REQUEST FOR APPLICATIONS (RFA)

MII Innovation Commercialization Program

Technology Assessment Application Guidelines

Purpose:

The Maryland Innovation Initiative ("MII") Innovation Commercialization Program (the "Program") was created to foster the transition of promising technologies having significant commercial potential from Qualifying Universities (defined below), where they were discovered, to the commercial sector, where they can be developed into products and services that meet identified market needs. Specifically, it is the intent of the Program to foster the commercialization of such technologies through technology validation, market assessment, and the creation of University start-up companies in Maryland. A "University Start-up" is a company reliant on a technology licensed from a Qualified University for commencement of its operations. It is also the intent of the Program to foster collaborations between various schools, departments, and institutions within and among the Qualifying Universities and among other research organizations in the State.

The Program is divided up into two phases, a Technology Assessment Phase for Qualified Universities, and a Company Formation Phase (for University Start-ups). This document outlines the details of the Technology Assessment Phase. The Company Formation Phase is outlined in a separate document.

Eligibility:

To be eligible for the Technology Assessment award, the applicant must be a full-time faculty member at one of the following institutions: Johns Hopkins University; University of Maryland, Baltimore; University of Maryland, College Park; University of Maryland, Baltimore County; and Morgan State University. Applications must be directed to the commercialization of a technology or group of technologies: (i) owned by a Qualifying University; (ii) disclosed to a Qualifying University's technology transfer office (TTO); and (iii) for which there exists appropriate intellectual property protection (a "Technology").

Funding Amount:

Subject to meeting the Program requirements, an award of up to $115,000 may be made for a project at a single Qualifying University (a "Sole Application").

A Joint award totaling up to $165,000, as described below, may be made to two or more Qualifying Universities submitting a joint proposal directed toward: (i) the joint commercialization of Technologies existing at more than one of the applicant Qualifying Universities (i.e., complementary Technologies that can be licensed together); or (ii) commercialization activities that would take place at more than one Qualifying University, in which case at least two of the Qualifying University Applicants must each be budgeted to receive a minimum of 25% of any Program award (a "Joint Application").

Project funding will be subject to the successful completion of a number of proposed project milestones. Applicants should be aware that project funding could be terminated at any point during the project if early project data suggests that the technology will not be sufficient for the intended commercial application or if the project is not reasonably progressing as originally proposed.

Overview and Program Description:

Technology Assessment awards are available exclusively to Qualifying Universities and are capped at $115,000 for a Technology Assessment award of a Sole Application and $165,000 for a Technology Assessment award of a Joint Application. *Projects, including all subcontracts, must be completed within 9 months of the date of execution of the award*. **Applicants should not expect approvals for any project extensions and should plan accordingly.**

The Technology Assessment application must include two separate work plans and two separate corresponding budgets: A Technology Validation component ($100,000 for sole projects/$150,000 for joint projects) and a Commercialization Planning component ($15,000). See "Application Components" below for specific details. The two budgets may not be intermingled.

The Program will not allow Qualifying Universities to include facilities and administrative charges (i.e., indirect charges).

A. Technology Validation

"Technology Validation" builds on preliminary data demonstrating the utility of a Technology for a specific commercial application. (This is not basic research.) The Technology must have appropriate intellectual property protection (including copyright or trademark) secured by the applicant institution.

Up to $10,000 of the Technology Validation budget may be allocated by a Qualifying University TTO to pay for patent expenses related to the Technology, which are incurred during or prior to the Technology Assessment Project.

A five-page final report will be the deliverable for this component of the Technology Assessment project.

B. Commercialization Planning

"Commercialization Planning" includes conducting a commercial opportunity and risk assessment for a Technology and developing and drafting a detailed commercialization and go-to-market plan (**a specific deliverable for Technology Assessment**) that includes a plan for the specific steps required to complete the development of a product, its manufacture, regulatory approvals, and its distribution to customers (a "Commercialization Plan").

The Commercialization Plan should include:

- A clear market assessment and marketing strategy;
- The team, and their biographical information;
- A viable revenue model; and
- A strategy for financing the plan.

A Commercialization Plan will be the deliverable for this component of the Technology Assessment project.

