

Empowering the Wisconsin Idea

The Future of Entrepreneurship
at the University of Wisconsin–Madison



Our stakeholders and global community form a thriving environment where research and entrepreneurship embrace boldness, risk, and discovery.

We can unlock the human potential that will shape the future and the lives of those we serve by fully integrating entrepreneurship with our research, teaching, and service missions.





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Working Group Members

Jon Eckhardt (CO-CHAIR)

Discovery Fellow, Wisconsin Institute for Discovery
Pyle Bascom Professor in Business Leadership, Wisconsin School of Business

Zach Ellis

Founder and Managing Partner, South Loop Ventures (MS '13)

Stephanie Furlong

Strategic Initiatives Manager, The Office of Business Engagement

Valarie King-Bailey

Founder and CEO, OnShore Technology Group, Inc. (BS '82)

Chris Kozina (CO-CHAIR)

Assistant Vice Chancellor, Industry Engagement (BBA '92)

Rock Mackie

Co-founder and Board Chairman, Centaur Medical Holdings
Emeritus Faculty, UW-Madison, School of Medicine & Public Health

Scott Resnick

Co-founder and COO, Hardin Design & Development (BA '09)

Anne Smith

Emeritus Faculty, UW-Madison Law School (JD '83)



Entrepreneurship is the next step, beyond an initial insight, beyond discovery, beyond publication, beyond a patent, that in many situations must occur for society to benefit from the production of new knowledge.

Introduction

Entrepreneurship is a process by which individuals pursue opportunities without regard to the resources they currently control [1]. This is a broad definition that encompasses a wide swath of economic activity spanning the arts, humanities, engineering, and science. It is inclusive of many forms of impact, including supporting the formation of nonprofit organizations and small businesses important to the social fabric of communities. Entrepreneurship is the next step, beyond an initial insight, beyond discovery, beyond publication, beyond a patent, that in many situations must occur for society to benefit from the production of new knowledge. Entrepreneurship catalyzes upward mobility, improves our state and nation, and is how we build the economy of the future.

To be successful, entrepreneurs must discover the needs and desires of others and find ways to serve them through the introduction of products and services. The very needs, wants, and desires of individuals are an expression of our humanity. Our needs at times are for ways to improve our health when grappling with an injury or disease. Sometimes our desires are to experience art, give a gift to another, or access a tool that can help us produce new knowledge. Sometimes our needs are unknown, as was the case at the dawn of the personal computer age, when a large gap existed between the vision entrepreneurs had for the usefulness of computers and society's understanding of the capabilities of personal computers. Like research and other creative acts, meeting the needs, wants, and desires of others through entrepreneurship requires the search for new knowledge, and in this sense entrepreneurship is entirely aligned with the most creative scholarly aspects of our enterprise. Entrepreneurship is impactful creativity.

The Wisconsin Idea is a vision for our university that sees our impact as more than an outcome at graduation or advancing a field of study; it's about how students, staff, faculty, and alumni can magnify the output of their rigorous search for new truths through application. Entrepreneurship has long been a way that the work of our university improves the lives of those who live far from our campus. Wisconsin entrepreneurship has saved lives and brought joy to millions of people, all while producing capital that has helped to fund our university's scholarly endeavors. However, we can do even more if we build a more porous vision for entrepreneurship for our university with even more entrepreneurship in our Wisconsin Idea. Students, staff, and faculty will create more startups, new businesses will thrive, alumni will raise more capital, we'll unleash new learning opportunities, and increase upward mobility.

In October of 2023, Chancellor Jennifer Mnookin charged our ad hoc working group to advise on how our university can better support entrepreneurs, and what more we can do to improve entrepreneurial pathways, experiences, and outcomes at UW–Madison (UW). The chancellor requested that the scope of the work include (1) developing and analyzing relevant data and information about UW’s current entrepreneurial environment, including challenges and opportunities in supporting and enabling campus entrepreneurs and innovators, (2) a landscape review and initial peer benchmarking, (3) the provision of short- and long-term recommendations, potential resource requirements, and initial measures of success designed to advance entrepreneurship on and around campus and, in turn, our region, and (4) developing guidance regarding next steps to enable refinement of and actions against priority recommendations. Our focus was to look forward:

1. Per our charge, we focused our work on entrepreneurship that results in the formation of new non- and for-profit enterprises. We did not examine other types of relationships between the university and the economy, such as industrial partnerships and licensing to established companies.
2. We took a holistic approach to learning by researching and interviewing stakeholders inside and outside our campus and region while benchmarking with other universities.
3. We did not assess the performance of the over 100 individual entrepreneurship programs and initiatives operated by UW and our local community partners, nor did we intend to do so. Our focus was on what could be enacted for the future.

We identified strong agreement in our community in improvements in process, incentives, and programs that UW could start, operate, or enhance to better support entrepreneurs. However, our recommendation is to go one step further. As we outline in this report, we recommend that UW pursue a transformational strategy that fully leverages the immense capabilities of our university and community to catalyze and grow entrepreneurship in pursuit of the Wisconsin Idea. If successful, UW will dramatically increase its impact by increasing the quantity, quality, breadth, density, and geographic range of Wisconsin entrepreneurship. Success will require collaborative leadership and a willingness to support and expand some of the most creative elements of our culture. We have an opportunity to become the premier university for people who seek to build the economy of the future.



