

# 2023 MTRAC Applied Advanced Materials

## Application Process

**Full Proposal SUBMISSION DEADLINE: March 31, 2023**

The MTRAC (Michigan Translational Research and Commercialization) Innovation Hub for Applied Advanced Materials program at Michigan Tech provides resources to support materials related projects with high commercial potential. This support includes research and development funding for prototype and late-stage translational activities, with consultation and mentoring from an Oversight Committee including industry and investment experts. The program defines materials related projects broadly to include technologies related to: novel materials; novel applications of conventional materials; or equipment and processes that enable the application of either novel materials or conventional materials for novel purposes. Examples of applications for materials sought for commercialization under program funding include building materials, transportation, energy transfer, energy storage, or aerospace. These examples are illustrative and not meant to exclude other possible applications of advanced materials. Applicants must be associated with a Michigan institution of higher education, non-profit research center, or hospital system.

**Those interested in the program are strongly encouraged to contact Michael Morley, Director of Technology Commercialization, ([mcmorley@mtu.edu](mailto:mcmorley@mtu.edu), 906-487-2228) to receive assistance and guidance on proposal preparation.**

### **MTRAC APPLIED ADVANCED MATERIALS PROCESS OVERVIEW**

- December 9, 2022 – Call for full proposals begins
- March 31, 2023 – Full proposal deadline closes at 5:00PM
- May 23, 2023 – Presentations to Oversight Committee with funding decisions announced shortly afterwards (<2 weeks)
- September 1, 2023 – Funding in place to begin projects

### **PROPOSAL REVIEW & EVALUATION**

Proposals will be evaluated by the Oversight Committee on the basis of technical feasibility, market need, market opportunity, and the potential for commercialization and obtaining follow-on funding from external parties. Each proposal must contain, and will also be evaluated upon, a comprehensive R&D plan towards commercialization with discrete and deliverable development milestones that greatly improve commercial interest in the technology.

### **ELIGIBILITY**

MTRAC funds translational research of novel, commercially viable technologies. Projects with limited commercial applications are outside the mission of the program and unlikely to be funded. Proposed projects must relate directly to applications in

Applied Advanced Materials. The objectives of the project should include an outcome with commercial impact. Other eligibility criteria include the following:

- The technology must be the subject of an invention disclosure from a Michigan based institutions of higher education, non-profit research center, or hospital system and be under active management of the relevant technology transfer office or equivalent (e.g. for Michigan Tech, Office of Innovation and Commercialization <https://www.mtu.edu/research/innovation/>).
- The technology must be available for licensing in the relative application/field of the proposal and relevant geography(ies).
- Technologies under an option agreement in the applicable field-of-use and geography(ies) are eligible for inclusion in an MTRAC Proposal.
- Technologies under a license agreement in the applicable field-of-use and geography (ies) are NOT eligible for inclusion in an MTRAC Proposal.
- The applicant Principal Investigator (PI) must be from a Michigan institution of higher education, non-profit research center, or hospital system.

It is important to note that the templates for the Proposal including the Budget and Signature Form (see below) include additional requirements related to matching funding, indirect cost limits, project management, etc. Additionally, the mechanism to provide funding to awardees outside of Michigan Tech is through a subcontract from Michigan Tech. The subcontract must be signed within one month of notification of award and receipt of the subcontract; otherwise, there is the potential for the award to be rescinded.

If you have any questions about eligibility, please contact Michael Morley ([mcmorley@mtu.edu](mailto:mcmorley@mtu.edu)) for guidance.

### **CONFIDENTIAL INFORMATION**

Please note that the members of the Oversight Committee (OC) who will be reviewing the Proposals and approving the grants ARE NOT under any confidentiality agreements. Due to the nature of their work in venture capital and other commercial endeavors the majority of the OC members would not be allowed to enter into these types of agreements. Therefore, do not include proprietary information which has not been disclosed to or protected by your tech transfer office. If formal intellectual property protection (e.g. patents) related to the Proposal has not yet been filed, it is advisable to work with your technology manager on the content of the Proposal to avoid public disclosure that could affect the ability to later obtain formal intellectual property (IP) protection. Proposals can generally include information about material characteristics or process outcomes without providing proprietary information regarding specifically how those characteristics and outcomes are achieved. As the objective of this program is commercialization, the Proposal should be focused towards the commercial and

business opportunity rather than details of the technology itself. If you have any questions or concerns in this regard, please contact your technology manager at your organization or Mike Morley (mcmorley@mtu.edu).

