

Thank you for your interest in applying to the Phase-2 commercialization competition of the PA Assistive and Intelligent Systems Technology Commercialization Initiative (PATCI). PATCI is a state-wide initiative managed by The Technology Collaborative (TTC) with help from our economic development partners, including Idea Foundry, Innovation Works, and the other Ben Franklin Technology Partners across the state. Funding for PATCI comes from foundation grants and from the Commonwealth of Pennsylvania through contracts administered by the Department of Community and Economic Development.

**New for Academic Year 2009-10, PATCI has expanded its technical scope beyond Assistive Technologies and now also supports product commercialization projects and Phase-2 applications for intelligent systems technologies within TTC's member company focus areas of advanced electronics, embedded systems, cyber security, and robotics.**

The PATCI Phase-2 review process is coordinated by TTC and Idea Foundry, and the accompanying application form is based on the Idea Foundry Transformation Fellowship Program application. Thus, specific guidelines relevant to the PATCI Phase-2 application form may be found on the Idea Foundry website at <http://www.ideafoundry.org/ideatransformation/index.htm>.

Please complete the application as thoroughly as possible and return it to Mark Borger at TTC ([markb@techcollaborative.org](mailto:markb@techcollaborative.org)) **no later than 5:00 PM EST on April 16, 2010**. If you have any questions or would like advice on filling out the form, please reference our contact information at [www.techcollaborative.org](http://www.techcollaborative.org).

Please review this document in its entirety so that you understand the PATCI program, its objectives and requirements, the criteria to be considered in the Phase-2 award competition, and the designated uses of Phase-2 award funds. The specific steps that you must follow to participate in the Phase-2 award competition are:

1. Receive Phase-1 funding through your University and successfully complete your Phase-1 project.
2. Be recommended by your University for the state-wide Phase-2 award competition.
3. Fill out the Phase-2 application and submit it by the published deadline.
4. Provide any additional information and a presentation, if requested by the award review committee.
5. If selected for a Phase-2 award, work with TTC staff to execute a Commercialization Grant agreement.

The award review committee meeting will be scheduled during the last week of April 2010. If you are selected to present to the review committee, we recommend that your presentation cover the following, at a minimum:

- Product/technology description and current status (Sections B, E.1, E.2, and E.4 of the PATCI Phase-2 Application)
- Customers/market potential and competition (Section E.3)
- Plans for commercialization (Section C)
- Status of IP protection (Section E.6)
- Team qualifications and interest in forming a company (Sections E.7, E.8)
- Planned use of PATCI Phase-2 funding