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Entrepreneurship at Academic Institutions in the United States

Overview

To the extent that American universities have a strategy for entrepreneurship, they tend to focus on technology transfer that leads to the formation of spinout companies. The process typically starts with an invention disclosure made to a patent office. The invention is patented, a spinout startup company is formed, and the patented technology is licensed to the startup company. This approach is often referred to as technology push, because the technology that forms the basis for the company is often not invented in anticipation of the needs of others.

Spinout companies based on university inventions face many challenges, including finding product-market fit due to a disconnect between discovery and market information, securing growth capital, and difficulty in building and retaining a team to drive commercialization. Despite the challenges, published research suggests that when these spinout companies are successful, they can be extremely valuable in terms of economic and societal impact relative to other forms of entrepreneurship associated with academic institutions [2].

UW–Madison was a pioneer of this form of entrepreneurship with the formation of the Wisconsin Alumni Research Foundation (WARF) in 1925. Many universities have created programs and processes designed to enhance the performance of technology transfer entrepreneurship. Examples of technology transfer spinout companies at UW include Third Wave, Nimblegen, Promega, TomoTherapy, Cellular Dynamics International, Immuto Scientific, and Shine Technologies. Because significant investments are often necessary before revenue can be earned from technology transfer spinout companies, these companies are often financed by venture capital.

The technology transfer version of entrepreneurship, while important, overlooks the many different forms of entrepreneurship that occur on university campuses today. These other non-mutually exclusive paths include:

- ▶ **Career entrepreneurship.** Some individuals pursue entrepreneurship as a career, which might include serving in many different roles such as a founder, angel investor, venture capitalist, and ecosystem builder. Some entrepreneurs start small and accumulate a series of successes that yield great impact over their careers.
- ▶ **Student and postdoctoral entrepreneurship.** Many students form and run companies. While many of these companies are quite small, some student-founded companies can become quite large. Others, as can be the case with companies formed by teams including graduate students or postdoctoral trainees, may be based all or in part on university science. However, even modest endeavors can provide individuals with an entry into a life of entrepreneurship. According to Entrepreneurship Science Lab survey data, between 100 and 200 undergraduate and graduate students self identify as founders of operating companies while they are enrolled at UW.

- ▶ **Faculty entrepreneurship.** Some faculty form companies while working at the university. Companies may or may not be based on technologies they have invented at UW. When faculty engage in entrepreneurship, they learn valuable skills that they can use to enhance their teaching, service, and research roles at the university.
- ▶ **Alumni entrepreneurship.** Alumni of UW–Madison form companies, and based on research conducted at other institutions, are most likely the single largest source of companies formed by any group affiliated with the university.
- ▶ **High-growth entrepreneurship.** The goal of high-growth entrepreneurship is to start companies that can scale quickly. When successful, these companies can have a large positive economic impact. While high-growth entrepreneurship affiliated with universities may use university technology, this should not be assumed. For example, Epic Systems, founded by UW–Madison graduate Judy Faulkner, employs over 13,000 people in Dane County. This company was not based on patented intellectual property licensed from UW–Madison.
- ▶ **Small business entrepreneurship.** Some entrepreneurs prefer to start small businesses that they plan to keep small. These companies make important contributions to the communities they serve.
- ▶ **Nonprofit entrepreneurship.** The formation of new nonprofit organizations to meet a societal need is another critical form of entrepreneurship.
- ▶ **Artistic entrepreneurship.** Many artists, including many faculty in the arts, form businesses or otherwise engage in commerce to bring their art to an audience. One faculty member shared with us that the only way for an artist to truly activate their talent is through expression beyond the classroom. Entrepreneurial skills and pathways are must-haves for artists to share their talents. Indeed, many artistic faculty are hired because of their success in engaging with society through sales, performance, or exhibitions of their creative outputs.

What is common about all forms of entrepreneurship affiliated with academic institutions, including technology transfer entrepreneurship, is that entrepreneurship is driven by enterprising individuals, not just technologies. However, outside of technology transfer entrepreneurship, most universities—perhaps all—do not have a holistic strategy to support these other forms of entrepreneurship. This means that enterprising individuals seeking to form companies at most universities are generally served by a patchwork of loosely coordinated programs. On many campuses, these programs are not sufficiently integrated with institutional processes to maximize investments made in these platforms. In addition, many of these programs support entrepreneurship indirectly but fall short of business formation as the primary goal. A new approach to university entrepreneurship that focuses on people, founders, and experts who support them—instead of technology—is likely to enhance all forms of entrepreneurship on



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campus, including technology transfer entrepreneurship. Such an approach would also fully leverage perhaps one of the greatest capabilities of our university—our ability to transform the lives of individuals through education.

While the focus of much of our report is on forms of entrepreneurship that lead to high-growth startups, the aim of this report is to broaden support for all forms of entrepreneurship that occur on our campus and to encourage additional work in broadening support for entrepreneurship.

Quantity, Quality, Density, Breadth, and Geographic Range

Entrepreneurship benefits from quantity, quality, density, breadth, and geographic range. Each of these dimensions of entrepreneurship are not only measures of success; they are also necessary inputs to fuel additional scale and impact.

More entrepreneurship, or quantity, enables investors and service providers to engage in making risky up-front investments in infrastructure that can then support more entrepreneurship. A greater quality of entrepreneurship, as exhibited by well-formed and resourced firms supported by high-caliber mentors pursuing larger opportunities, yields better outcomes, including investment returns that attract higher-quality entrepreneurs, more investors, and stronger partnerships. A greater density in entrepreneurship would convey the same energy we feel in research and teaching today. It would also facilitate more and deeper connections with industry, community, and service providers. These partners should be viewed as essential to our success.