The total allowance for the commercialization budget is $15,000. Typical costs for Commercialization Planning might include the costs for purchasing a market analysis, for conducting market surveys, for contracting with industry experts (this does not include an agency to find the talent, or advertising to attract the talent), for engaging an interim CEO, or for other costs associated with gathering and assembling the information required and for the development of a proper Commercialization Plan. In addition, up to $5000 may be spent on I-Corps (See details below) and up to $4500 may be spent on indirect costs associated with formation (See details below)

I-Corps

The I-Corps program focuses on training innovators to get out of the office or lab, and into discussions with those identified as the target market – users of their innovation – to validate that the innovation really meets the needs of potential customers. The Maryland Innovation Initiative (MII) encourages applicants to engage in the I-Corps "customer discovery" process on or before the Technology Assessment submission. The more first-hand data and feedback an applicant has on their target market, the more effective any investment will be in that technology or business. This program is optional for MII applicants.

An applicant of MII the Technology Assessment phase may allocate up to $5000 of its commercialization planning budget expenses toward the I-Corps regional or short course (MII funds *may not* be used in the national I-Corps cohort where participants are already funded.).

- Funds may be used to offset domestic travel specifically for customer discovery during the cohort.
- Funds may be used to reimburse a mentor for time advising the team during the cohort.
- Any budgeted amount for I-Corps must be detailed in the intended use of the funds.
- A signed, dated letter by the I-Corps Director must be included in the MII final report package, indicating the applicants' active involvement and completion of I-Corps. The letter must include the dates of the cohort.
- Applicants *may not* use the funds to pay for the time of the entrepreneurial lead, or PI.
- *In order to be reimbursed for I-Corps expenses, as outlined, all costs for I-Corps must occur during the MII effective agreement dates.*

TEDCO recognizes the challenges associated with developing a commercialization strategy for an early-stage technology and understands that any such strategy is likely to change during the course of development of a commercial product. Nevertheless, as a commercialization program, the goal of MII is to ensure that there is at least one viable pathway toward commercialization for a technology and that such a pathway has been carefully considered and can be clearly described by the applicant.

Up to thirty percent (30%) of Commercialization Planning funds may be used for corporate formation costs or for a University Start-up's attorney costs associated with the licensing of a Technology. The Commercialization Plan budget may not be used to pay for university staff time and may not be used to pay licensing fees or other consideration for a license or option agreement with a Qualifying University (including the reimbursement of patent expenses).

The execution of any subcontracts and joint arrangements included as part of an application are ultimately the responsibility of the PI. Each entity involved in the proposed project set forth in the submitted application is expected to meet the timelines and milestones, as submitted by the PI, who will be held accountable as part of the mid-term and final report review.

Beyond Technology Assessment Funding

The goal of the MII Innovation Commercialization Program is to move technologies from successful Technology Assessment activities, i.e., Technology Validation & Commercialization Planning, to the commercial sector via a license to a University Start-up company located in Maryland. To this end, investigators who have successfully achieved specified Technology Assessment project milestones and submitted their final report and Commercialization Plan are encouraged to work toward the creation of a start-up company and to have that company apply for funding for early-stage development by submitting a Company Formation application. Technology Assessment awardees may not submit for Company Formation funding (or Seed/LSIF TEDCO funds) until the Technology Assessment final report has been submitted. In addition, no

Company Formation application (or Seed/LSIF TEDCO funds) can be funded until the Technology Assessment final report is approved by TEDCO.

Pay Back

Technology Assessment awards will be made in the form of a grant; provided however, in the event that a Technology supported by a Technology Assessment Program award is licensed to a company outside of the State of Maryland, the Qualifying University shall have an obligation to reimburse the MII Program by payment of a sum equal to twenty percent (20%) of any gross licensing revenue resulting from such a license until the MII Program is reimbursed for the full amount of the award. Such reimbursements shall be made to TEDCO and will be used to support future MII programs and activities.

Site Miners

Site Miners are individuals selected by the Qualifying Universities to assist faculty and start-ups in the process of submitting a strong, business-oriented application focused on commercialization. These individuals work as a liaison between the applicant and the MII program, providing valuable input and feedback prior to submission of an MII application.

