

The UW System's Strategic Framework to  
**Advantage Wisconsin**

**Think Tank #3: High-Paying Jobs  
Report**

In advancing the Growth Agenda for Wisconsin, we've made considerable headway in convincing people that our state faces major challenges, and that a renewed emphasis on higher education is vital to our future. To further this public conversation, we have worked with the Board of Regents, chancellors, faculty and staff, students, external stakeholders, and others on a strategic thinking initiative called *Advantage Wisconsin*.

We have identified seven core strategies the UW System should pursue to deepen our positive impact on the state: Prepare Students, More Graduates, High-Paying Jobs, Stronger Communities, Resources, Operational Excellence, and Collaborations. These seven strategies form an umbrella under which we can work together to enhance the success of each institution.

A series of cross-institution Think Tanks, along with campus groups, have been developing key ideas for how we move ahead with the seven core strategies. Each Think Tank involved external constituents to provide an outside perspective.

On behalf of the UW System, I would like to thank the dedicated members of Think Tank #3: High-Paying Jobs, for their contribution of ideas and the development of this report. Faculty, staff, business, and community leaders gathered together for brainstorming sessions to develop multiple ideas and concepts regarding increasing the creation of high-paying jobs by expanding our research enterprise, while linking our programs to entrepreneurship.

**This paper represents the views and ideas of the Think Tank members; these are not findings of fact, but initial thoughts and suggestions.** In addition, feedback from multiple University, community, and business entities has been helping, and will continue to help, shape an enriched System-level strategic framework to *Advantage Wisconsin*.

Your input and participation is encouraged. Please consider helping us with this important effort by providing your ideas and perspectives. Use our feedback form at: <http://advantage.wisconsin.edu>

Thank you for your interest and involvement. I look forward to leading *Advantage Wisconsin* in a way that helps every resident feel a personal stake in the success of the UW System, and that places our University system at the top of the list in public universities positively transforming their states.

Best regards,



Kevin P. Reilly, President  
University of Wisconsin System

**Advantage Wisconsin**  
**Think Tank #3: High Paying Jobs**  
**Final Report**

**Think Tank Charge:** *How can the UW System increase the creation of high-paying jobs by expanding the university research enterprise while linking academic programs to entrepreneurship and business development?*

**Think Tank Membership:**

- Mark Bugher, Research Park Director (UW-Madison), Chair
- Maliyakal John, Managing Director, WiSys
- Beth Norris, Workforce Development Center (UW-Parkside)
- Jerry Hembd, Professor, Economics (UW-Superior)
- Bob Meyer, Director of the Stout Technology Transfer Institute (UW-Stout)
- Gerry Ring, Professor, Engineering & Paper Science (UW-Stevens Point)
- Al Hartman, Dean, College of Business Administration (UW-Oshkosh)
- Bob Ihlenfeldt, President Chippewa Valley Technical College
- Alex Vodenlich, President CEO, GenTel Biosciences
- Patricia Lipton, Board member, WARF and Madison Museum of Contemporary Art
- Kris Andrews, UWS Federal Relations
- Melissa Kepner, UWS Academic & Student Services

**Executive Summary**

Innovation is at the heart of high paying job creation. Innovation, translated into new products and processes, creates rapidly growing start-up companies and enables existing companies to grow. The tremendous success of UW-Madison's technology innovation in creating new companies and more high-paying jobs should be used as a model for the UW System as a whole. We can and should expand our research enterprise across more campuses while increasing the speed with which we move research into products at UW Madison, UW Milwaukee and the comprehensive campuses.

We have three primary recommendations for the UW System to become a stronger catalyst to the creation of private sector high-paying jobs:

**1. Expand faculty research across UW campuses**

*Creating funds to expand research is an investment in the state's future economic growth. Research leads to new groundbreaking ideas that are at the heart of innovation. Innovation drives the creation of new offerings in existing companies, new companies and new high-paying jobs. New start-ups also create the wealth that increases investment funds for new Wisconsin start-ups.*

**2. Accelerate technology transfer in emerging technologies**

*Bringing emerging technologies to market faster creates competitive advantage to existing and new Wisconsin companies that create products and services from these technologies. The end result is more high-paying jobs and a more promising economic future for the state. We need to reduce barriers so as to speed up technology transfer. A key gap in the speed of technology transfer is the translation of intellectual property from research into a business plan to realize its potential. A lack of management talent for technology transfer also serves as an impediment to creating new high-paying jobs. The more UW campuses can do to speed up this process, the more rapid our technology transfer will be.*

**3. Strengthen alignment of educational offerings with business needs**

*Students need to be prepared for an economy driven in large measure by emerging technology. They will need to become life-long learners as a result. If we develop new ideas and successfully accelerate technology transfer, but we do not have students prepared for these jobs, new high-paying jobs will be created in locations outside Wisconsin where needed talent does exist. To meet the high-skill, high-demand needs of the new Wisconsin economy, it will be essential for students to have an understanding of innovation and entrepreneurship as well as the academic skills and knowledge that enable innovation. Science and math preparation in PK-12 is also vitally important to college students' success in college and careers in the new economy.*

Generation of key ideas for executing the three core strategies was informed by research the Think Tank Team conducted with business leaders represented on the boards of Competitive Wisconsin, Wisconsin Manufacturing and Commerce and the Wisconsin Technology Council. In addition, some of the business ideas are incorporated into the recommendations of other Think Tanks.