## **REPORTING REQUIREMENTS**

Awardees will hold time for regular meetings with the program director and other stakeholders to discuss the project's progress, personnel matters, purchasing , budget, making progress towards milestones, IP development and any other reasonable additional information may be reviewed. There will be regular contact with home institution Office of Technology Transfer (OTT) to ensure commercialization activities are integrated with project activities.

During each award period, the awardees are required to make quarterly presentations to the Oversight Committee to assess progress. Awardees will be provided a template to cover relevant aspects of the project and commercialization activities and the OC will have the opportunity to ask questions and provide constructive feedback to the project team. The OC feedback and guidance plays a critical role in the success of the MTRAC program and the individual projects. During the quarterly reviews, the OC may decide to make changes to the project's research and commercialization milestones (within budget limits) to help your project get to the market faster.

Awardees will be required to provide a written report on a six-month basis that covers the following topics (a template will be provided):

- Progress, compared to the pre-established milestones
- IP updates
- Budget updates
- Challenges or issues which prevent business and/or technical development

## **Proposal Submission Procedure**

**Full Proposal Deadline: 5 pm March 31, 2023 (subject to change at the time of submission invitation)**

Proposal submissions must include the following information according to the format provided below and should not exceed the stated page limits. All proposals must adhere to the specified page limits to be considered for this program. Maintain 0.5- inch page margins throughout document and use no smaller than Arial 10-point font.

1. **Cover Page (3 pages)** – Project title, name of the Principal Investigator (PI) and co-PI(s), budget amount requested, a one-paragraph summary and the signature of the PI and Department Chair. See attached Cover Page template (included in last few pages of this document).

2. **Project Description (5 pages total)** – Projects will be judged on the following review criteria

(Please use these headings in the body of your proposal and adhere to the page limits):

**What is the unmet need?** (1-2 paragraphs) The unmet or inadequately addressed market need. This section should include a brief description of the unmet need together with some metrics which could include the Total Addressable Market, Served Available Market and Target Market size, cost of technology adoption, relevant expenditures related to the technology market segment, environmental benefits, likely future trends relevant to the problem, etc.

**Research Stage/Description of Technology** (1-2 pages) The MTRAC program is focused on translational research and designed to accelerate commercialization of promising technologies. A brief description of the technology should explain how the proposed solution works to solve a problem.

Emphasize what the technology can achieve and its novelty however there is no need to include details on how the technology works. Provide a competitive analysis and description of advantages over current or alternative approaches for addressing the problem as well as the known shortcomings of existing approaches.

**Impact** – If successfully completed, how would the work outcome address an unmet customer need? How would the outcome transform the target market? (1 paragraph)

**R&D Plan** – Is the plan geared towards commercialization? How will the plan results attract follow on support? Is the commercialization plan clearly presented? Is the commercialization plan feasible? (1 page)

**Quarterly Development Milestones** - Expected specific milestones per quarter and plan for achieving them. These should align with the R&D Plan and Budget. (1/2 page)

**Intellectual Property** – Has an invention report been filed with the institution's technology management group with written proof? THIS IS A MANDATORY REQUIREMENT TO BE ELIGIBLE FOR THIS PROGRAM. What is the IP protection strategy for the idea (patent, copyright, trade secret)? (1 paragraph)

**Collaboration** (if applicable) – Who are the collaborators on this project (if any) and what are their roles? This includes academic and industrial collaborators. Are they contributing matching funding and/or resources? Please include letters of support. (1 paragraph)

**Follow-On Funding** - Plan for funding after MTRAC award expires (e.g. NSF, SBIR/STTR, venture funding, strategic partner recruitment license to existing company, etc.). (1 paragraph)

3. **Budget and Signature Form (1-2 pages)** – Please include a proposed 1-year budget, along with the provided budget template (**see note below about budget template**). Proposals should request adequate funding to achieve success in advancing the technology to the market however applications in the range of \$30k-\$50k in program funding, not including indirect costs, are most favorably considered.