- The MII program requires each applicant to engage with a Site Miner, *a minimum of one month prior* to application submission. Involving a Site Miner early in the application process increases an applicant's odds of success.
- Site Miners are the "champion" for each Technology Assessment application during the review process and are expected to present each application at the review committee meeting.
- Every application must include a current, dated letter of support, signed by a Site Miner, in order to meet compliance requirements. (Visit the MII web page, under "Site Miners" for the letter of support template.)
- If you do not know your Site Miner's name, please email sgoncalves@tedco.md for assistance.

Applying for a Technology Assessment Innovation Commercialization Award:

Applications may be submitted at any time and will be reviewed on a bimonthly basis - January, March, May, July, September, and November. Complete applications submitted by the 1st business day of each submission month, by 5:00PM, will be considered in that month's review cycle. (If the 1st of the month falls on a weekend or federal/state holiday, applications are due by 5:00PM the next business day.) Applications submitted after 5:00PM will be rejected without consideration. All applications must be submitted using TEDCO's on-line application submission system, which can be accessed at:

http://tedco.md/program/the-maryland-innovation-initiative-mii/

There are two major components to any Innovation Commercialization Application – the General Application Information and the Full Application.

The General Application Information is entered directly into the on-line application submission system and includes:

- A proposed project title (15 words max.),
- The proposed project duration (9 months or less),
- The PI's profile information,
- An indication of whether the application is new or is revised (resubmitted),
- The name of the Qualifying University,
- An indication of the MII Phase for which an application is being submitted,
- An indication of whether the application is a 'Sole' or 'Joint' application,
- A non-proprietary abstract of the proposal (300 words max.)(No special characters),
- The total budget (direct and indirect costs) requested for the proposed project,
- A selection of the technology type/category (use the best option),
- An indication that a signed letter of approval from a technology transfer office is included in the Full Proposal,
- An indication that a signed letter of approval from an MII Site Miner is included in the Full Proposal.

The Full Proposal must be submitted as a single document in Adobe PDF format and include the components described below and any attachments – including letters from the Tech Transfer Office, the Site Miner, and industry support letters. The maximum file size for the Full Proposal is five megabytes (5120KB). The full application submission may not exceed 15 pages total. Submissions exceeding 15 pages will be rejected without consideration.

University applicants must obtain approval from their research/grants administration office before submitting an application, however a letter from the office is not required.

Application Components

The intent of the application is to provide enough information so a group of reviewers can sufficiently evaluate the commercialization potential of a Technology and the value of the proposed project in advancing the Technology toward commercialization.

Technology Assessment applications should include the following sections:

- The **Technology Validation** section, which is limited to a maximum of five (5) pages, single-sided, with one inch margins and a font size of at least 12 points;

- The **Commercialization Planning** section, which is limited to an additional one (1) page overview of the commercialization strategy; and

- **Supplemental documents** (i.e. references, cover page, support letters etc.), which are not counted as part of the 6 pages for the first two sections; however, a complete submission (all sections) cannot exceed a total of 15 pages or it will be rejected without consideration.

Applications must include all of the following sections and address *EACH* of the criteria bulleted under the sections:

1. Technology Validation Section

A. **Header/Applicant Information (Cover page).** The Applicant must include:
- The name of the Qualifying University(ies) that is (are) applying for funding or owns the subject Technology.
- The name of a principal investigator who will be responsible for the project.
- The total amount of funding requested.
- This information should appear as a stand-alone Cover page.

B. **Technology Description, Status, and Intellectual Property.** (Weighted 1.0)
- A detailed description of the associated Technology should be provided. The description should focus on how the Technology is unique/novel in its approach to solve an important commercial problem relative to other approaches in the scientific literature and other commercial products.
- Describe the status of the Technology's development – describe the studies completed and the conclusions derived.
- Any preliminary data or other results suggesting that the Technology is likely to work as predicted should be included.
- Describe the intellectual property secured for the Technology and strategies for strengthening the Technology's intellectual property portfolio.
- A brief summary of the intellectual property landscape (e.g., the results of a patent search including a description of the closest prior art) should also be included.