Greater breadth, as measured by more companies, alumni, and nonprofit organizations formed from all schools, colleges, and departments, means ideas are flowing into the marketplace from many diverse domains of knowledge. A greater geographic range of impact means that investors and alumni dispersed throughout the region and nation engage in support of entrepreneurship. The ultimate goal that we pursue is greater energy and scale that comes from quantity, quality, density, breadth, and geographic range in entrepreneurship.

Summary of the Current State

Most universities lack a strategy for entrepreneurship that is designed to leverage the full capabilities of the institution to foster entrepreneurship in a manner fully consistent with the goals and culture of academic institutions. Instead, the current state of entrepreneurship programming tends to be of three types. First, in the decentralized model, entrepreneurship is driven by the leaders of a portfolio of independent programs that may or may not coordinate informally. Second, in the centralized model, a central leader is appointed to organize and coordinate campus entrepreneurship programs. Third, in the mixed model, some functions are centralized while others are decentralized.

We found that at most peer institutions, if an entrepreneurship leader exists, the position often includes other responsibilities related to research, innovation, or economic development. It is not uncommon for the entrepreneurship leader to sit within a unit with core objectives that are often minimally related to entrepreneurship, such as the management of the research enterprise. This approach can limit the scope and potential impact of campus entrepreneurship. Even in centralized models, the vision for entrepreneurship is mostly focused on organizing existing assets and filling perceived gaps, with an emphasis on technology transfer entrepreneurship. Importantly, while many universities run programs to support founders, we have yet to find a university with an entrepreneurship strategy organized around entrepreneurship's most important ingredients, founders, and those who support them.

In terms of program creation, most universities pursue a “build it and they will come” strategy. This means they operate a portfolio of entrepreneurship programs that were created by the interests and perhaps needs of specific individuals to serve existing students and faculty who express an interest in entrepreneurship, or were purpose-funded by a philanthropic alumnus. To the extent that an institutional plan for entrepreneurship exists, universities appear to focus on the creation, operation, and coordination of these programs and services to serve those who self-select into entrepreneurship. This approach leaves out many talented individuals, their ideas, and the technologies and advances they create.



UW–Madison’s Current Entrepreneurial Landscape

In this section, we describe some of the entrepreneurship programs available to UW–Madison entrepreneurs. This section is not intended to be comprehensive. We could easily write a lengthy report on the programs being operated by dedicated, hardworking professionals who support entrepreneurship at UW and in our surrounding community.

Current Structure and Goals

Like many universities, we have a decentralized organizational structure for campus entrepreneurship, and currently there is no one campus leader supporting the development and execution of a campus-wide entrepreneurship strategy. The primary organization tasked with and perceived to be driving entrepreneurship on campus is Discovery to Product (D2P). D2P was envisioned as a program to facilitate the formation of companies based on university intellectual property. With this initial framing at its inception, D2P was narrower in scope than the breadth of entrepreneurship on campus. D2P has broadened its mission over the years. For example, it manages the Innovate Network, which helps inventory entrepreneurial-related activities and centers on campus and organizes periodic meetings of individuals running entrepreneurship programs on campus. D2P is not a standalone center or institute within UW–Madison. Instead, it is a small unit within the Office of the Vice Chancellor for Research (OVCR). We believe this structure hampers its ability and capacity to coordinate entrepreneurship campus-wide, despite its mandate. D2P also operates its own portfolio of training programs.

We started with D2P's inventory of campus entrepreneurship programs and worked in partnership with D2P to compile and categorize an inventory of on- and off-campus entrepreneurship programs and services. Given the ceaselessly changing landscape, this list is unlikely to be fully accurate, but it provides a picture of the offerings available to support campus entrepreneurs. UW–Madison itself offers campus-affiliated entrepreneurs access to over 30 programs, offices, and services. Many of these programs have a defined target audience, and some are focused on serving those affiliated with a specific school or a college.

After reviewing this inventory, we believe there are programs of excellence, as noted in many of our interviews. However, gaps in the portfolio are apparent. First, entrepreneurship is a highly contextual endeavor, yet many of our programs provide universal insights not tied to how entrepreneurship is practiced in specific industries. Second, while many programs provide services that facilitate the formation of new companies, such as the Center for Technology Commercialization's Small Business Innovation Research (SBIR) and Small Business Technology Transfer grant training programs, UW Health and the School of Medicine and Public Health's Isthmus Project, the Wisconsin Alumni Research Foundation (WARF) Accelerator Program, Forward BIOLABS, and the Law and Entrepreneurship Clinic, to name a few, far too few identify startup formation as a primary success metric. Importantly, there does not appear to be a single entity on campus fully resourced and accountable for startup formation. There is also no visible "front door," according to internal and external interviews, for external collaborators to engage efficiently with our entrepreneurial ecosystem on campus. Services such as the Office of Business Engagement assist when capacity permits in such inquiries but are not staffed, resourced, or charged with early-stage or entrepreneurial engagement.

Education Programs

Depending on the method of classification, the campus has at least 60 programs or courses that provide entrepreneurship education. Like many education programs at UW–Madison, many of these programs are focused on providing interested individuals with training in entrepreneurship through for-credit and noncredit courses. For example, entrepreneurship courses offered by the Weinert Center for Entrepreneurship enroll over 1,800 students annually. Noncredit programs include classes offered through the Small Business Development Center (SBDC), the business school's Morgridge Entrepreneurial Bootcamp, and D2P's cohort programs. The WARF UpStart Program, operated with the SBDC, operates one of the few programs designed to diversify entrepreneurship.