## PATCI Program Overview

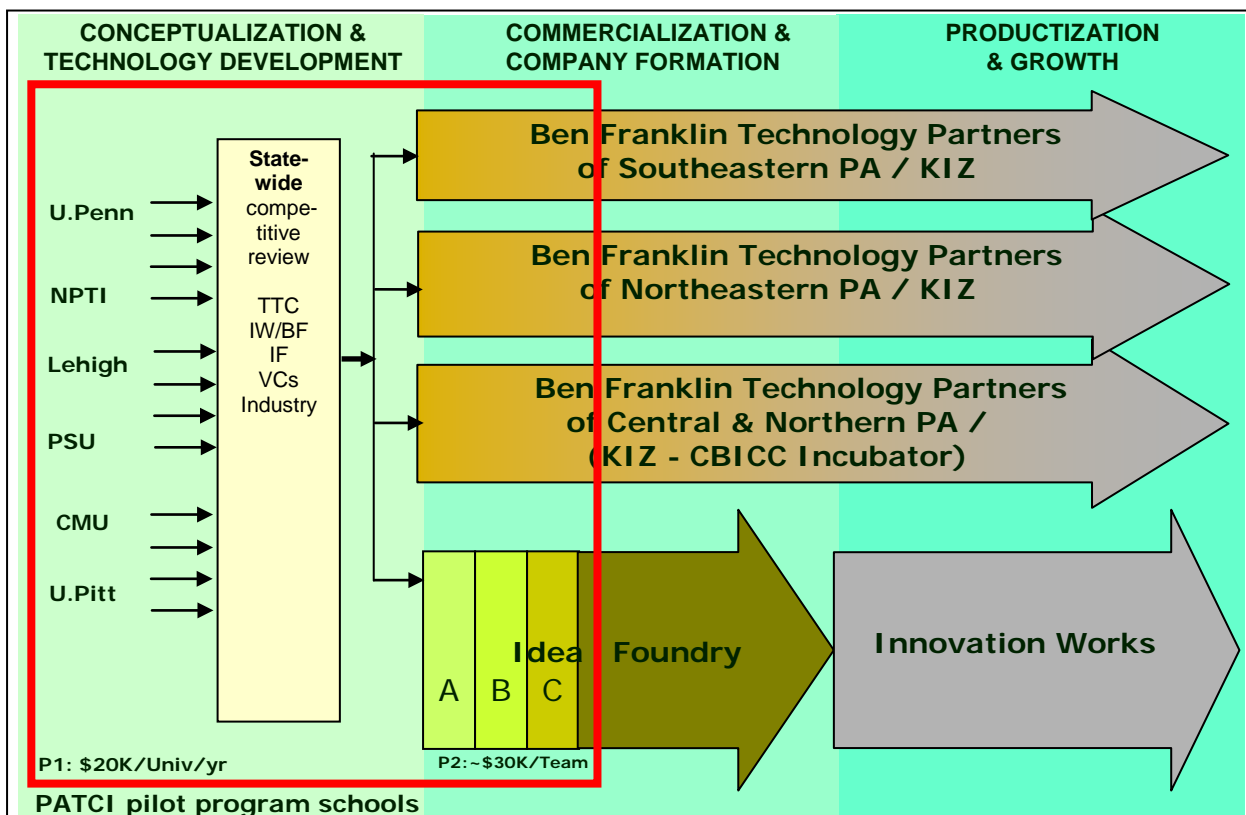
The generic terms "Assistive Technologies" and "Intelligent Systems" refer to a broad range of technologies, devices, and related services. Assistive Technologies (AT) help people with disabilities and chronic conditions of all ages with virtually all aspects of their lives, and enable people who are aging and persons with disabilities to independently perform daily-living activities, and to fully participate in their community. Intelligent Systems refer to the broader range of technologies and products of interest to TTC and its member companies. Specifically these technologies encompass advanced electronics, embedded systems, cyber security, and robotics.

TTC's PATCI program objective is to assist and encourage entrepreneurial students to work on technology solutions to problems in Assistive Living, Quality of Life, and Intelligent Systems that have commercialization potential. Multiple PA Universities were identified to receive Phase-1 grants to support student projects. Key to selecting suitable project teams for Phase-1 funding is the potential of a project to produce results with commercialization potential. Phase-2 of this program will offer successful projects a defined path toward company formation and product commercialization.

Successful Phase-1 projects may be eligible to participate in a state-wide competition for Commercialization (Phase-2) awards. The guiding tenets of the PATCI program are to:

- leverage existing university instructional programs and resources
- focus on entrepreneurial and multidisciplinary student project teams
- involve multiple Universities across the Commonwealth
- provide a continuous path to commercialization from university student project conception and development through company formation and Seed Stage funding
- spend all funds in direct support of the program, with no indirect costs and extremely low operational costs.

The figure below illustrates support pathways that are currently available for technology commercialization in Pennsylvania. In Southwestern PA the Idea Foundry, Innovation Works, the Greater Oakland Keystone Innovation Zone (KIZ), and TTC all have programs to help technology start-up companies. Likewise, the Ben Franklin Technology Partners offices in other parts of the state serve similar roles, in partnership with their own KIZs. PATCI as a new initiative is designed to reach into the universities and provide direct support to entrepreneurial student projects (Conceptualization, or Phase-1). Once student projects are identified and funded, additional effort is required to carry the best ideas through company formation and product commercialization (Commercialization, or Phase-2), and ultimately to the point of venture or seed funding (Productization).



## ***Phase-1: Conceptualization***

The program begins in the “Conceptual Phase” by facilitating proof-of-concept through small-scale project funding. Student project teams receive funding that can be used for purchase or lease of necessary hardware and/or software to create a functional product prototype. Likewise, they may use funding to obtain commercial market study or market research data relevant to their product and market. Completed projects will be reviewed by the University; especially meritorious projects will be presented to an external review panel for consideration of next-stage funding. This external panel provides a formal review process to evaluate student projects, and to select those suitable for follow-on commercialization support. It will include representatives from public economic development agencies, commercial entities, the TTC project team, business / technical experts, and others as appropriate.

