



COLLEGE OF ENGINEERING MTRAC TRANSPORTATION

UNIVERSITY OF MICHIGAN

SUBMISSION DEADLINE: March 10, 2017

The MTRAC (Michigan Translational Research and Commercialization) Transportation program provides resources to support translational projects with transportation applications that have high commercial potential. This support includes research funding for proof-of-concept and late-stage translational activities, with consultation and mentoring from an Oversight Committee with industry and investment experts. The MTRAC funding will focus on advanced materials, robotics and autonomy, sensors, electric vehicle drivetrain/propulsion, software/controls/data, and advanced manufacturing processes.

Proposals for U-M MTRAC Transportation projects must be submitted via the website: <https://mtrac-transportation.infoready4.com/> **Proposals are due by 5:00PM EDT on March 10, 2017.**

Those interested in the program are *strongly encouraged* to contact Gurhari Singh (gurhari@umich.edu) to receive assistance and guidance on proposal preparation.

MTRAC TRANSPORTATION PROCESS OVERVIEW

- January 9, 2017 – Call for proposals begins
- March 10, 2017 - Proposals due at 5 PM via <https://mtrac-transportation.infoready4.com/>
- May 2, 2017 – Oversight Committee selects finalists
- June 9, 2017 - Finalists present to Oversight Committee
- June 20, 2017 - Funding decisions made

PROPOSAL REVIEW & EVALUATION

Proposals will be evaluated by the Oversight Committee on the basis of technical feasibility, market need and opportunity, and the potential for commercialization and obtaining additional external support. Each proposal must contain, and will also be evaluated upon, a comprehensive R&D plan towards commercialization with discrete and deliverable development milestones.

ELIGIBILITY

MTRAC was developed to fund translational research of novel, commercially viable technologies. Projects with limited commercial applications are outside the mission of the program and unlikely to be funded. The research must relate directly to applications in transportation (advanced materials, robotics and autonomy, sensors, electric vehicle drivetrain/propulsion, software/controls/data, and advanced manufacturing processes), and 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 university (e.g. a disclosure from for University of Michigan can be found here: <http://techtransfer.umich.edu/for-inventors/mta/submit-your-innovation/>) and be under active management of your technology transfer office or equivalent (e.g. for University of Michigan, this would be the Office of Technology Transfer: <http://techtransfer.umich.edu/>). Additionally:
 - 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.
- The applicant Principal Investigator (PI) must be from a university located in Michigan:

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 University of Michigan Ann Arbor Campus is through a subcontract from University of Michigan which should be reviewed prior to submitting a Proposal to ensure your organization can enter into a subcontract with those terms (please contact Gurhari Singh – gurhari@umich.edu for a copy of the subcontract). 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 Gurhari Singh gurhari@umich.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, agricultural companies, etc., 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 your tech transfer office (e.g. Office of Technology Transfer at University of Michigan). If intellectual property (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 file for intellectual property (IP) rights. One possible way to approach this is to focus discussion on what the product or process does, rather than how it does it. As the objective of this program is commercialization, the Proposal should be focused towards the commercial and business opportunity rather than the technical details. If you have any questions or concerns in this regard, please contact your technology manager at your organization.

REPORTING REQUIREMENTS

Awardees will hold time for bi-weekly meetings with the program director and other stakeholders to discuss the project's progress: personnel matters, purchasing materials, 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 requested 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 could decide to make changes to the project's research and commercial 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 is provided):

- Progress, compared to the pre-established milestones
- IP updates
- Budget updates

- Challenges or issues which prevent business and/or technical development

PROPOSAL

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 10pt. font.

1. **Cover Page (1 page)** – Contains the project title, names of the 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 transportation need?** (1-2 paragraphs)
 - **Research Stage/Description of Technology** – The M-TRAC program is focused on translational research and designed to accelerate commercialization of promising technologies. Early stage research projects (i.e. hypothesis testing) will not be considered. Describe the technology and its envisioned transportation application. Note that there is not a preference/score for the research stage—the committee needs to understand the stage and technology identified and translational vision for the technologies. (1 page)
 - **R&D Plan** – Is the plan geared towards commercialization? 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)
 - **Commercialization Potential** –What is the commercial product envisioned by the applicants? Explain the value proposition. Are there competing technologies/products? Who would buy the product (i.e. – likely markets)? What is the earliest likely timeframe that a product resulting from this work could make it to market? What are the perceived barriers to commercialization? (1/2 page)
 - **Impact** – If successfully completed, how would the work outcome address an unmet customer need? How would the outcome transform the transportation industry? (1 paragraph)
 - **Intellectual Property** – Has an invention report been filed with your institution’s technology management group with written proof? (for the University of Michigan, this would be an invention disclosure title with relevant file number). **THIS IS A MANDATORY REQUIREMENT TO BE ELIGIBLE FOR THIS PROGRAM.** Please contact Gurhari Singh – gurhari@umich.edu for clarification if needed. What is the IP protection strategy for the idea (patent, copyright, trade secret)? (1 paragraph)
 - **Startup Team** – **If a startup is being considered**, please work with your institution’s specialists in start-up creation (at the University of Michigan, this would be the OTT