While UW has a portfolio of many excellent programs, from the perspective of entrepreneurs, there are some limitations. First, most of the education programs provide introductory, domain-agnostic training in entrepreneurship. While helpful, entrepreneurship is practiced differently in each industry and hence domain-specific training is helpful. Second, like PhD students in the dissertation phase of their program, entrepreneurs benefit from training that is customized to the specific business they are trying to form. UW's platform lacks customized training for individuals in the process of forming or growing companies. Lastly, while there is excellence in individual programs, from the perspective of entrepreneurs, UW lacks a coordinated approach toward entrepreneurship education. The result is a landscape that can be difficult to navigate. Many external stakeholders hold the view that the lack of coordination, as well as a lack of a "front door" for entrepreneurship, make it difficult to engage with our entrepreneurship education programs.

Service Providers

UW offers various services to campus entrepreneurs. This includes free legal advice offered by the Law and Entrepreneurship Clinic. Consulting is offered by the Business and Entrepreneurship Clinic, WiSolve (an independent graduate student and postdoc not-for-profit), and the SBDC. Individual mentoring can be accessed through D2P, Merlin Mentors, WARF, the Weinert Center, and others. The Wisconsin franchise of the Creative Destruction Lab, started at the University of Toronto, is a seed-stage mentoring program for health and insurance companies globally, which also provides education opportunities for UW students. The Technology Entrepreneurship Office, a newer initiative that operates UW's iCorps program, is building a suite of services to support entrepreneurs in selected technological domains. Gener8tor, a startup incubator headquartered in Wisconsin, has a national footprint. Gener8tor's portfolio includes CS Nest, a mentoring program operated in collaboration with the Computer Science Department. Industry research resources are offered by Steenbock Library, Engineering Library, and the Business Learning Commons.

UW–Madison entrepreneurs also participate in other prominent accelerator programs including Y-Combinator, TechStars, and 500 Startups. Makerspace is available through the Grainger Design Innovation Lab, Grainger Engineering Design + Innovation Labs, and our Fab Lab. Madison is a city full of resources and organizations that support all types of entrepreneurship, including StartingBlock, 100state, University Research Park, and Merlin Mentors. Despite the existence of these excellent resources and others, significant gaps remain. Perhaps most importantly, our research suggests that almost every program is designed to serve an entrepreneur at a specific stage or technological domain, which means we lack a comprehensive strategy to support enterprising individuals whose potential success could benefit from all that UW–Madison could offer.



Capital

Venture capital is used to finance companies pursuing large opportunities that require significant investments in order to realize results and earn revenue. In addition to providing capital, venture capitalists provide specialized expertise relevant to the specific opportunities being pursued by entrepreneurs. Healthy markets for venture capital have multiple venture capital funds with experience investing at each stage of business (pre-seed, seed, series A, etc.) within each industry so entrepreneurs have the opportunity to try to secure financing from multiple potential financiers with relevant expertise. For founders, abundant capital provided by individuals with expertise relevant to their business is required for growth, in part because founders often need multiple opportunities to pitch their businesses before finding the right investor with which to partner. This is particularly true due to the need for a fit between investor and founder, in addition to alignment on the value and opportunity of the business idea.

Despite the growth in the number of venture capital funds in Madison and across the state, Wisconsin, including Madison, lacks multiple industry and stage specific investment funds in most industries. Due to our small size and other factors, this situation is likely to persist. This means entrepreneurs associated with universities in major metropolitan areas, such as UC Berkeley (San Francisco), UCLA (Los Angeles), or Harvard and MIT (Boston), are able to seek funding from many more investors with expertise related to their businesses than entrepreneurs in Madison. In addition, some investors operating in the region hold the view that UW–Madison does not produce as many investable companies as it likely could. The current situation is that the Madison region does not have sufficient deal flow to support a healthy venture capital market, and the lack of a venture capital market makes it difficult for entrepreneurs, even excellent ones, to finance their companies.

Non-dilutive funding, which is early-stage capital that does not require the sale of part of a company, can advance ideas for startup companies before a company is formed or provide an efficient means of leveraging external capital. There are limited non-dilutive funding options for Madison entrepreneurs. D2P administers three funding opportunities that support innovators: the Draper TIF, SEED, and PRIME grants. WARF provides non-dilutive funding via several mechanisms. The federal government, through the SBIR and STTR programs, provides non-dilutive funding to startups in Wisconsin, including startups associated with UW–Madison. The Wisconsin Economic Development Corporation (WEDC) provides financial assistance tied to the non-dilutive SBIR/STTR programs, and the Center for Technology Commercialization offers free resources to help Wisconsin inventors secure funding from these programs. There are also a variety of competitions that offer award money. Examples include the Arts Business Competition, Transcend, and the CS Nest Pitch Competition. While other options exist, the lack of non-dilutive funding makes it difficult for founders to advance to startup ideas that require additional work to build the investment case for dilutive funding.

While there are opportunities to fund new organizations, it is clear that more capital at almost every stage, industry, and type is needed for UW to reach its potential in entrepreneurship. Regarding our partners, like all investors, WARF, the Wisconsin Foundation and Alumni Association (WFAA), and the State of Wisconsin Investment Board (SWIB) will allocate time and capital according to a specific thesis that will not match the needs of UW affiliated

entrepreneurs. This means that to be successful, UW–Madison will need to look to and beyond these institutions to improve access to capital. However, these institutions have valuable expertise, relationships, and structural advantages and hence are important partners in developing creative solutions to finance UW entrepreneurship.



