Congressional Update: House Science Committee Advances Drone R&D Legislation

On May 24, 2023, the House Science, Space, & Technology Committee held a markup hearing on H.R. 3560, The National Drone and Advanced Air Mobility Research & Development Act. The act, introduced by committee chairman Frank Lucas (R-OK), intends to address the rising concern amongst lawmakers and experts that the United States is lagging behind other nations, in particular China, with regards to Unmanned Aerial Systems (UAS) such as drones and other Advanced Air Mobility (AAM) technology.

Chairman Lucas addressed the need for increased R&D and manufacturing efforts for UAS and AAM technology during the hearing, stating that UAS and AAM systems produced in China and other foreign nations possess a multitude of safety, privacy, cybersecurity, and supply chain risks. The bill promotes increased collaboration between federal agencies, state and local governments, national laboratories, industry, and institutions of higher education to support the continued development of these technologies.

The bill would establish an interagency working group comprised of a multitude of agencies to coordinate research & development of UAS and AAM systems. This would include a strategic research plan for development, deployment, and testing of said systems, along with a research plan for the research and development of counter-UAS (C-UAS) systems, including detection systems.
The legislation would also establish many new research and partnership opportunities for institutions of higher education, university consortia, and non-profit organizations:

- **National Aeronautics and Space Administration**: The bill would provide for a network of Drone and Advanced Air Mobility Institutes established and administered by the National Aeronautics and Space Administration (NASA) and supported by other agencies and would coordinate cross-cutting research and development. This network would be known as the “Drone Leadership Network”.
  - NASA would also be directed to establish a pilot program for UAS technology competitions for high school and undergraduate students, with a nonprofit organization, institute of higher education, or a consortium of both administering the program via grant funding. Additionally, the bill directs NASA to facilitate the integration of UAS and AAM technologies into the National Airspace System.

- **National Institute of Standards and Technology**: The bill would direct the National Institute of Standards and Technology (NIST) to establish a National Drone Technology Center (NDTC), which would be a public-private partnership similar in governance to the recently announced National Semiconductor Technology Center (NSTC). There would also be updates to the NIST Manufacturing Extension Partnership (MEP) program to include UAS and AAM under a “critical and emerging technologies” section of the program, along with directing the Manufacturing USA program to include UAS manufacturing research and development.

- **National Science Foundation**: The National Science Foundation (NSF) would see increased support to create and manage workforce development programs for UAS and AAM industries, along with the creation of public-private partnerships for domestic manufacturing of UAS and AAM Systems.

- **Department of Energy**: The Department of Energy (DOE) would establish a new research, development, & demonstration (RD&D) program to investigate how usage of UAS and AAM technologies can advance the mission of the department. DOE would also be directed to provide research and training programs for undergraduate and graduate students.

- **Department of Homeland Security**: The bill directs the Department of Homeland Security (DHS) to undertake a competition to establish a Center of Excellence (CoE) on C-UAS activities and research. Higher education institutions would be eligible under the competition and would host and maintain the center.

- **National Oceanic and Atmospheric Administration**: The National Oceanic and Atmospheric Administration (NOAA) would be directed to award grants and funding to eligible entities for projects that would use UAS technologies to “collect environmental data and monitor climate impacts including weather forecasting, rapid flood mapping, enhanced atmospheric monitoring, marine mammal detection, harmful algal bloom measurements, navigation safety, wildfire observations, and other areas related to science and stewardship.”

- **Federal Aviation Administration**: The Federal Aviation Administration (FAA), under the provisions of the bill, would work alongside NASA to facilitate integration of these technologies into the National Airspace System. The bill also instructs the FAA to conduct research on the safety and risks related to UAS and AAM usage.

The **National Drone and Advanced Air Mobility Research and Development Act** received bipartisan support during the markup and was unanimously approved by the committee. It’s likely to be wrapped up into a larger FAA reauthorization legislation that House and Senate authorizers have been working towards since the end of last year.
Funding Opportunity: EDA Releases 2023 Build to Scale Solicitation

The U.S. Department of Commerce’s Economic Development Administration (EDA) released a solicitation for the fiscal year (FY) 2023 Build to Scale (B2S) program (formerly the Regional Innovation Strategies program). B2S is an annual program that supports projects that stimulate entrepreneurship, cluster based economic development, job growth in emerging sectors, and the translation of discoveries from the lab to the marketplace. The FY 2023 solicitation will be comprised of two competitions: the Venture Challenge and the Capital Challenge, each of which will include two to three tiers based on the proposed projects’ goals. New to this year’s solicitation is the Ignite Challenge, within the Venture Challenge, which seeks to provide the support necessary to develop “nascent technology-based ecosystems.”