C. **Application of Technology as a Product/Market Assessment.** (Weighted 1.0)
- Describe potential commercial products or services that could be based on the technology.
- Describe how these products will solve a problem in the market and describe the overall importance of solving that problem.
- Include a description of the value (ideally in dollars) that these products will bring to customers – cost savings, time savings, convenience, improved outcomes, etc.
- Include a description of the person who will buy the product or service and a brief summary of the size of the market opportunity that these customers represent.
- Outline a general description of the applicant's competitive advantages over competing products and services.

D. **Commercialization Pathway and Risk Assessment.** (Weighted 2.0)

- Provide a detailed overview of the overall steps/milestones needed to commercialize the Technology (*beyond the MII funding*) including how long it will take and how much it will cost to achieve each milestone.
- Describe the general approach and rationale for commercialization – licensing or start-up. In either case, identify potential commercial partners and the level of interest those partners have in the technology, if any.
- The major risks of failure (beyond the proposed MII project, e.g., technology risk, market risk, etc.) should also be described along with the applicant's plans to manage that risk, i.e., what would be done if the proposed commercialization approach was not successful.

E. **Project Description, Milestones, and Detailed Budget/Justification.** (Weighted 2.0)

- Include a detailed summary of the proposed *MII project,* the anticipated milestones, and a clear timeline. Indicate which milestones will be completed by the applicant's mid-term presentation (4.5 months into the project) and throughout.
- Describe how each of the milestones leads to a clear demonstration or validation of the technology for the proposed commercial purpose and/or significantly advances the technology along the commercialization pathway. Milestones must be quantifiable and measurable so it will be obvious when they have been successfully, or unsuccessfully, met.
- A detailed budget of the costs required to conduct the project should be provided in the general format provided below.
- A justification for all of the project costs should be provided. Any changes to the approved budget (greater than +\- 10%) must be submitted in writing to the Program Manager for approval prior to the completion date.
- *International travel is not an eligible expense. Domestic travel will be closely scrutinized and must be justified as critical to the project.*

The Technology Validation budget (maximum $100,000, if sole; or $150,000, if joint) should be formatted in tabular form as indicated in the example below, and each line item should be classified into one of the following categories: Personnel – Salaries, Personnel – Fringe Benefits, Equipment, Materials & Supplies, Other Direct Costs, and Indirect Costs, which should be indicated in the budget. Below is the required budget format and category headings.

The Commercialization Planning budget of $15,000 cannot be intermingled, for any reason, into the Technology Validation budget. They must remain separate budgets.

EXAMPLE BUDGET ITEMS	AMOUNT
Personnel - Salaries	
Investigator A	30,000

Technician	10,000
Personnel – Fringe Benefits	
Investigator A	9,900
Technician	3,300
Health Insurance	
Equipment	
Centrifuge	1,200
Computer/Software	
Materials and Supplies	
Cell Lines	5,000
Pipettes/Glassware	600
Prototype design Animal Study Costs	
Other Direct Costs	
Machining Costs	10,000
Subcontract to Acme, Inc.	20,000
Tuition	
Patent Expenses	10,000
Subtotal	100,000
COMMERCIALIZATION PLAN	
FDA Regulatory consultant	5,000
Business Consultant	2,500
Market Research Study	2,500
I-Corps:	Up to 5,000
Travel to X customers	
Mentor	
Subtotal	15,000
TOTAL PROJECT BUDGET	115,000

2. Commercialization Planning Section

A description of a Commercialization Planning project must be included as a separate one page section of the proposal. The goal of the Commercialization Planning project is to develop a viable business model or licensing strategy to commercialize the subject technology. The Commercialization Planning project should be generally described in the submitted Technology Assessment application. The applicants will have an opportunity to refine their project for presentation midway through their project, as described below. A separate budget should also be provided at the mid-term presentation. Commercialization Planning might include regulatory

strategy development, market assessment, reimbursement strategy development, proposed team (if known at that time), etc. **The focus of the Commercialization Plan should be on identifying and working out specific, high risk portions of the business model. A final Commercialization Plan will be a specific deliverable due with a final report upon completion of the Technology Assessment project.**

There will be three discussion points on the Commercialization Plan during the nine months:

1. An initial Commercialization summary (one page), and budget, must be submitted at the time of the application. (This can be a general overview and budget; however, by mid-term, more details will be required.)
2. At the mid-term presentation, the PI is expected to providea concise commercialization overview of the project. (If an appropriate and viable Commercialization Plan is not articulated by the PI, the $15,000 commercialization planning budget may be terminated at the mid-term.) The PI should address the following points during the mid-term presentation:
    a. Provide a detailed update on the commercialization plan, including timelines, team and deliverables.
    b. List the key development and commercialization issues that you plan to address during the project period.
    c. Explain how you will address these issues, listing the consultants, advisors or other resources that you will use.
    d. Provide the name(s) of the individual/team who will consolidate the information and reports generated to address the key issues discussed above, and who will write/prepare the commercialization plan.