Regulation and Culture

Probably the most significant advantage and impediment to entrepreneurship uncovered in our work is our culture. At its core, UW–Madison is an incredibly innovative institution, as evidenced by large amounts of research being conducted at the frontiers of almost every field known to humankind at the highest levels. Much of this work is organized in labs that are led by professors who are globally competitive in their fields. There is incredible pressure on these labs to produce discoveries, and UW ranks amongst the top universities in the world for research. In this marketplace for ideas, labs that secure funding grow and produce knowledge, while labs that fail to secure funding fail. Many labs have less than three to five years of funding at any given point in time. There is extreme pressure to innovate, raise grant funding from nationally competitive grant programs, and publish. However, a consistent viewpoint from our interviews was that how the incentives of the research system are operationalized at UW–Madison, combined with a conservative regulatory environment and lack of an institutional approach, have created a culture that supports entrepreneurship more with words than meaningful actions.

Part of the culture that impedes entrepreneurship relates to the implementation of Conflict of Commitment (COC) and Conflict of Interest (COI) policies. COC refers to the regulation of time allocated towards outside activities by an employee and is administered by the schools and colleges. COI refers to situations where an individual's personal interests conflict or appear to conflict with that individual's responsibilities to UW. The COI policy is administered jointly by a campus-wide Conflict of Interest Committee and the schools and colleges. Both have their

foundations in state and federal law and regulation. Interviews with people on all sides of these policies reveal a sentiment that these policies have been conservatively interpreted.

The stories that circulate around campus about the processes in practice, whether true or urban legend, have created a general fear and desire to avoid COI and COC issues altogether. One person summed up what we heard by indicating COI and COC are used as a way to say “no” to things that are new and risky. Many decisions on COI and COC are made at the department, school, or college level, creating widely different implementations across campus. The written COC policy was created only a few years ago. Before that, there was an unwritten rule that faculty could spend one day per week (four days per month) on outside activities without having to report. The campus COC policy reduced that to two eight-hour days per month. Interviews with college administrators showed inconsistency across campus on the amount of time spent on outside activities granted as part of entrepreneurs’ management plans.

There are few resources on the central campus to help entrepreneurs navigate the regulatory matters they face. As we understand from interviews, there is a staff of two that compiles the information reported through the Outside Activities Reporting (OAR). They are charged with collecting the information, sorting through it for problems, and reporting information to the Conflict of Interest Committee and the schools and colleges. The Office of Legal Affairs interprets the policies and provides options to the schools and colleges. The schools and colleges are responsible for acting based on the information provided by the two groups and managing the COC. Any problems that cannot be resolved at the school or college level are presented to the provost and ultimately to the chancellor. For an entrepreneur, the handling and disposition of matters that arise under various regulations and campus policies can have a significant impact on their work going forward. Currently, entrepreneurs report that they manage this intimidating process themselves with little guidance from the university.

Partner Organizations

Our work entailed gaining a better understanding of how our partner organizations support, endorse, and approach campus entrepreneurial activities. The Wisconsin Alumni Research Foundation (WARF) is a partner nonprofit organization with a vision to “enable the university’s research to solve the world’s problems” and a mission “to support scientific research within the UW–Madison community by providing financial support, actively managing assets, and moving innovations to the marketplace for a financial return and global impact.” In the 2023-24 academic year, WARF contributed at least \$134.1 million to UW to support important initiatives institution-wide in addition to research.

WARF is the entity that manages UW’s intellectual property. Unlike most other universities, WARF is a separate nonprofit organization with an independent board of trustees. This creates unique opportunities but also some challenges. As an outside entity, WARF faces challenges when trying to navigate UW. However, its independent status provides it with greater flexibility. Most of WARF’s revenue comes from licensing university technology, returns on its investment portfolio, and returns from investments made in startup companies.

When it comes to entrepreneurship, WARF operates the WARF Accelerator and WARF Venture programs that directly support and invest in startup companies emerging from the UW–Madison campus. WARF has also experimented with different approaches toward supporting startups on campus in recent years and created the WARF Therapeutics drug discovery program in 2019. WARF staff regularly provides business advice to faculty and students outside of these programs. WARF financially sponsors various entrepreneurship programs on campus; most notably, they have invested substantially in D2P and have done so since D2P’s inception 10 years ago through the OVCR. WARF also has consistently provided seed funding to support new entrepreneurship programs on campus, including the Law and Entrepreneurship Clinic and the Morgridge Entrepreneurship Bootcamp. WARF has also been supportive of the work of this workgroup, including collaborating on benchmarking calls and providing data. We believe WARF has unique assets and capabilities that positively impact entrepreneurship on campus. We see tremendous potential and value in working with WARF as a lead partner to expand entrepreneurship at UW. WARF is already considered the model technology transfer institution in the country, and further support of entrepreneurship by WARF will increase its shining example.

The Wisconsin Foundation and Alumni Association (WFAA) is the philanthropic investment arm with deep and meaningful relationships with our alumni. Our inquiry indicates that WFAA does not have a strategy to support entrepreneurship on campus outside of raising funding for strategic objectives related to entrepreneurship. However, given our vast alumni base and WFAA’s relationships, there is a real opportunity to re-evaluate how WFAA and UW–Madison engage alumni around campus entrepreneurial efforts. Many of our stakeholder interviewees shared with us that they see great potential in WFAA’s ability to act as a means to connect the deep expertise of our alumni to entrepreneurs affiliated with the university who are working to build great companies. This expertise could be used to increase the quality of Wisconsin entrepreneurship while reducing risk. Many also saw the potential for WFAA to help entrepreneurs finance companies. Increasing engagement of our alumni through idea development and connections with UW entrepreneurs is likely to be synergistic to WFAA’s development efforts.

