ILLINOIS INNOVATION VOUCHERS

SAMPLE PROJECTS

The Illinois Innovation Voucher program is designed to foster research, development, and commercialization in key industry sectors to create new products and services that can lead to economic and job growth in the state. The program invites a wide range of project types across multiple industries, including, but not limited to: Agribusiness and Agtech, Energy, Information Technology, Life Science and Healthcare, Manufacturing, Transportation and Logistics.

To support applicants, ISTC has gathered examples of projects from similar voucher programs. These examples are intended to provide context as well as inspiration for potential applicants by demonstrating exceptional approaches to project scope and exceptional use of project funds. These examples include projects that leveraged funds to support:

- Use of Facilities Research
- Sponsored Projects by Professors and Research Teams
- Prototyping and Proof of Concept

The Illinois Innovation Vouchers can support these project types and more. To understand if your project is eligible for funding, please explore the FAQ and/or reach out to ISTC staff here.

Use of Facilities Research

Universities in Illinois feature bright minds and also incredible labs and research facilities. Quantum research at the University of Chicago is often piloted at the Superconducting Quantum Materials and Systems Center. The University of Illinois is home to the National Center for Supercomputing Applications. Several universities across the state feature lab space where cutting edge biomedical research is done. Innovation Vouchers can be utilized to perform research in these amazing centers attached to universities and give SME's access to the groundbreaking software, technology, and resources they need to improve products and services.

Example #1: Black and Decker with the University of Maryland Baltimore County (UMBC)

- **Program:** Maryland Industrial Partnership Program (MIPS)
- **Project Link**
- **Project Overview:**
    - UMBC researchers conducted a systematic study on the drill bits that Black and Decker was wanting to bring to market. The project utilized experimental facilities at the University of Maryland to validate a new model of drill bits that outperformed the industry standard. The research used 3D wave propagation and a combined egress and impact modeling system. Final stages of the project were focused on fabrication and manufacturing and the product was launched soon after completion. Annual sales estimates related to the improved bit design amount to several million dollars according to the MIPS program leadership.

Example #2: Dryad Global with The University of Tennessee-Chattanooga

- **Program**: Tennessee RevV
- **Project Link**
- **Project Overview:**
    - UTC Researchers aided former U.S. Navy and Coast Guard Founders in the creation of data processing software. The logistics data that the SME collected were provided to UT-Chattanooga team led by Professor Anthony Skjellum. On the program itself Skjellum said ""It's important to us to be the university for Chattanooga and that means helping Chattanooga to advance. Whenever possible, we need to engage in industrially relevant work, and RevV does that perfectly. It provides a straightforward way for us to engage and focus on doing our part really well." The outcome of their research was a new and improved Automated Risk Management Solution which was a software solution to ingest data from thousands of sources, including social media, to provide automated risk management for shippers. The International Maritime Security Associates were able to segue their funding and their research opportunity into a major merger with Dryad Global. Professor Skjellum said "There's a pull-through effect. RevV was a big deal. One of our graduates went on to work for Dryad Global. That could persuade other people to get their degree at UTC in computer science and go to work for a startup."

Sponsored Projects by Professors and Research Teams

Professor ran research projects are the source of important technical information for industry leaders. Outcomes of these projects often include the creation of research publications in major

journals, and the knowledge shared within those publications can be applied within the private sector as well. For this reason, many universities solicit the support of private sector donors for specific projects on the front end, allowing businesses to help catalyze the types of innovations necessary to promote growth. These sponsored research projects require professors to lead in outreach to business partners and often include important agreements between the principal investigator at a university and the SME promoting their work. Securing S&L matching funds through the Innovation Vouchers program may assist professors in getting this research off the ground.

Example #1: Agri-tech Producers with University of Maryland Eastern Shore

- **Program:** Maryland Industrial Partnership Program (MIPS)
- **Project Link**
- **Project Overview:** Professor Arthur Allen and his team of researchers are assisting Agritech Producers LLC in refining their Combined Remediation Biomass and Bio-Product Production (CRBBP). Their process is to plant biomass sorghum in a phosphorus rich environment in Eastern Maryland to evaluate the effect on phosphorus levels. The goal is to improve the process for extracting phosphorus from the natural environment for use in other bio-products. The project is still ongoing

Example #2: Prometheus, Inc. with Naval UnderSea Warfare Center- University of

- **Program:** Rhode Island Commerce Corporation Innovation Vouchers
- Project Found in Annual Reports on Incentives
- **Project Overview**: Prometheus, Inc. is working with the Naval UnderSea Warfare Center to provide the experimental evidence demonstrating that Prometheus algorithms applied to acoustic data will find the delamination while a submarine is in water thereby providing a method to significantly reduce maintenance costs for the submarines by hundreds of millions over time. Andrew Hull is a long time expert in providing support to businesses and other researchers on rhythmics monitoring and acoustics. Prometheus is a mathematics and engineering research firm that specializes in the application of high-level mathematics to modeling, simulation and signal processing. The maintenance of the hull coating on Virginia Class submarines costs hundreds of millions of dollars over the program's lifetime. The delamination detection will prevent the unnecessary removal of hull coating portions during depot maintenance. In addition, the submarine need not be dry docked for this examination which means it can be done in advance of the depot maintenance so that workers can predict and order only the needed amount of material for repair of the subs.

Prototyping and Proof of Concept

Proof of concept projects are research-informed activities to prove the viability of a new product or service. They often involve a university research practitioner partnering with industry experts to facilitate knowledge sharing and promote commercialization.

Example #1: Anthrotronix, Inc. with The University of Maryland Institute for Advanced Computer Studies

- **Program:** Maryland Industrial Partnership Program (MIPS)
- **Project Link:**
- **Project Overview:** The University of Maryland Institute for Advance Computer Studies provided expertise in computer science and advanced interface technologies to aid the Anthrontonix team in creating a first of its kind, therapeutic tool for children with speech and language support needs. Jesterbot was the name of the robot that was created and it utilized the Anthrotronix team's past work on video games and digital storytelling to create a robot that helped with pediatric rehabilitation. The model was refined after the completion of the project and the newest version is called the CosmoBot V3. The Anthrotronix team has successfully scaled its startup into the digital health space as a result of the MIPS program and generous support from the National Science Foundation. Anthrotronix also received FDA clearance for a later device created in 2014 and, as of 2016, had generated close to $24M in revenue.

Example #2: Blue Wave Semiconductors with University of Maryland Department of Material Science and Engineering

- **Program: Maryland Industrial Partnerships Program (MIPS)**
- **Project Link:**
- **Project Overview:** Goal of the project was to increase the life cycle of semiconductors by improving the semiconductor manufacturing process. Team developed highly sensitive UV detectors for use in sensing. These sensors were utilized in the testing process on a new high-temperature ceramic coating for heaters utilized in the creation of nanotechnology (i.e semiconductors and component parts). The project resulted in the creation of 15 new jobs at Blue Wave and their team was able to segue the research into future federally funded projects through the America's Seed Fund initiative. Their team estimates that around $2.5M in revenue and grant funding came in as a result of the MIPS funded project.