

ANNEX NO. 01  
BETWEEN  
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
LYNDON B. JOHNSON SPACE CENTER  
AND  
THE UNIVERSITY OF TEXAS AT EL PASO  
UNDER SPACE ACT UMBRELLA AGREEMENT NO. SAA-EA-23-37041  
FOR DIGITAL ENGINEERING DESIGN CENTER

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of the University of Texas at El Paso (hereinafter referred to as "UTEP" or "Partner") and the Lyndon B. Johnson Space Center of the National Aeronautics and Space Administration (hereinafter referred to as "NASA" or "NASA JSC") to collaborate to support development of UTEP's Digital Engineering Design Center (hereinafter referred to as "DEDC"), which will operate on-site at NASA JSC, as a collaborative space for both DEDC and JSC staff to help accomplish a pilot project. Nothing in this agreement shall be construed as granting any property rights to UTEP and/or the DEDC in any JSC-provided space. The DEDC, operated by the UTEP Aerospace Center, will provide immersive project-based learning and training on digital engineering toolsets and processes to prepare the current and next-generation aerospace workforce with transformational digital engineering skills. The DEDC, in close partnership with NASA JSC, will work on projects of relevance and value to the NASA mission.

The DEDC will provide a capable, diverse pipeline of student interns (including from area universities and colleges) trained in Integrated Digital Engineering and Model-Based Systems Engineering (MBSE). The DEDC will strengthen the Center's MBSE capability, specifically in Integrated Digital Engineering, by providing a new learning platform for the NASA JSC workforce and standardizing digital engineering tools and methodology. It will also inform NASA JSC's Engineering Directorate regarding investment of baseline enterprise tools for use with NASA JSC-led projects and initiatives; enable greater JSC collaboration with industry, academia, other NASA Centers, and international partners; and begin cultural transition of the JSC workforce and greater Houston Aerospace community to infuse Integrated Digital Engineering and MBSE methodologies across the lifecycle of its projects.

Recent work by UTEP under an existing Minority University Research and Education Project (MUREP) Institutional Research Opportunity (MIRO) (Grant Number 80NSSC20M0237) has focused on the development and modeling of technologies, components, and systems for In-Situ Resource Utilization (ISRU). The DEDC's initial project (hereinafter referred to as the "Pilot Project"), which will focus on utilizing an enhanced digital engineering tool set (Siemens Xcelerator) provided by UTEP, will continue any remaining work within the scope of the existing MIRO grant, for a period of one year (or as the MIRO grant permits), but will also build upon that work, pursuant to the terms of this agreement. Under this SAA, the Pilot Project is anticipated to be completed over a duration of 18 months, not to exceed 24 months. Additional activities (hereinafter referred to as "Projects") strategically aligned with NASA's missions and

NASA JSC's Digital Transformation objectives will also be added after the initial development of the DEDC.

The UTEP Aerospace Center (previously the Center for Space Exploration Technology Research (CSETR)) has had a long-standing relationship with NASA JSC. Since 2010, NASA JSC has served as the lead center for UTEP's MIRO program and has chaired the MIRO Technical Review Committee. Through this collaborative relationship, valuable work has been performed through student internships to enhance the development of technologies in both liquid oxygen/liquid methane (LO<sub>2</sub>/CH<sub>4</sub>) propulsion and ISRU. The student internships hosted through this collaborative relationship have contributed significantly to the development of students trained with skills needed by NASA and the Aerospace community. This partnership with the DEDC will allow both UTEP and NASA JSC to build upon prior accomplishments and ongoing collaborations to further advance the development of propulsion and ISRU technologies in support of NASA missions. It will also help expand both the size, diversity and capabilities of the future aerospace/NASA workforce pool.

The University of Texas at El Paso (UTEP), the only U.S. national research university with a student population that is majority (75%) Mexican American, through research and technology development efforts at its Aerospace Center, supports the NASA Artemis program and Moon to Mars vision by focusing on strategic capabilities in propulsion, robotic landers, lunar surface operations including ISRU, and small spacecraft technologies that are aligned with Space Technology Mission Directorate (STMD) research priorities. The UTEP Aerospace Center has developed an extensive and diverse collaboration ecosystem to achieve its strategic research, education, and sustainability goals with partners including NASA Centers (NASA JSC, NASA WSTF, NASA MSFC, NASA GRC, and NASA KSC (new partner)), Aerospace Industries (Lockheed Martin Corporation (LMC), Blue Origin, and United Launch Alliance (ULA)), a Federal Laboratory (Air Force Research Laboratory (AFRL)), Research Universities (Massachusetts Institute of Technology (MIT) and Arizona State University (ASU)), universities in EPSCoR Jurisdiction (University of Oklahoma (OU) and Southern Arkansas University (SAU)); and HBCUs (Savannah State University (SSU) and Tuskegee University).

NASA has over fifty years of experience in providing STEM learning activities to students, curriculum support materials for the education community, and training for educators on NASA mission content and educational resources.