University Research Park (URP) is an internationally recognized research and technology park that supports early-stage and growth-oriented businesses in a wide range of industry sectors. URP has a decades-long history of supporting early-stage company development and expansion through its incubator and scaling facilities dedicated to STEM-disciplined, domain-specific company needs. URP serves as a local sponsor of and gathering place for entrepreneurs. URP also consistently supports the campus’s ambition to grow and expand industry relationships.

Similar to other core UW–Madison partners, when consistent with its mandate, URP has expressed a strong interest and willingness to support the advancement and acceleration of entrepreneurship on and beyond campus. URP can be further leveraged for its network of relationships with both the private and public sectors. It can also provide feedback, expertise, and support for campus leadership as we consider physical space requirements and partnerships to promote and accelerate the development of necessary infrastructure to support entrepreneurial growth on campus. UW startups are already a large fraction of its tenants, and increased entrepreneurship can only increase this further.



UW Health has invested in programs designed to support the commercialization of ideas and technologies developed by employees of UW Health. The Isthmus Project is the entity within UW Health that is tasked with the commercialization of technology, including supporting the formation of startup companies. The Isthmus Project has supported several startup companies and works closely with campus partners, including WARF and D2P. The team at the Isthmus Project offers concierge navigation to UW Health entrepreneurs and could serve as a model to a campus-wide program. UW Health has much to offer entrepreneurs, including serving as a lead customer for companies in health care and related industries. UW Health and the Isthmus Project stand to benefit from increased entrepreneurial activity on campus.

UW Athletics, officially the Division of Intercollegiate Athletics, operates in many ways as a quasi-independent business of UW, which alumni and many local fans support devotedly. UW Athletics has an advisory board and a fan club (W Club), produces an annual report, and solicits advertising to support the UW sports teams. The leadership, such as the athletic director and coaches, are not faculty but at-will administrators effectively running a business and include successful entrepreneurs among their ranks. Our conversations with UW Athletics suggest there are possibilities to collaborate with UW Athletics on expanding entrepreneurship at UW.

Our partner organizations, especially WARF and WFAA, were important topics in many of our stakeholder interviews. Many felt that WARF and WFAA could do more to support entrepreneurship and shared specific suggestions on how they could be more supportive of entrepreneurship. Others shared accounts of how their experiences with particular programs—such as the WARF Accelerator—were instrumental to their success as entrepreneurs. We believe

there are opportunities to enhance the impact our partners can have on entrepreneurship. However, a major impediment to maximizing the potential of these organizations to date has been the lack of a campus strategy for entrepreneurship. The lack of a campus strategy has made it difficult, and perhaps even unnecessarily risky, for these organizations to make large investments to support entrepreneurship. We see great opportunity in working closely with these organizations as we shape a more expansive future for entrepreneurship at UW.

Interviews

Over the last six months, we met with over 150 internal and external stakeholders and conducted more than 100 unique interviews. We talked to campus leaders, administrators, faculty, students, alumni, local entrepreneurs, community, and industry leaders. Consistent themes emerged around the importance of supporting entrepreneurs, in addition to our perceived strengths and opportunities.

Many interviewees referenced the Wisconsin Idea, the number of entrepreneurship programs on campus, and our unique affiliated partner structure, especially with WARF and URP, as strengths. The depth and breadth of our access to talent via our students, faculty, and staff were also seen as important advantages.

Stakeholders highlighted opportunity areas in our interviews. It was noted that our undergraduate, graduate, and doctoral student populations are uniquely positioned to advance campus entrepreneurship if given access to the right support programs and services. Historically, entrepreneurship has not been explicitly incorporated into our campus mission and has not been viewed as part of teaching or service objectives. Although the quantity of our entrepreneurship programs was a noted strength, our campus programming was cited as disconnected and, in some areas, duplicative. Many interviewees noted the potential positive impact our partner organizations could have on campus entrepreneurship if we increased collaboration, coordination, and engagement. An affiliate engagement suggestion consistently brought up was to increase alumni engagement in our campus entrepreneurial efforts in the form of mentorship and investment. Additionally, some felt WARF could support the commercialization of more ideas and additional discovery. Finally, concerns were raised over campus policies and processes. Some policies, like faculty tenure and promotion, do not recognize or incentivize entrepreneurial pursuits. Our campus culture was often mentioned as impeding entrepreneurship, and there is a general view that we should broaden how we define entrepreneurship and who is an entrepreneur.

Peer Set

Benchmarking the overall performance of UW in entrepreneurship is challenging in part because (1) our institution lacks institutional goals for entrepreneurship, (2) we lack a baseline of performance and consistent quantitative and qualitative measures of entrepreneurship at UW, and (3) there is poor measurement of entrepreneurship at peer institutions. Assessing relative performance is also difficult due to different perceptions of what entrepreneurship is or could be. For example, one metric that has drawn attention is the amount of venture capital raised by firms formed by students and alumni. However, this measure fails to capture affiliated firms formed through corporate engagement, consulting efforts, or bootstrapping that does not require venture capital. Lastly, it is important to understand that, in general, data quality is very poor in

most databases professing to measure entrepreneurship due to left censoring, the lack of federal reporting requirements, and purposeful manipulation. Ultimately, when it comes to data, we believe that UW–Madison should set goals for entrepreneurship, develop data systems to help us achieve our goals, and assess ourselves against our goals.

