

The University of Wisconsin Northwest Emerging Technology Gateway

Applying Research to Advance Commercialization, Job Growth, and Economic Development

UW-Stout (Stout) and UW-Eau Claire (UWEC) request \$5,169,870 in funding to expand collaborative research capacity and impacts. The proposed initiative is an effort between Stout, UWEC, and industry partners to apply UW System (System) research capacities to facilitate technology transfer, advance commercialization, and enhance global competitiveness through collaborative projects with industry, educational institutions, and economic and workforce development organizations. This proposal strongly supports the System educational attainment, growth agenda, and Research to Jobs goals, and closely aligns with each campus' strategic plan.

1. Request

The proposed joint initiative offers reduced administrative overhead while leveraging the unique collaborative strengths of each institution with the specific goals of:

- 1) Strengthening and expanding the applied research strengths of Stout and UWEC to address industry challenges and advance job growth
 - a. Strengthening and expanding the Stout Discovery Center's leadership capacity as a demonstrated regional catalyst for integrated cross-disciplinary and cross-institutional applied research;
 - b. Enhancing and expanding UWEC's established program of excellence in faculty student collaborative research, with special emphasis on the Center for Adaptive Microsystems.
- 2) Building and leading essential partnerships in Northern and Western Wisconsin that tap the optimal combination of System's accomplished faculty, engaged students, and state-of-the-art laboratories to advance applied research projects with measurable commercialization potential
 - a. Increasing the number and pace of product development and collaborative industry projects that carry innovation forward to commercialization;
 - b. Infusing new technologies into industry that will reinvigorate businesses and increase their global competitive position;
 - c. Establishing a shared infrastructure that fosters a culture of entrepreneurship among faculty, students, and industry partners.

Funding will be used to hire faculty/staff that serve dual roles as instructor and applied researcher, to advance emerging technologies and disciplines, to support applied student research, to enable entrepreneurial internships and experiences for students, and to fund robust System collaborations that drive economic development.

2. Background and Justification

This proposal is aligned with Stout's select polytechnic mission and UWEC's accomplished faculty/student research efforts, and will establish a gateway to the cross-disciplinary applied research assets of both institutions. The gateway will serve to 1) provide industry access to all of the universities' technology transfer and economic development activities; 2) leverage a shared support structure for connecting applied research to the entrepreneurial process; and 3) extend the reach of these collective assets and activities through regional and industry partnerships resulting in the creation of higher-skill, higher-wage jobs. This unique model optimizes collaborations with faculty/staff at any UW Comprehensives with expertise in specific disciplines.

3. Outcomes

This joint initiative targets resources toward unique desired outcomes of each campus as well as toward the shared infrastructure outcome required by both campuses. This proposal seeks funding for:

- Creating a single infrastructure and access point at Stout for connecting regional industry needs with the applied research assets of both campuses and partnering institutions, and integrating entrepreneur support of each campus' research agendas with the Heyde Entrepreneur Program at UWEC.
- Increasing the capacity of Stout's Discovery Center and its demonstrated capability to quickly and efficiently apply research and technical assistance to collaborative projects across multiple disciplines with measurable and verifiable outcomes. In the first nine months of operation, the Discovery Center has engaged over 250 faculty and students in more than 60 collaborative industry research projects including fuel cell development (Stout incubator client w/faculty from Stout, UW-Stevens Point, and UW-Green Bay) and extensive support of a start-up gluten-free commercial bakery (Mgmt. and Food Systems).

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- Increasing the capacity of UWEC’s industry-focused applied research, specifically its Center for Adaptive Microsystems (CAM), a collaborative emerging technology center involving academic institutions (UWEC, Stout and Chippewa Valley Technical College) and industry partners. CAM and access to UWEC’s Materials Science Center faculty and instrumentation is a primary reason for Resonant Microsystems locating in the Chippewa Valley, with employment of 100 expected within 2-3 years.

These applied research projects (list of actual projects attached) present internship opportunities for System and Wisconsin Technical College System (WTCS) students, further demonstrating the effective utilization of a shared talent pool (faculty, student, industry) and leveraged relationships (System, WTCS, local/national industry partnerships) to advance innovative solutions and generate significant industry and entrepreneurial investment. This initiative will result in an estimated increase in annual industry project revenue of \$300,000 to \$500,000.

4. Relationship to UW System Growth Agenda and Research to Jobs Recommendations

This proposal is built on proven and effective collaborations among System institutions and industry partners, and leverages multiple federal, State, and private funding sources to launch projects resulting in globally competitive companies growing well-paying jobs for Wisconsin workers and UW System graduates.

This proposal will allow Stout and UWEC to:

- 1) Advance job creation through start ups by expanding efforts with entrepreneurs in business development, product development, and job creation activities;
- 2) Grow mature businesses by expanding access to focused collaborative research assets, interactive web resources, and applied instruction;
- 3) Communicate the critical role of UW applied research to the public and industry by committing the resources of the growth agenda to engage in and report on impacts-focused and high-profile collaborative projects, leverage alumni and business partners to enhance project portfolio, capture business and community opinion using survey research tools, and utilize new technologies to disseminate accomplishments.

The proposal will also allow System to make substantial progress on the Research to Jobs recommendations related to emerging technology centers and entrepreneurship.

5. Budget Detail

This proposal will be implemented in phases. Initial applied instruction and center support will be hired in 2011-2012 with full implementation of all initiatives by the fall of 2013. In 2011-12, we are requesting: Stout applied instruction and corporate relations support (unclassified staff, 3 FTE, \$75,000 each). It is projected that 10 additional projects annually will be launched for each applied instructor hired. UW-Eau Claire applied research coordinators (unclassified staff, 2 FTE). We are also requesting clerical support (3 FTE, \$32,000 each), and equipment, services and supplies (\$180,000). In addition, we are requesting \$100,000 in student help to start (Stout) and expand (UWEC) a summer research program and for web development support at UW-Stout to link to the Discovery Portal at Madison. Our total request for 2011-12 is \$1,051,500.

In 2012-13, we are requesting: Additional Stout applied instructors (unclassified staff, 8 FTE, \$75,000 each), UWEC applied instructors (unclassified staff, 8 FTE, \$90,000 each), staff to support research compliance (unclassified staff, 1.5 FTE, \$75,000 each) which can be shared with collaborating institutions, and staff to provide entrepreneur development support (unclassified staff, 3.5 FTE, \$90,000 each). We are also requesting graduate assistant support (\$106,513, 5 FTE), additional student summer research support (\$40,000) and services and supplies (\$220,000). Our total request for 2012-13 is \$3,066,870 for a biennial total of \$5,169,870.

Matching Funds for this Proposal

Stout		UWEC	
Transformational leadership endowment	\$2,000,000	Research grant program support	\$ 500,000
Research grants/stipends/fellowships	95,000	Materials Science Center	950,000
EDA (US DOC) for qualified projects	160,000	Dennis L. Heyde Entrepreneur Center	100,000
NIST-MEP (US DOC) for qualified projects	150,000 to 500,000		