EDA’s Office of Innovation and Entrepreneurship (OIE) provides grants through B2S to further technology based economic development (TBED) by growing innovative economic ecosystems to bolster U.S. competitiveness through the development of next generation technologies and accelerated commercialization. B2S is popular among universities and research organizations as one of the few reoccurring federal funding streams that directly supports capacity-building for TBED activities. The program helps address demonstrated needs in innovation ecosystems through projects that expand regional entrepreneurship, grow scalable industries, forge cross-sectional partnerships, and create jobs. Under the FY 2023 solicitation, EDA is particularly interested in organizations that support the development of technology-based companies with great potential and organizations that can expand access to investment capital across a region or sector. Applicant organizations should be working to accelerate company growth in the region, support entrepreneurs, or further technology commercialization. Project plans must clearly identify goals for a regional ecosystem and core partners, as well as demonstrate a proposed need and solution to better stimulate strategic, technology-based economic growth in ecosystems. Additional information on each of the funding opportunities is provided below. Interested applicants are encouraged to review previous awards for the programs to better understand desired activities and impacts.

Venture Challenge (formerly the i6 Challenge): The goal of the Venture Challenge is to stimulate entrepreneurship and the growth of scalable startups in a region by providing support to innovation-facing organizations like universities or accelerators. Funding could be used to leverage regional strengths to advance job creation, improve research commercialization, and remediate “structural barriers that inhibit regional innovation capacity and resilience.” Unlike last year’s solicitation this year’s competition will consist of three funding levels: Build, Scale, and Ignite. Each program focuses on different stages of regional capacity-building endeavors:

- **Venture Challenge Build** provides support for piloting solutions to address identified needs and/or implementing known interventions to a new community.
- **Venture Challenge Scale** supports the scaling of known or existing efforts that have achieved positive impacts. Applicants should demonstrate their proven record for success in building regional capacity and carrying out programs based on empirical evidence. While the Scale track can build upon any successful intervention, this could provide a pathway for applicants previously funded under the i6...
Challenge to further scale their work after their project period has ended. Applicants are encouraged to review previous Venture or i6 Challenge awards.

- **Venture Challenge Ignite**, which is new to the FY 2023 competition, provides support to emerging ecosystems to establish intersectional partnerships to build the ecosystem’s capacity. Activities could include carrying out audits and assessments for a region or community to develop a TBED strategy, making formal agreements between partners, establishing rules and regulations for the ecosystem, and creating or revitalizing commercialization and technology transfer tools. **Unlike the Build and Scale Challenges, the Ignite Challenge is only open to applicants who have not received B2S or Regional Innovation Strategies (RIS) awards.**

**Capital Challenge (formerly Seed Fund Support):** This program will provide programmatic and operational funding for the planning, formation, marketing, expansion, or launch of regional seed capital funds to support scalable startups (angel, seed, or investment funds). Funding could also be provided to organizations that support equity-based capital development in a local community, including networks of investors or investor training programs. Similar to the previous B2S competition, there will be two funding levels for the Capital Challenge, Form and Deploy:

- **Capital Challenge Form** focuses primarily on early-stage capacity-building for capital deployment in a regional ecosystem. This includes support for identifying, educating, and connecting investors and other equity-based capital sources within a regional ecosystem, as well as identifying sources of investments and building capacity to conduct due diligence and close deals.
- **Capital Challenge Deploy** supports the operation or enhancement of investment vehicles that invest in startups “based on a thesis that clearly supports and fosters the growth of a regional technology cluster and its entrepreneurship ecosystem.” This could include support for methods to raise and deploy equity or equity-based capital in a regional technology cluster through a seed fund or any other collaborative investment vehicle. Investment strategies should thoroughly evaluate companies’ high-growth potential.

Applicants must demonstrate commitment and ability to achieve the proposed impacts of their projects. Applicants should also closely follow instructions in the notice of funding opportunity (NOFO), as EDA has been known to immediately disqualify applicant submissions with technical mistakes, and to consult with their region’s designated EDA contact for questions and support. Like the previous solicitation, EDA is asking applicants to outline in what ways a project will benefit historically underserved populations or underserved communities within systemically or systematically excluded geographies. Applicants should also describe how their proposed project aligns with any of the Administration’s investment priorities for EDA.