3. The full commercialization plan will be required, as an addendum, to the final report. If the Commercialization Plan does not meet the required standards, the $15,000 may be terminated at the time of the final report.

The Commercialization Planning budget is $15,000 maximum and cannot be used in any part of the Technology Validation budget and milestones.

Applicants should understand that information required as part of the Application, i.e., the bulleted criteria described above, will not be considered by reviewers if it is only included in the Supplemental Materials.

3. Supplemental Materials

In addition, applications must include the following supplemental materials. These pages are counted as part of the maximum 15 page total:

a. A signed letter from the Qualifying University's technology transfer office indicating their approval of the project, certifying the Technology's disclosure reference number

and the status of the intellectual property (including filing dates) described in Section 'B.' of the Initial Application.

b. A signed letter from the appropriate Site Miner indicating their support of the faculty or entrepreneur submission and the fact that they have provided input on the application a minimum of two weeks prior to submission.

Applicants are encouraged to utilize students at business schools and other resources at the various Qualifying Universities in the development of their applications. Applications should also be developed through a collaboration involving the faculty inventor, a Site Miner, and the TTO responsible for the subject Technology.

Resubmissions

Response to Reviewer's Comments. In the event that an applicant's proposal is initially rejected and the applicant chooses to reapply for Program funding, the applicant must submit a written response to the reviewers' comments including how those comments were addressed in the resubmitted application. The Response to Reviewer's Comments may not exceed one (1) page and is not counted as part of the page count for the resubmitted application. (See Page Count Checklist below)

Include an *updated* letter from the Qualifying University's technology transfer office indicating their approval of the project, certifying the Technology's disclosure reference number and the status of the intellectual property (including filing dates) described in Section 'B.' of the Initial Application.

Include an *updated* letter from the appropriate Site Miner indicating their current support of this faculty or entrepreneur submission and the fact that they have provided input on the application a minimum of two weeks prior to submission.

Second Time to Third Time Submissions. Applicants who have been declined twice for the same application must skip the next application cycle before submitting a third time.

Review Process:

All applications for Program awards will be initially reviewed to ensure that they meet the minimum requirements, as specified in this RFA (the "Compliance Review"). Applications not meeting the minimum requirements will be rejected without further consideration and the applicant will be so notified.

Example Page Count Checklist:

Required

- Cover Page (not counted towards application count) 1 page

- Technology Validation	5 pages of application
- Commercial Planning	1 page
- TTO letter	1 page
- Site Miner letter	1 page
- Resubmission Response to comments (if applicable)	1 page
	10 pages subtotal

Optional (remaining 5 pages)
- Support Letters
- References
- Bio
- I-Corps letter

A complete submission (all sections) cannot exceed a total of 15 pages or it will be rejected without consideration.

Application Review Process

Following the Compliance Review, all Applications will be assigned by the Program Manager to a number of reviewers for review and preliminary scoring. All Applications receiving average scores above a threshold determined by the Program Manager will be brought to the full MII Review Committee for discussion and final scoring. The Program Manager may bring Applications scoring below the threshold to the Review Meeting under special circumstances, which shall be determined at the sole discretion of the Program Manager. All Applications will be ranked according to their final scores and the top scoring applications will be recommended to the MII Board, which will have the final authority to approve funding. The MII Review Committee will consist of representatives of the business and investor community and TEDCO staff.

Each applicant will receive a copy of the reviewer comments and scores at the end of the process, whether the applicant is approved or declined.

All Applications recommended for funding by the MII Review Committee, or TEDCO Staff, will be finally approved by the Maryland Innovation Initiative Board, as defined in Section 10-455 of the MII Statute.

