

JCATI 2020-21 Request for Proposals

Proposal Due Date: Friday, February 28, 2020, 5 PM PST

General Information

Program Summary

The Joint Center for Aerospace Technology Innovation (JCATI) is an economic development program for the Washington State (WA) aerospace industry. The WA legislature requires JCATI funds to be used for:

- Transitioning innovative technologies into aerospace industry production and use
- Providing WA engineering students with direct aerospace industry exposure
- Increasing WA aerospace industry employment opportunities

JCATI provides short term funding via academic collaboration to help aerospace companies develop and transition new technologies. Past examples include software and other analytics, materials testing and development, manufacturing methods, computer simulations, electronics modules, propulsion systems and prototype testing. The academic partner receives JCATI funding to work on the technology problem while the industry partner provides project support (in-kind and/or funding) necessary for project completion and transition. JCATI funds cannot support basic research projects.

JCATI prefers to fund [Technology Readiness Levels \(TRL\)](#) 4-7 projects. These project levels have a better chance of meeting the legislative goal of technology transfer to the industry partner. Contact the JCATI Program Manager if you are unsure of your project TRL level,

Aerospace companies of all sizes are invited to collaborate with academic researchers to solve technology issues affecting their progress. Interested industry partners should contact faculty directly or the JCATI Program Manager to identify potential academic partners.

JCATI funds are not long-term grants or basic research support. Projects must have a plan that engages the industry partner in completing development and transitioning the technology so that the company is positioned to take over the project.

JCATI's emphasis is on one year projects but we will consider shorter time scale projects. JCATI also supports senior capstone projects at Central Washington University and Eastern Washington University. Aerospace companies interested in CWU and EWU capstones should contact the JCATI Program Manager.

Please Note: JCATI 2020-21 project funding depends on program re-authorization in the next legislative session. The review committee will select potential projects and then finalize award amounts once our funding status is known.

Program Contact: Beth Hacker, JCATI Program Manager (206) 685-8063, bhacker@aa.washington.edu.

Award Information

- Estimated number of awards for 2020-21: 12-16
- Award amount: \$50,000-\$100,000.
- For 2020-21, JCATI anticipates ~\$1.2M in funding.

- Project award period is July 1, 2020 to June 30, 2021.
- JCATI funds must be spent by June 30, 2021. Carry forward/no cost extensions are not allowed and unspent funds are returned to the state.
- JCATI funds are not subject to indirect rates.
- Awardees are required to present projects at the April 2021 JCATI symposium in Seattle.
- Final report with information from both the academic awardee and industry partner is due by June 30, 2021.

Eligibility Requirements

- Applicant Organization - Eligible applicant organizations are Central Washington University, Eastern Washington University, Evergreen State College, University of Washington, Washington State University and Western Washington University.
- Principal Investigator – The principal investigator (PI) and any co-investigators must be employed by the applicant organization. Principal investigators must meet their employer’s requirements for such status.
 - UW Applicants
 - UW does not allow postdocs to be PIs.
 - Researchers/staff from the Applied Physics Laboratory (APL) are not eligible to participate, as JCATI is not allowed to pay any indirect costs.
- Industry Partners: industry partner headquarters may be located outside WA but partner must have a physical presence in WA. The JCATI project benefit and impact must occur in WA.
- Previously funded JCATI projects must reapply annually and undergo the review process. The PI must demonstrate sufficient progress and clearly explain why another year of funding is needed.
- PI may submit multiple applications but JCATI will only fund one proposal per PI.

Management and Ownership of Intellectual Property

- JCATI funded projects have successfully transitioned technology to businesses across the aerospace spectrum. Each academic institution has mechanisms in place regarding intellectual property including [UW](#) and [WSU](#) licensing options. We encourage you to discuss your project with the appropriate contact below:
 - University of Washington: Erin Schwartz (erinlisa@uw.edu) Senior Director, Corporate & Foundation Relations
 - Washington State University: Brian Kraft (bkraft@wsu.edu) Assistant VP, Office of Research Advancement & Partnerships
 - Western Washington University: David Patrick (david.patrick@wwu.edu) Interim Vice Provost for Research
- Proposal abstracts are not available to the public without permission from both the academic and industry partner.
- JCATI proposal reviewers sign confidentiality agreements to ensure proprietary proposal information is undisclosed.