With these issues in mind, some rankings are salient to stakeholders. PitchBook, a private data provider on entrepreneurship focused on venture capital-funded startups, ranks UW #31 on their 2023 University Rankings List for founders and company creation. We also rank #34 on the same 2023 PitchBook list for capital raised (#10 amongst U.S. publics for undergraduates) and #34 on Princeton Review’s 2024 top 50 undergraduate and graduate schools for entrepreneurship studies. By contrast, UW ranks #8 in total research expenditures via the most recent NSF HERD rankings (2022). Many interpret research expenditures as an indication of the prevalence of ideas and technologies that could be commercialized. Some peer institutions, such as the University of Michigan and UCLA (ranked #4 and #7 in NSF HERD, respectively), are ranked somewhere between #10 and #13 for all PitchBook rankings (Founders, Companies, and Capital).

An important benchmark often used to compare academic institutions in entrepreneurship is the AUTM startup rankings, which is an annual count of companies formed based on university intellectual property, reported by 182 participating universities as of 2022. AUTM is a nonprofit professional association focused on increasing the impact of research through commercialization. There are some problems with the AUTM survey. For example, for some institutions we were not able to independently verify the total number of AUTM firms reported in the survey. The measure does not take into account startup quality, meaning a university that forms four companies that each raise \$10 million from external investors in their first year is counted the same as a university that forms the same number of companies that don’t secure any external investment. Our team learned more from studying the AUTM portfolios of selected universities than from the relative counts themselves. Hence, it is best to view the raw AUTM counts as a very noisy starting point instead of an accurate performance metric, and caution is in order when comparing AUTM rankings between institutions.

In Table 1, we report AUTM counts for two somewhat arbitrarily selected groups of comparison universities. In Panel 1, because entrepreneurship is easier when local business resources such as venture capital can be leveraged, we report counts for the small set of top-tier major research institutions located in small to medium-sized metropolitan areas which is similar to our context. In Panel 2, we include a subset of Big Ten schools similar to UW in student population and research activity. Table 1 conveys that while there is likely an advantage to being located in a major metropolitan area, some institutions in small towns, such as Purdue, have been able to produce a high number of startups based on university intellectual property. We again remind the reader not to read too much into these numbers. For example, many universities have not responded to our queries to share the list of startup companies that they reported to AUTM, so it is difficult for us to examine the quality of these startups.

Table 1. Selected AUTM benchmark (best estimates as of May 2024)

| Panel 1: Metropolitan Benchmark Set | | | | | | | |
|--|-----------------------------|-------------------------------|------------------------|-------------------------|-----------------------|---------------------------|----------------------------|
| Institution ¹ | AUTM Start-ups ² | Total Enrollment ³ | Total R&D ⁴ | Population ⁵ | VC Firms ⁶ | Nearest City ⁷ | Miles to City ⁸ |
| University of Colorado Boulder | 75 | 37,153 | \$611.4M | 330,758 | 31 | Denver | 30 |
| Purdue University | 44 | 52,211 | \$547.6M | 223,716 | 1 | Indianapolis | 61 |
| University of Illinois Urbana-Champaign | 22 | 44,087 | \$765.9M | 236,072 | 4 | Chicago | 136 |
| Carnegie Mellon University | 21 | 16,002 | \$449.7M | 2.457M | 17 | Pittsburgh | 0 |
| University of Virginia | 15 | 23,721 | \$662.7M | 221,524 | 3 | Washington | 116 |
| University of Wisconsin-Madison | 15 | 49,886 | \$1,520M | 680,796 | 10 | Chicago | 147 |
| Indiana University | 10 | 48,952 | \$751.3M | 170,954 | 2 | Indianapolis | 46 |
| Panel 2: Selected Big Ten Benchmark Set | | | | | | | |
| University of Michigan | 70 | 51,225 | \$1,771M | 372,258 | 22 | Detroit | 43 |
| University of Minnesota | 61 | 51,147 | \$1,202M | 3.69M | 25 | Minneapolis | 0 |
| Northwestern University | 39 | 22,732 | \$1,001M | 9.449M | 1 | Chicago | 0 |
| The Ohio State University | 36 | 66,444 | \$1,363M | 2.139M | 21 | Columbus | 0 |
| University of Washington | 34 | 46,081 | \$1,560M | 4.01M | 84 | Seattle | 0 |
| Rutgers University-New Brunswick | 20 | 37,364 | \$712M | 2.380M | 1 | New York | 36 |
| Pennsylvania State University-University Park | 8 | 48,765 | \$1,020M | 158,172 | 1 | Pittsburgh | 137 |
| <p>¹Metropolitan peer set represents an ad hoc selection of major research institutions not located in major metropolitan areas. The Big Ten benchmarks include a subset of Big Ten schools similar to UW-Madison in student population and research activity. The University of Washington is joining the Big Ten and is included due to its similarity to UW-Madison in all aforementioned areas.</p> <p>²Total number of companies formed using university technology in 2020, 2021, and 2022, as reported by an annual survey conducted by the Association of University Technology Managers.</p> <p>³Total number of students enrolled in undergraduate, graduate, and professional degree programs.</p> <p>⁴Total R&D expenditures in 2022, per NSF.</p> <p>⁵Population of the metropolitan statistical area (MSA) per the 2020 census.</p> <p>⁶Our estimate of the total number of venture capital and corporate venture capital firms headquartered in the city where each university is located. Our estimate is a list of VC firms that are “actively seeking new investment” and have “made an investment in the last two years,” as reported by PitchBook. These numbers reported by PitchBook are not validated and should be interpreted as approximate estimates.</p> <p>⁷Our assessment of the nearest major city with sufficient resources to support entrepreneurship.</p> <p>⁸Distance to the nearest city in miles. Regarding the University of Virginia, Richmond is closer at 70 miles, but we suspect that Washington, D.C. is the urban area that provides the most support for UVA-based entrepreneurs.</p> | | | | | | | |