Review Criteria:

Applicants will be evaluated on each section of their proposal and the applicant's ability to address *each criterion listed in each section*. Consideration will be based on how completely the applicant has provided information requested for each section and how convincingly the applicant has made a case for the commercial opportunity based on the subject Technology.
Other criteria that will be considered by the reviewers are: the novelty of the Technology and the approach to solving a problem (meeting a market need), the strength of the Technology's competitive advantage (intellectual property position), the likelihood that a University Start-up

will be created based on the Technology, the market/commercialization opportunity represented by the project, and the team's ability to carry out the project.

Scoring:

Reviewers will use the following system for scoring applications:

Score	Description
5 – Excellent	The applicant has included all of the required information and has made a very convincing argument in support of the criterion being scored.
4 – Above Average	The applicant has included all of the required information and has made a reasonable argument in support of the criterion being scored.
3 – Good	The applicant has included most of the required information and has made a fair argument in support of the criterion being scored.
2 – Fair	The applicant has provided most of the required information but has not made a fair argument in support of the criterion being scored.
1 – Poor	The applicant has not provided enough of the required information to make a fair argument in support of the criterion being scored.

All criteria will have an equal weighting of 1.0 except for the 'Commercialization Pathway and Risk Assessment' score and the 'Project Description, Milestones, and Detailed Budget/Justification' score, which will each have a weighting of 2.0. The weighted scores from assigned reviewers will be averaged and assigned to applications as a preliminary score.

After presentation of the preliminary scores and discussion of applications at the MII Review Committee Meeting, applications will receive a final score based on an average of all the overall scores provided by the MII Review Committee Members, excluding the Site Miners.

Applications will be ranked by average final score and submitted to the MII Board for review and final approval, approximately 75 days after the initial submission.

Closing and Award Payments:

Once the proper approval for a project has been obtained, the University will be asked to execute an agreement and **the Principal Investigator will be asked to immediately start working on the Project**. The agreement will detail the conditions of the award and it will include an agreed upon number of mid-term and final milestones for each project and the dates that Mid-term and final project reports (as described below) are due.

All PI's are expected to present in person for the mid-term review. (Details will be sent approximately one month prior to the mid-term of the project, based on the date of the executed agreement.) All PI's should know the start date (the signed agreement date) of their MII investment, as well as the end date.

Award payments for Technology Assessment projects will be made as follows: 25% following execution of the grant agreement, 50% upon submission and approval of a Mid-term Report and the successful completion of approved milestones, and 25% upon submission and approval of a Final Report.

Any changes to the original, approved budget must be submitted in writing and approved by the Program Manager, in advance. The final expense report must match, including subcategories, the approved budget, within plus/minus 10% in order to be approved.

In all cases, any unused funds must be returned to TEDCO serving in its capacity as the administrator of the Program.

Reporting Requirements:

Innovation Commercialization Program awardees must submit the following reports to the MII Program Manager including:

a. **Award Manager Meeting** – each applicant is required to meet with the MII Award Manager at least once, prior to the mid-term. This is to assist each awardee in understanding and meeting expectations for the program. This is also an opportunity for the awardee to share feedback, discuss ideas and ask for additional assistance. A total of three touch points will occur during the course of the award.

b. **Mid-Project Reports**, (*in-person* PowerPoint presentation at TEDCO's offices) which must include a description of project activities and results to date, the progress toward meeting mid-term milestones, an accounting of expenditures charged to the award, and details on the proposed Commercialization Plan and budget – TEDCO will request copies of the slides in advance;

c. **Final Reports**, (limited to 5 pages, plus the Commercialization Plan) which must provide an overview of all activities undertaking during the course of the funded project, a description of the results of the project, the impact on commercialization, the success with achieving the proposed milestones, a full accounting of all expenditures charged to the award, and suggestions for ways to improve the Program;

d. **Economic Impact Reports**, which must be provided on an annual basis for a period of ten (10) years following the award date of the last completed Phase funded through the Program.

Program Information:

Inquiries regarding the Maryland Innovation Initiative program should be directed to:

Arti Santhanam
Director
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410-715-4182

Silvia Goncalves
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All administrative, contractual, and accounting questions should be directed to Silvia Goncalves.