This Annex supports the NASA Office of STEM Engagement's (OSTEM) Strategic Goal Three: Attract diverse groups of students to STEM through learning opportunities that spark interest and provide connections to NASA's missions and work. This Annex also supports the OSTEM goal of broadening student participation through the enhancement of communications and stakeholder engagement and building of networks and relationships dedicated to broadening student participation while committing to achieve more diversity, equity, and inclusion in OSTEM student opportunities and programs. This collaboration with UTEP will allow OSTEM to connect to diverse students and broaden overall participation in OSTEM educational opportunities and activities.

This Annex is aligned with the 2022 NASA Strategic Plan and supports Objective 2.1: Explore the surface of the Moon and deep space; Objective 4.1: Attract and develop a talented and diverse workforce; and Objective 4.3: Build the next generation of explorers.

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 JSC will use reasonable efforts to:

1. Collaborate with the Partner to define DEDC Projects of relevance to the NASA mission and that provide a meaningful learning experience for the student interns.
2. Provide subject matter expertise and mentoring in the discipline areas relevant to the Project.
3. Participate with UTEP in the execution of Projects assigned by NASA JSC to the DEDC.
4. Provide on-site space for the DEDC to operate in collaboration with the NASA JSC workforce, who will technically engage in the projects flowing through the DEDC and will also support and attend DEDC-provided training (lectures, workshops) held in that space.
5. Provide access to necessary utilities, including Internet access, in coordination with the JSC Office of the Chief Information Officer (OCIO), as NASA determines appropriate and in accordance with NASA Information Technology (IT) regulations and policies.
6. Provide the student interns with access to the hardware/systems being modeled by the DEDC, much of which will be resident on-site at the JSC test facilities.

B. Partner will use reasonable efforts to:

1. Provide Digital Engineering training, education, and workshops to the student interns, the NASA JSC workforce, and the larger Houston Aerospace community.
2. In coordination with JSC, engage local/regional academic institutions and other local stakeholders regarding their potential participation in DEDC projects, with a particular emphasis on the support of minority/underserved communities.
3. Provide the NASA JSC workforce access to the DEDC and associated digital engineering tools to enable collaborative work on the assigned Projects.
4. Accommodate Project priorities as determined by NASA JSC in coordination with UTEP.

5. Only use any JSC-provided space and/or equipment as directed by JSC; coordinate all use of any JSC-provided space with the NASA JSC Technical POC and comply with all applicable NASA/JSC regulations, policies and procedures related to use of the space.

6. Ensure that UTEP and/or DEDC staff, students and/or other DEDC visitors comply with all NASA/JSC regulations, policies and procedures, as well as any applicable federal, state or local laws, while on site at JSC. Any violation of such will be grounds for withdrawal of any violator's JSC site access and possible termination of this agreement in its entirety. Access to JSC by any UTEP/DEDC staff, students and visitors shall be coordinated with the NASA JSC Technical POC and will be granted at the sole discretion of NASA JSC.

### ARTICLE 3. SCHEDULE AND MILESTONES

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

DEDC Open House events	Annually
UTEP provides Workshops to educate the NASA JSC workforce, management, and area Aerospace Community on Digital Engineering	Quarterly
UTEP, in coordination with NASA JSC, provides a sustainability plan to continue the DEDC operations following completion of the 18-month Pilot Project	Effective Date (ED) + 12 months
UTEP coordinates and presents DEDC-generated products and information to support Pilot Project Milestone Reviews	As required per Project
UTEP and NASA JSC conduct checkpoint reviews to assess DEDC performance relative to objectives	Quarterly or Biannually

### 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 one year.

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 Lyndon B. Johnson Space Center  
Montgomery Goforth  
Assistant Director, JSC Engineering  
Mail Stop: EA1  
2101 NASA Parkway  
Houston, Texas 77058  
Phone: (281) 244-1117  
[montgomery.b.goforth@nasa.gov](mailto:montgomery.b.goforth@nasa.gov)

The University of Texas at El Paso  
Roberto A. Osegueda  
Vice President for Research  
500 West University Avenue  
El Paso, TX 79968-8900  
Phone: (915) 747-5680  
[ORSPRA@utep.edu](mailto:ORSPRA@utep.edu)

and

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Associate Vice President  
500 West University Avenue  
El Paso, TX 79968-8900  
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[ahsan@utep.edu](mailto:ahsan@utep.edu)

#### Technical Points of Contact

NASA Lyndon B. Johnson Space Center  
Jacob Collins  
Engineer, Direct Energy Conversion  
Mail Stop: EP3  
2101 NASA Parkway  
Houston, Texas 77058  
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[mrahman15@utep.edu](mailto:mrahman15@utep.edu)

#### 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  
LYNDON B. JOHNSON SPACE CENTER

THE UNIVERSITY OF TEXAS AT EL  
PASO

BY: \_\_\_\_\_  
Julie Kramer White  
Director of Engineering

BY:  \_\_\_\_\_  
Stephen B. Aley  
Associate Vice President for Research

DATE: \_\_\_\_\_

DATE: 1/30/2023