing (eVTOL) vehicles, defining and implementing a robust airspace management system compatible with current air operations, and identifying the infrastructure required to support advanced air mobility operations in multiple environments. This annex is focused on the information exchange in order to continue synchronizing the AFRL and NASA approaches on strategic areas such as Agility Prime, National Campaign, Model Based Systems Engineering, and overall research approach.

ARTICLE 2. RESPONSIBILITIES

A. NASA will use reasonable efforts to:

1. Associated with Agility Prime:
 - a. Keep NASA’s industry partners apprised of NASA engagement with AFRL’s Agility Prime objectives and identify opportunities for engagement with AFRL and the partners on related activities.
 - b. Participate in Agility Prime test planning to ensure relevant representation and data gathering for NASA operational scenarios and urban air mobility task elements.
2. Associated with National Campaign:
 - a. Assess opportunities and when beneficial share and collaborate on NASA National Campaign project scenarios and associated data collection plans.
3. Opportunities associated with AAM mission research:

- a. Share research findings and lessons across activities such as vehicle airworthiness, Model Based Systems Engineering (MBSE) tool efforts, modeling and simulation, standards development, traffic management, and other related topics.
- b. Share supply chain management strategies, platform, resiliency assessment methods and simulations.
- c. Share automation architecture, simulation plans, and flight plans.

B. AFRL will use reasonable efforts to:

- 1. Associated with Agility Prime:
 - a. Inform NASA of Department of Defense capabilities and data needs associated with Agility Prime and related advanced air mobility efforts.
 - b. Assess opportunities for NASA research to be integrated in Agility Prime pursuits.
 - c. Share plans, procedures, results, and lessons-learned from Agility Prime test activities.
- 2. Associated with National Campaign:
 - a. Assess Opportunities for Agility Prime partners to fly and gather relevant data for NASA’s National Campaign and associated scenarios
- 3. Opportunities associated with AAM Mission Research:
 - a. Assess opportunities to contribute to AAM MBSE concepts and models, Department of Defense requirements, automation technologies and architectures, supply chain management and security considerations, traffic management requirements, standards inputs, and other relevant engineering data.
 - b. Share procedures and requirements for vehicle and safety-critical subsystem certification.
 - c. Assess opportunities to leverage Department of Defense test ranges, aircrew, and airworthiness processes in partnership with NASA advanced air mobility research, simulation, test, and evaluation efforts.

ARTICLE 3. SCHEDULE AND MILESTONES

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

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| 1. Kick-off workshop including leadership from both organizations | March 2021 |
| 2. MBSE Implementation Workshop | March 2021 |
| 3. NASA provide content and briefings on National Campaign Scenarios, Mission Task Elements, and Data Element Cards. | March 2021 |
| 4. MBSE Implementation Plan intending to document a joint approach to UAM requirements across military and commercial applications | November 2021 |
| 5. Annual Cross Program Review | January 2022 |

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 - IDENTIFIED INTELLECTUAL PROPERTY

A. Under paragraph C of the Intellectual Property Rights - Data Rights - Handling of Data 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. 1. Third Party Proprietary Data: The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document. 2. Controlled Government Data: The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document. 3. 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 five years from the Effective Date, ("Expiration Date"), whichever comes first, unless such term exceeds the duration of the Umbrella IAA. The term of this Annex shall not exceed the term of the Umbrella IAA. The Annex shall automatically expire upon the expiration of the Umbrella IAA.

ARTICLE 7. RIGHT TO TERMINATE OR TRANSFER

Either Party may unilaterally terminate this Annex by providing thirty-(30) calendar day's written notice to the other Party. This IAA is not transferable except with the written consent of the parties.

ARTICLE 8. PERSONNEL

Each Party is responsible for all costs of its personnel, including pay and benefits, support, and travel. Each Party is responsible for supervision and management of its personnel.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex. All correspondence to be sent and notices to be given pursuant to this IAA will be addressed to the Points of Contact listed below.

Management Points of Contact

NASA

Davis Hackenberg
AAM Mission Manager
Mail Stop: 6B79
300 E Street SW
Washington, DC 20546
Phone: 661-510-4832
Fax: Fax No.
davis.l.hackenberg@nasa.gov

AFRL

Nathan Diller, Colonel, USAF
Director, AFWERX
675 N Randolph St
Arlington, VA 22203
Phone: 202-505-5003
nathan.diller@afwerx.af.mil

ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and AFRL. Modification of an Annex does not modify the terms of the Umbrella Agreement. This IAA will be reviewed annually on or around the anniversary of its effective date, and triennially in its entirety.

ARTICLE 10. SIGNATORY AUTHORITY

Approved and authorized on behalf of each Party by:

NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION (NASA)

AIR FORCE RESEARCH
LABORATORY (AFRL)

BY: _____
Jon Montgomery
Deputy Associate Administrator for
Policy, Aeronautics Research Mission
Directorate

BY: _____
HEATHER L. PRINGLE
Brigadier General, USAF
Commander

DATE: _____

DATE: _____