Types of Supported Activities

- Projects must be related to the WA State aerospace industry with project impact occurring in WA. JCATI interprets aerospace broadly and includes but is not limited to: software and machine learning, aerospace materials (metals, composites, 3D printed), aerospace propulsion and power systems (fuel or electric), air transportation modernization, cybersecurity for aerospace systems, manufacturing and production innovation

(robotics, additive manufacturing, augmented/virtual reality), controls and automation, airport ground systems, human-machine interface, communications systems, space systems and UAVs.

- Preference is given to projects with high probability of transitioning the technology to their industry partner within 1-2 years. JCATI funding is not meant for basic research projects.
- Industry partners must provide support (cash and/or in-kind) to the academic partner. In-kind support can include materials, consulting time, machinery access, computing time, testing facilities, etc. Industry partners are encouraged to provide student internships which could provide continuity for project transition.
- The academic partner uses JCATI funds for student salaries, equipment, laboratory fees, materials, etc. All expenditures must follow fiscal best practices set by their institution. JCATI funding can augment the PIs current industrially-sponsored research. Applicants must include letters of support from industry partners documenting their technology need and amount of support.

JCATI Proposal Preparation and Submission Instructions

- Use Arial 10-point font size and 1" margins.
- Use plain language understandable to a lay audience.
- Application size limit=4 MB
- **UW applicants: JCATI applications do not require an eGC1. Do not submit applications to OSP!**
- Applicants must include disclosures of any financial or tech transfer interests held in industry partners in the application packet.
- UW Aero & Astro applicants: budget must be completed and signed off by AA fiscal staff by 5 PM Tuesday Feb 26.

Submit the Application Packet no later than Friday, February 28, 2020 at 5:00 PM (PST). Upload the application as a single PDF using the Online Application Form found under Application Quick Links. Submissions are time stamped and late proposals will not be reviewed. Do not send your proposal to the JCATI Program Manager- only those proposals received using the Online Application Form will be accepted. You will receive confirmation of your application submission.

The JCATI proposal must include the following elements in the order below:

I. Application Cover Sheet

Complete the Cover Sheet found under Application Quick Links. If there are more than 2 Co-Investigators, introduce the project team in the narrative.

II. Non-Technical Abstract (limit 1 single-spaced page)

Succinctly explain the project objectives, expected deliverable(s) and the impact in accordance with JCATI's purpose.

III. Narrative (limit 5 single-spaced pages)

Direct the narrative to an educated lay audience outside your field. All figures must be included within the page limit. Provide sufficient information to evaluate the scientific merit and benefit to the WA aerospace industry independent of any other document. Note that references are listed in Section IV. **Include the following sections in order, each with the section title.**

A. Technical Merit and Project Feasibility-limit of 2 pages total for sections A.1-A.3

1. Technical Background and Approach

Describe the technical issue and technology need faced by your industry partner. Include the current TRL level of the project and justification of the level chosen. Clearly state if the project is the first stage of a larger multi-phase project. If this is a continuation of a previously funded project, briefly state the results and why another year of JCATI funding is needed.

2. Objectives, Outcomes, Deliverables

Clearly list the specific project objectives, anticipated outcomes and deliverables as required by the industry partner.

3. Technical Innovation.

Describe how the academic partner's expertise will help solve the industry partner's technology need. Explain how the proposed innovation will affect industry partner processes.

4. Need for JCATI funds.

Describe why the project is particularly suited to the one year JCATI funding mechanism in comparison to other funding options.

5. Other Sources of Funding

List other funding sources and/or facilities that can be leveraged for project success.

B. Industry Partnership and Transition Plan

1. Industry Partner Support (funding and/or in-kind)

Describe the type and cash equivalent value of industry support for the project. Since industry support is critical to JCATI project success, the JCATI Program Manager will check with the industry contact during the project period verifying delivery of proposed support. Failure to deliver the proposed level of partner support will be considered during future project application review by the JCATI board.

2. Partners and Roles

Provide the name(s) of the main industry partner contact(s) and their role in transitioning the technology from the academic partner. Describe the roles the PI, industry partner(s) and other personnel will have during the project period as well as in the transition of the technology from the academic partner.

3. Technology Transition Plan

Provide a project plan and/or timeline written with the industry partner describing the project endpoint, intermediate milestones, academic partner exit and incorporation or further testing of the project technology by industry partner.