**Dates:** Applications are due no later than **July 28, 2023**, at **11:59 PM ET**.

**Eligibility and Limitations:** States, Indian tribes, cities, or other political subdivisions of a state, including nonprofits, institutions of higher education, public-private partnerships as defined by the solicitation, science or research parks, federal laboratories, economic development organizations, and consortia of the previously mentioned, are all eligible to apply. EDA will not provide grants or cooperative agreements to individuals under B2S. If an applicant has an existing award from B2S (or previous iterations) and plans to submit an application to build upon the award for a successor challenge, EDA will only consider the application if all activities under the existing award, including final reporting requirements, are completed and submitted to EDA by **October 1, 2023**. This includes current awardees from the previous B2S Venture Challenge; awardees from the i6 Challenge; Industry Challenge – Blue Economy awardees; current Capital Challenge awardees; and
Seed Fund Support awardees. Lead applicant organizations may partner with co-applicants, subrecipients, or contractors who may also receive federal funding.

**Award Information:** EDA has been allotted $50 million total for the FY 2023 B2S challenge, $40 million of which will be used for Venture Challenge awards ($2 million more than the FY 2022 competition). **Venture Challenge Build awards will be funded at up to $750,000 each and Venture Challenge Scale Awards will be funded from $750,000 to $2 million each.** For Venture Challenge Ignite awards, the maximum federal share is $300,000. EDA will provide no less than $8 million total for all Capital Challenge awards ($1 million more than last year’s competition). **Capital Challenge Form awards are expected to be funded at $400,000 ($100,000 more than the FY 2022 competition) each and Capital Challenge Deploy awards are expected to be funded from $400,000 up to $750,000 each.** EDA expects the period of performance for initial awards to last three years with an anticipated start date of November 1, 2023. The expected period of performance for the Venture Challenge Ignite awards is 18-24 months. Institutions may apply to either the Venture or Capital Challenge but can only submit one application per challenge. This means an applicant can submit one application for the Form OR Deploy portions of the Capital Challenge and one application for either the Build, Scale, OR Ignite portions of the Venture Challenge.

**Cost-Sharing:** Applicants are expected to provide a matching share equal to at least 50 percent of the total cost of the project, meaning applicants must match at least each dollar requested, or provide a 1:1 match. Additional restrictions on matching requirements are provided in the full NOFO. A matching share that exceeds 1:1 may be accepted but is not necessary and will not make an application more competitive in the eyes of EDA. Applications must include documentation that demonstrates commitment to the matching share from the applicant or a third party.

**Sources and Additional Information:**
- The B2S program page with additional information on the FY 2023 initiative can be found at [https://www.eda.gov/funding/programs/build-to-scale](https://www.eda.gov/funding/programs/build-to-scale).
- Additional information on previously funded B2S projects can be found at [https://www.eda.gov/funding/programs/build-to-scale/past-grantees](https://www.eda.gov/funding/programs/build-to-scale/past-grantees).

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**Funding Opportunity: IES Invites Applications for Longitudinal Data and Transformative Research Competitions**

The Institute of Education Sciences (IES) within the Department of Education (ED) issued a notice inviting applications (NIA) for two new National Center for Education Research (NCER) competitions. One competition on the use of “longitudinal data to support State education policymaking” and another competition on “transformative research in the education sciences.” These programs are meant to provide reliable data and information on educational practices that are supporting and advancing academic achievement and accessibility. Further details regarding both competitions and their specific requirements and priorities can be found below:
Using Longitudinal Data to Support State Education Policymaking
To ultimately help identify and reduce opportunity and achievement gaps found throughout prekindergarten to adult education, NCER is only considering proposals that “address State agencies’ use of their state’s education longitudinal data systems.”

- **Eligibility:** Eligible applicants must include the eligible state agency or state postsecondary system applying alone or in conjunction with universities, research organizations, and/or other appropriate organizations.
- **Awards:** IES estimates that awards will range from $100,000 to $333,333 per budget period for a period of performance of three years, with no cost share required.

Transformative Research in Education Sciences
Proposals to this competition should seek to “to support innovative and unconventional research... leveraging evidence-based principles from the learning sciences with advanced technology to create high-reward, scalable solutions.”