## ***Phase-2: Commercialization***

In the second (Commercialization) stage of this process, a limited number of student projects are selected for commercialization grants and then placed on the path toward business formation and seed funding. The selection criteria to be used by the external panel will include technical merit of the AT/Intelligent Systems project, but will also place strong emphasis on the business / market potential of the product and entrepreneurial motivation of the student team. The goal is to select those projects most likely to lead to new commercial products. Commercialization grants awarded to those projects are intended to carry them through company formation and technology commercialization, and prepare the new company for Seed or Series A funding.

## ***Phase-3: Productization***

The Productization Phase is not a focus of the PATCI program. Rather, the objective of PATCI is to prepare young companies for their first infusion of investment capital. The program will facilitate this hand-off and track and report results.

## **Programmatics**

The PATCI program is designed to fill a need that is not currently being met through other economic development programs. For example, TTC’s Technology Commercialization Initiative is a significant resource for funding academic and industry research projects that have multiple industry partners and serious commercialization potential. However, this program targets Research and Development organizations, and is not directly accessible to students. Other TTC programs offer business support and incubation services to existing start-up or spin-out companies, but these programs aren’t set up to encourage students to become involved in start-up company activities immediately upon graduation. Carnegie Mellon, University of Pittsburgh, Penn State, Lehigh, Penn, and others have programs to encourage entrepreneurialism among the student population, but none are specifically focused on AT/Intelligent Systems Technologies. There are other publicly funded organizations that can provide support and funding for company formation and technology commercialization and productization, including: the Idea Foundry and Innovation Works in Southwestern PA, as well as other Ben Franklin Technology Partnership offices across Pennsylvania. Again, their charters are much broader than AT/Intelligent Systems, and none of these organizations are chartered to support University student projects.

## ***Confidentiality of Application Information***

Members of the PATCI Phase-2 Review Panel acknowledge the confidential and proprietary nature of the information disclosed on the application. We will use this information solely in the competitive evaluation for possible Phase-2 PATCI support, and for possible entry into follow-on economic development programs.

## ***Intended Use of Phase-2 Commercialization Awards***

During the commercialization phase of the PATCI program, the emphasis changes from proof-of-concept and preliminary business plan, to in-depth business planning and market development. It is assumed that a project advancing to this stage has already demonstrated technical merit, and that business-oriented goals must now be addressed. While some teams may request to spend a portion of the commercialization grant funding to further develop prototype hardware and/or software, the majority of the resources and effort are expected to be allocated to business/market development.

Phase-2 commercialization grants will be awarded to a start-up company formed by the student team, to a University or 3rd party incubation program provider on behalf of the team, or in special cases directly to the awardees' team in the form of a consulting services agreement with deliverables linked to specific commercialization activities.

Funding can be used for costs to incorporate the company (e.g., legal fees and advice, business and financial consulting, etc.). Likewise, funding may be used for travel to talk to potential partners and to survey potential customers. Other anticipated expenses include purchase of market survey data, or other business reports.

Finally, it is anticipated that companies will need to obtain minimum levels of pre-seed funding (e.g., from friends, family, or angel investors) as they move from Phase-2 (commercialization) into Phase-3 (productization). Thus, Phase-2 grant funding can also be used for limited amounts of travel, marketing, and other legitimate expenses incurred during preliminary fundraising.

## ***Awardees' Requirements and Spending Restrictions***

PATCI awards will be subject to all restrictions placed by the funding agency in their master agreement with TTC. Additional restrictions include, without limitation, the following:

- (i) grant funds may not be used to pay salaries of University Faculty, staff, or administrators;
- (ii) grant funds administered through a University may not be encumbered with University indirect costs;
- (iii) recipients including Universities, Idea Foundry, Incubators, start-up companies, and/or Ben Franklin offices must keep suitable records regarding the use of Grant funds, and must make such records available to the Commonwealth and TTC for audit upon request. Such record will include specific project awards, project status, expenditure of funds, and disposition of purchased equipment and supplies;
- (iv) student recipients agree to make available for TTC internal review all written project reports, papers, or other documentation developed as part of a course project report or a prize competition in their AT/Intelligent Systems product commercialization effort. TTC will maintain confidentiality of this information, and places no claims on intellectual property resulting from funded program activity. Normal University intellectual property policies will apply.
- (v) University program coordinators agree to participate in, and provide any needed documentation for review of completed projects for the purpose of consideration in the selection for follow-on Phase-2 commercialization awards; and
- (vi) the University will make its best effort to not recommend projects that have known intellectual property limitations preventing commercialization. If pre-existing university-owned IP is necessary for the commercialization effort, the University agrees to negotiate fair and reasonable industry-accepted terms.