**Applicants must provide matching funding in addition to requested program funding at following levels:**

- a) A 100% (1:1) match of program funding is required for proposals associated with technologies from University of Michigan, Michigan State University and Wayne State University or a Michigan-based non-profit research center, or hospital system.
- b) A 25% match of program funding is required for proposals associated with technologies from Michigan Technological University.
- c) A 10% match of program funding is required for proposals associated with technologies from all other Michigan universities.

**Matching funds cannot originate from any another MEDC or Michigan Strategic Fund funded program.**

Matching funds must be placed into an account under direct control of the PI. There is a limit of 15% indirect costs for program funds requested. Indirect costs up to 15% on matching funds may also be applied to meet the required total budget match requirement.

Teams are encouraged to contact the Program Director, Michael Morley (mcmorley@mtu.edu) to ensure the matching funds and the overall budget meets the requirements established by the MEDC.

Note: There are two budget templates available – there is a separate budget template for Michigan Tech originating projects to ensure proper approvals and budgets are obtained. Applicants from other institutions must use the relevant budget template as part of their proposal. Please note the following related to your budget:

- PI must have primary wage and effort appointment at their institution equal to or greater than the requested budgeted amount for his/her effort.
- The maximum allowable Indirect Cost Rate is 15%.
- Allowable budget expenditures include: salary and fringe benefits for project personnel, materials, supplies, equipment, travel, and other costs necessary to complete the proposed project. Budgets should be allocated to the conduct of the R&D plan and achievement of development milestones. Proposals will be partially evaluated on the appropriateness of project budget.
- Direct dollar cost share must be resources that can be applied directly to expenses for the project. Funds must be placed in a cost share account prior to project initiation. In-kind cost share is generally not allowable.
- Faculty release time and equipment use charges can serve as matching funds as long as funding for such expenses are transferred into the project account.

**Student tuition is not an allowable expense**

### **For non-Michigan Tech applications:**

- A non-technical project manager is required. Their role is to manage the budget, manage the milestones, interfacing with the MTRAC Materials Program personnel and MEDC for all necessary reporting, and providing commercialization support. A signature is required proof a person has been identified.
- A signature from a technology manager who can verify that: the proposal does not include confidential information; the technology/IP listing is accurate; the technology is available for licensing in the field-of-use applicable to the proposal; and the PI's institution controls the licensing of the IP.
- A signature authorizing matching funds and verify the required matching funds are available from the source listed in the budget over which he/she has authority and will be transferred to an account for the sole use of this project should an award and subsequent subcontract for the MTRAC funds be completed. Additionally, this person will verify these funds have not originated from another program funded by the Michigan Economic Development Corporation/Michigan Strategic Fund.

The Budget and Signature Forms are available online. Be sure to select the correct version of the form. The correct Budget and Signature Form must be used/completed and submitted as part of your Proposal

#### **4. References/Literature Cited (1 page)**

#### **5. Bio sketches (2 pages each)**

Bio sketches of the PI and other key personnel should be attached to this document as supplemental material.

## COVER PAGE

**PROJECT  
TITLE**

**PI NAME &  
CONTACT  
INFORMATION**

Name:  
Institution or Organization  
Department:  
Email Address:  
Phone:

**TOTAL  
AMOUNT  
REQUESTED**

**ONE PARAGRAPH SUMMARY (350-word limit)**

**Confirmation on compliance with existing rules and regulations.**

	Yes	No	If Yes, date of committee approval (where applicable)
Use of Human Subjects			
Use of Vertebrate Animals			
Recombinant DNA			
Proprietary or Classified Info			
Non-Clinical lab studies regulated by Assurance Required)			
Hazardous Chemicals or Biologicals			

**Submitting PI Signature** \_\_\_\_\_

**Printed Name** \_\_\_\_\_

**Amount of cost share provided.**        \$ \_\_\_\_\_.

**Approval Signature Department Chair** \_\_\_\_\_

**Printed Name** \_\_\_\_\_

**Department** \_\_\_\_\_

For details see budget sheet or contact Commercialization Program Director, Mike Morley (mcmorley@mtu.edu) for further instructions regarding budgets.

BUDGET TEMPLATE: Excel worksheet found on MTRAC website