C. WA Economic and Educational Impact

1. Business Opportunities and Job Benefits

Describe how the project will benefit the industry partner and make them more competitive in the aerospace industry. Include any measurable direct/indirect job creation or fiscal benefits resulting from the technology.

2. Educational, Internship and Job Opportunities

Describe how this project will benefit workforce development and/or provide other educational opportunities for engineering students interested in WA aerospace industry careers.

IV. References and Reviewer Suggestions (limit 1 single-spaced page)

1. References-List references from the Narrative (Section III) here.

2. Reviewer Suggestions (optional): Provide names/links for suggested reviewers. Make sure that your potential reviewers' employer allows them to serve as reviewers. If applicable include the names of those who should not review your proposal.

V. Budget and Justification

- Use the [budget form](#) found under Application Quick Links and include a budget justification describing charges under each heading. The budget form must be signed off by both the PI and designated budget manager.
 - JCATI funded projects do not allow Facilities and Administrative costs (indirects/overhead)
 - There is only one PI and one budget number per project. Student and postdoc FTE cannot be split between JCATI funded projects.
 - Carry forward is not allowed with JCATI projects. Budget deficits must be resolved by the end of the project period. Any unspent award funds will be returned to the state.
- A. Senior personnel:
 - Faculty salary can be drawn from only one JCATI project. If a funded PI also has FTE on a different JCATI funded project, the PI must pick which project to draw salary from.
 - Tenure track faculty are limited to one month summer salary. Research faculty may request more than one month salary.
 - B. Other Personnel:
 - Graduate students listed on JCATI projects receive tuition waivers except UW Mechanical Engineering Master's students taking PCE courses. PCE will not waive tuition for students on JCATI projects.
 - D. Equipment:
 - For equipment over \$5000, include the price quote with the budget justification.
 - JCATI funds cannot be used for foreign transactions.
 - All project purchases must follow the procurement rules set by their institution.
 - E. Travel:
 - JCATI funds may only be used for US travel.
 - The 2021 JCATI symposium will be held in Seattle. If applicable, PI must include travel funds for their own symposium travel/lodging. JCATI pays for student symposium travel/lodging costs.

VI. Biosketches

- Use the [NSF biosketch format](#) found under Application Quick Links. Maximum 2 pages for PI/Co-PI emphasizing professional experiences pertinent to the proposed effort.

VII. Industry Letters of Support

Industry Letters of Support must include the following:

- Type of support and its cash equivalent value. Support may be in the form of, but is not limited to: cash, materials, facility access, testing services, consulting time, student internships.
- Name of industry contact and role in the project.
- Description of how the proposed technology will be transitioned and incorporated in company operation and processes.
- Milestones or decision points for the distribution of proposed industry support (funding and/or in-kind).

Proposal Review Process

- A committee appointed by the JCATI Executive Director reviews and triage submissions based on the RFP criteria. Those selected move on to full review. The JCATI Board of Directors discuss reviewer scores and comments before selecting projects to fund.
- Reviewers sign confidentiality agreements protecting both the content of the applications and the review process. Reviewers must not have personal, professional or financial interests that conflict with their ability to perform an unbiased review.

- Proprietary information is kept confidential. When award selections are announced and JCATI funds committed, project name, PI and industry partners are listed on the JCATI website. Information from unfunded applications is not made public unless authorized.

Award Terms and Conditions

- Award decisions cannot be appealed. No award is final until a grant agreement has been executed. The applicant's academic institution is legally responsible for authorizing and submitting proposals, administering the grant, and disbursing JCATI funding.
- If the award amount is different than the amount requested, a revised budget and project scope must be submitted to the JCATI Program Manager and approved before funds are awarded.
- The PI is responsible for leading the proposed work, managing the budget, attending the symposium along with their students and reporting progress. The industry partner is responsible for delivering in-kind support and transitioning the technology into the company.
- PI must get approval from JCATI Program Manager to spend their award funds other than as outlined in their budget/budget justification.
- JCATI funds cannot be transferred out of WA or to a private institution if the researcher moves.
- JCATI requires a final report including information on technology transition progress and student involvement. Any unspent research funds must be returned to JCATI at the end of the funding year. JCATI will continue to follow up with the PI for updates on the industry transition and external funding
- Recipient organizations, principal investigators and industry partners will be expected to provide JCATI with reasonable assistance in communicating funded work and its impact on the WA aerospace industry. Since JCATI funding comes from the WA legislature, it is vital to update elected officials on JCATI metrics and progress.