Venture Center) to document the key elements of needs and resources required for success. They can provide help to address questions such as how would you build your team? What positions do you need filled? What's the priority for filling those positions? What is the timeline? Are there functions that could be filled by partnering or contracting? How would you find candidates? (1 paragraph)

- **Collaboration (if applicable)** – Who are the collaborators on this project (if any) and what are their roles? This include academic and industrial collaborators Are they contributing matching funding and/or resources? Please include letters of support, if provided (1 paragraph)
- **Follow-On Funding** - Plan for funding after M-TRAC award expires (i.e. NSF, SBIR/STTR, venture funding, 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**) You have the flexibility to build and justify the budget needed to succeed. We will favorably consider applications where the budget request is \$75k-\$100k. Successful achievement of all development milestones in Year 1 may lead to additional funding if the Oversight Committee decides to encourage a follow-on proposal.

Applicants will need to provide at least 50% of the total budget as matching funds, with the exception of University of Michigan Ann Arbor Campus PIs (see below). These funds will be required to be placed in a cost share account prior to project initiation under the control of the PI. Additionally:

- For University of Michigan Ann Arbor PIs, A 15% departmental/PI cost share is expected.
 - Funds to offset the full matching requirement are made using internally dedicated funds
 - A split between 7.5% from the department and 7.5% from the faculty is common, but not required
 - These matching funds cannot originate from another MEDC (Michigan Economic Development Corporation) or Michigan Strategic Fund funded program
 - Total direct costs cannot exceed \$100K – The budget template calculates for indirect costs such that the maximum allowable direct costs is \$100K
- A 50% departmental/PI cost share is expected from other institutions.
 - These matching funds cannot originate from 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 the MEDC portion of the grant
 - Teams are encouraged to contact the Program Director (Gurhari Singh - gurhari@umich.edu) to ensure the matching funds and the overall budget meets the requirements established by the MEDC

Note: There are two budget templates provided – there is a separate budget template for University of Michigan Ann Arbor projects to ensure proper approvals and budgets are obtained. All applicants must use the relevant budget template as part of their proposal.

Please note the following related to your budget:

- PI must have primary and efforted appointment at their institution equal to or greater than the requested budgeted amount for his/her effort.
- **There will be a gateway review after six months to determine whether the full award will be made.**
- The maximum allowable Indirect Cost Rate is 15% for MEDC contribution only.
- Allowable budget expenditures include: salary and fringe benefits for project personnel, materials and supplies, equipment, travel and other relevant costs. 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.
- The cost share cannot be “in kind” and 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.
- **Student tuition is not an allowable expense**

Please note the following related to required signatures on the budget:

- For University of Michigan Ann Arbor applications:
 - The PI’s department chair’s signature is required on the bottom of the budget, for the cost share commitment. Department/Faculty Cost share cannot be “in kind” and must be resources that can be applied directly to expenses for the project. Funds will be required to be placed in a cost share account prior to project initiation.
 - The unit administrator is required to ensure they are aware of the cost-match requirement
 - The PI’s signature
- For **non**-University of Michigan Ann Arbor applications:
 - **A non-technical project manager is required.** Their role is to manage the budget, manage the milestones, interfacing with the MTRAC Transportation 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 is non-confidential, the technology/IP listing is accurate, the technology is available for licensing in the field-of-use applicable to the proposal, and their 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 at 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 at <https://mtrac-transportation.infoready4.com/>. Be sure to select the correct version of the Form (there is one for University of Michigan Ann Arbor College of Engineering-Only). 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)

Use of Human Subjects	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, date of committee approval:
Use of Vertebrate Animals	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, date of committee approval:
Recombinant DNA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, date of committee approval:
Proprietary or Classified Info.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Non-Clinical lab studies regulated by the FDA (Quality Assurance Required)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Hazardous Chemicals or Biologicals	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Submitting PI Signature _____

Printed Name _____

Amount of cost share provided. \$ _____.

Approval Signature Department Chair _____

Printed Name _____

Department _____

For details see budget sheet or contact Interim Program Director, Gurhari Singh (gurhari@umich.edu or 734-647-7460) for further instructions regarding budgets.

BUDGET TEMPLATE: Excel worksheet found on M-TRAC website