**Key ideas for executing the three core strategies**

**Overarching ideas**

- Linking educational program changes, research and technology transfer efforts with Regional Economic Development Entities will enhance the success of our core strategies. In particular, this will provide a window into statewide labor force needs and emerging technology and market opportunities.
- In addition, a statewide public communication effort that showcases and celebrates innovation and entrepreneurship in Wisconsin, including UW's contribution to high paying job creation will positively change the attitudes of Wisconsinites towards innovation and business. A culture embracing innovation accelerates high paying job creation.
- We can accelerate the creation of high paying jobs by strengthening the tie between faculty involved in basic research and those doing applied research at Madison,

Milwaukee and the comprehensive campuses. Both research roles are necessary and their connection allows for technology transfer and the flow from theory to practice to occur, whereby new high paying jobs are created.

- As the nation's most successful public University in securing federal grants, it is vitally important that we not reallocate dollars from UW Madison to expand research in other UW campuses, nor impose requirements for collaboration with other UW campuses that could limit UW Madison's success in securing grants. At the same time, there is high value in the creation of information networks and system-wide conferences that link potential basic and applied research collaborators across UW campuses.
- Business also expressed the importance of a state policy environment conducive to economic growth. The UW is advised to study and advocate for policy changes that would advance entrepreneurship and business development in Wisconsin. Promoting the value of keeping corporate headquarters in Wisconsin is also advised.

### **Expand faculty research across UW campuses**

- Increase campus-funded grants and release time while removing legal barriers and building needed infrastructure for research. Business partnerships and grants, in addition to more GPR funds, create expanded funds for research. Comprehensive campus research is vitally important to the growth of regional economies and student learning. Release time funding, infrastructure and legal obstacles are key barriers.
- Elevate the importance of applied research in hiring, evaluations and promotion decisions at all baccalaureate degree-granting campuses
- Dramatically expand faculty and student engagement in Wisconsin companies through initiatives such as:
  - \* Sabbaticals to update skills in emerging technologies and engage in applied research and technology transfer
  - \* Student research projects that advance faculty members' research and students' understanding of innovation
  - \* Engagement with business leaders to help identify and shape potential research efforts and technology transfer and with entrepreneurs to teach the value of and tool for innovation
  - \* Proactive orientation of faculty to the multiple benefits of technology transfer for faculty, student, University and state/society. More technology transfer to Wisconsin companies and entrepreneurs will create more resources for faculty, campuses and students.

## **Accelerate technology transfer**

- Create teams of business experts who will move UW intellectual property closer to job creation by writing a business plan that will appeal to angel and stage-one investors and/or existing company R&D departments. This activity can provide valuable innovation and entrepreneurship learning for UW students.
  - Business also advocated some public funding of these ideas.
- Create a visible, front door to UW research and intellectual property that will enable Wisconsin businesses to license intellectual property and connect with faculty from across the UW System (versus only in the business' own geographic area). Building the information network behind the "front door" can also accelerate UW Faculty members' ability to identify potential collaborators within the UW System. Business also asked that the front door be proactive, with far greater communication about UW intellectual property to Wisconsin businesses.
- Invest in emerging technologies through the creation of formal industry/technology-focused private-public partnerships/alliances that (i) link interested UW System faculty with Wisconsin companies and entrepreneurs; (ii) serve as catalysts to applied research and technology transfer; (iii) create infrastructure additions; and (iv) enable students to experience the fundamental steps of innovation (market analysis; technology strategy; business plan; etc.) Each campus can develop its approaches to execute this strategy, capitalizing on disciplinary strengths and local private/public partnerships and alliances. In many cases, collaboration across campuses may provide leveraging opportunities by combining strengths, thereby producing stronger public-private alliances and, therefore, better educational experiences, more successful research and stronger job creation.
  - Business also advocated the use of small grants for small and medium sized Wisconsin companies to work with the UW to adapt research findings to their companies.
  - Business also articulated the value of Centers of Excellence on each campus and consolidation of facilities to more efficiently meet regional needs from UW.

## **Strengthen alignment of educational offerings with business needs**

- Create a fast-track avenue to develop new courses and majors that address Wisconsin business' emerging needs. Currently, the policies and processes for developing new courses and majors is a time consuming process with many layers of governance and approval, making it difficult to keep curricular offerings current with emerging needs. Business respondents also advised flexible tuition in Engineering and other high-demand programs for expanding access.
- Develop a record system that enables students to take courses across UW campuses, colleges and Wisconsin Technical College campuses simultaneously or in whatever back-and-forth pattern enables successful career preparation.

- Pilot and create incentives for “career pathways” that proactively align high school, technical college and UW System offerings.
- Remove Faculty and payment system barriers to WTCS-UW collaborations. Increased collaboration between the systems will better advance students’ preparation and close labor force shortages in high paying jobs. (One example raised by business: advanced manufacturing automation degrees at UW and at technical colleges)
- Create new modes of teaching and expanded locations for coursework (degree and non-degree) for adults seeking to update and expand their scientific and technical knowledge and skills.
- Business respondents also advocated greater teaching of entrepreneurship to traditional and older students.
- In addition to aligning educational offerings, business also asked that more be done to make UW students aware of Wisconsin employment opportunities, including some tuition forgiveness for graduates who remain in Wisconsin for a period of time upon graduating.