- **Eligibility:** Eligible applicants include, but are not limited to, institutions of higher education and non-profit, for-profit, public, or private agencies.
- **Awards:** IES estimates that awards will range from $300,000 to $1.25 million.
- **Match:** Recipients must secure matching funds in an amount equal to 10 percent of the total funds provided under the grant in the form of cash or in-kind contributions. “The cost sharing partner must be an organization that has experience developing and scaling technology products.”

For both competitions, the ultimate number of awards granted for each is contingent on the amount of funding IES receives in the fiscal year (FY) 2024 budget, which has yet to be enacted by Congress.

Applications for both are due no later than **August 17, 2023**. For further information on the Transformative Education competition, please contact Dr. Erin Higgins (Erin.Higgins@ed.gov) and for the Longitudinal Data competition, please contact Dr. Allen Ruby (Allen.Ruby@ed.gov). Further information regarding program and application requirements for the competitions will be contained in the NCER Request for Applications (RFA)s, which will be available on or before June 8, 2023, on the IES website at [https://ies.ed.gov/funding/](https://ies.ed.gov/funding/).

**Sources and Additional Information**

[Funding Opportunity: NICE Releases NOFO for RAMPS Cybersecurity Education and Workforce Development Program](#)

The National Institute of Standards and Technology (NIST) National Initiative for Cybersecurity Education (NICE) released a notice of funding opportunity (NOFO) seeking applications for the Regional Alliances and Multistakeholder Partnerships to Stimulate (RAMPS) Cybersecurity Education and Workforce Development Program. Building off of the 2021-2025 NICE Strategic Plan which includes goals to build and sustain a diverse workforce as well as drive research for effective practices for cybersecurity workforce development, RAMPS seeks to address local workforce needs through the establishment of community-based partnerships to develop cybersecurity career pathways. The following must be addressed in an applicant’s proposed project:
1. “Demonstrate how the activity aligns with the Department of Commerce Strategic Plan, meets the Effective Workforce Investment Criteria, and advances the Good Jobs Principles.

2. Prioritize Diversity, Equity, Inclusion, and Accessibility as an essential requirement in strategies intended to diversify the cybersecurity workforce and reach underserved and underrepresented communities.

3. Ensure that the partnership is employer-led, community-focused, learner centered, standards-based, and outcomes-driven.

4. Describe planned initiatives that align to the goals and objectives of the NICE Strategic Plan or help support the strategies of the NICE Implementation Plan.

5. Advance uses of the NICE Framework, including through demonstration of how the stakeholders intend to use the NICE Framework.

6. Identify the workforce needs of the local economy and assess such workforce in accordance with the NICE Framework, including ideas for how the multistakeholder organization would leverage the CyberSeek job heat map and career pathways.

7. Identify opportunities available and recruit employers to support paid internships, externships, apprenticeships, or cooperative education programs in conjunction with education and training providers in the local community.

8. Identify how it would collaborate with one or more Center of Academic Excellence in Cybersecurity (CAE) (http://www.caecommunity.org), Advanced Technological Education (ATE) programs (http://www.nsf.gov/ate), or Federal CyberCorps Scholarship for Service (SFS) (https://sfs.opm.gov/) institutions located in the region.

9. Define metrics that will be used to measure the success of their efforts. Metrics should include but not be limited to the number of CAE and ATE programs that participate in the program, outcomes of workforce demand and supply assessment, increases in diversity and inclusion, outcomes of recruitment activities, timeliness of milestones reached, etc.”

All non-federal entities are eligible to apply for this NOFO. Of importance, each application must include a plan to establish a multistakeholder education and workforce partnership that includes at least one institution of higher education (IHE) or nonprofit training organization, as well as one local employer or owner/operator of critical infrastructure or the identification of any such existing partnership. Participation with more than one of these listed entities as well as academic institutions in the “Federal Cyber Scholarships for Service Program, the National Centers of Academic Excellence in Cybersecurity Program, or advanced technological education programs, as well as elementary and secondary schools, training and certification providers, economic development organizations, and other community organizations, is encouraged”.

NICE anticipates granting up to 18 awards with funding up to $200,000 per award for a period of performance of up to two years. This NOFO does require a cost share of 50 percent made up of non-Federal contributions, including in-kind contributions. Applications must be submitted to grants.gov no later than 11:59 PM ET on August 7, 2023. NICE will be hosting a webinar on June 13, 2023 to provide general information, answer questions, and offer guidance on preparing applications for this NOFO. Further details of the program can be found here.

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