Selected Inferences from Peer Benchmarking Interviews

We held many conversations with and conducted research on several peer institutions. Our general criteria for a peer university were geography, size, and HERD rankings. Peer institutions included Purdue University, University of Michigan, University of Minnesota, The Ohio State University, and University of Colorado Boulder. Our benchmarking also included some institutions with an established and well-regarded reputation for entrepreneurship. These additional benchmarks included Georgia Institute of Technology, Massachusetts Institute of Technology, Stanford University, and Harvard University.

Our benchmarking confirmed the complexity involved with campus entrepreneurship. Every campus approaches entrepreneurship slightly differently in terms of structure, commitment, and strategy. We learned that many universities are in a state of change when it comes to entrepreneurship. Almost every university we interacted with was studying its entrepreneurship system, at least informally. Many institutions have either recently completed a formal strategic review of their entrepreneurship programs or are currently in the process of conducting a review. For example, Berkeley spent approximately 18 months studying and developing its go-forward recommendations for campus entrepreneurship.



Almost every university we interacted with was studying its entrepreneurship system, at least informally.

Among our peers, we see inconsistent levels of investment in campus entrepreneurship. Many peers have invested in buildings and spaces dedicated to entrepreneurship, but the sizes and capabilities of these spaces vary. Most of the universities we benchmarked took a decentralized approach to entrepreneurship, and programs and services could be found in various schools, colleges, and departments. However, the universities we benchmarked did seem to ensure a level of central campus organization to ensure ease of access, collaboration, collective reporting, and information sharing. For example, many institutions have a central entrepreneurship landing page to help those on and off campus understand and navigate the available resources. Most of our benchmarking institutions focused on supporting entrepreneurs amongst their students, faculty, and staff. However, some served alumni and the broader community.

For those institutions with a central campus operation supporting entrepreneurship, these entities are often located within the unit tasked with managing technology transfer or the research enterprise of universities. In many cases, these operations are managed within the same unit. This approach means entrepreneurial activity that occurs outside of technology transfer is overlooked or less coordinated when compared to technology transfer.

Key Findings

- 1. Opportunity.** UW is well-positioned to achieve greater excellence in entrepreneurship.
- 2. Leadership.** Institution-wide excellence in entrepreneurship has never been a goal of UW campus leadership, until now. Universities that have made entrepreneurship a strategic priority have found success. However, even leading institutions have yet to embrace entrepreneurship fully.
- 3. Culture.** UW's entrepreneurship culture emphasizes gatekeeping and risk management. The existing university framework has produced a bureaucratic environment that sub-optimizes interaction with the private sector. Entrepreneurs and venture capitalists struggle to form connections with UW. Together, these factors weaken the university's capacity to attract quality entrepreneurial talent. The venture capital model of entrepreneurship dominates the mindset of most training programs on campus, which leaves out individuals pursuing other forms of entrepreneurship.
- 4. Structure.** The OVCR is tasked with setting the vision and providing accountability for UW–Madison's centralized entrepreneurship resources (D2P). The OVCR's approach has historically emphasized risk management relative to other factors. Student and faculty founders lack an institutional voice on campus.
- 5. Education program portfolio.** UW–Madison has a respectable portfolio of decentralized entrepreneurship programs, but gaps exist in (1) campus coordination, (2) topics covered, (3) goals, and (4) content. There are few programs designed to provide founders of operating companies with customized training, and programs generally do not leverage the expertise of entrepreneurs in design and execution.
- 6. Service provider engagement and investment.** A lack of volume of high-quality companies generated by UW–Madison makes it difficult for service providers and partners to justify engagement, much less transformational investments that could grow entrepreneurship. The lack of infrastructure makes it more difficult for interested entrepreneurs to attract talent and form quality companies. This 'chicken or egg' scenario can likely be solved by campus leadership.

7. **Capital.** UW–Madison entrepreneurs are capital-constrained compared to peers near or in major metropolitan areas.
8. **Private sector and business expertise.** UW could benefit from more significant engagement with outside experts across its entrepreneurship activities. This engagement could include mentoring and working more closely with the private sector to bring technologies to market, as well as involving entrepreneurs and other business experts in the design, operation, and oversight of entrepreneurship programs. Serial entrepreneurs, venture capitalists, and corporations are often on the sidelines. There is also no current institutional industry engagement role dedicated to serving entrepreneurs. Today, our small industry engagement teams only have the capacity to serve midsize to large organizations and are primarily focused on growing relationships, recruiting, account management, and research.
9. **Regulatory.** While further improvements will likely yield benefits, the laws, rules, and policies that govern entrepreneurship at UW–Madison are similar to those at other peer institutions. However, regulatory requirements are conservatively interpreted and administered, and there are inconsistencies in the understanding and application of policies across campus, creating a quagmire for many campus entrepreneurs. The campus lacks advocates to help faculty, staff, and student entrepreneurs navigate a complicated landscape involving colleagues, department chairs, deans, and affiliate organizations.
10. **Partner organizations.** Our partner institutions add immense value and are key to our future. However, the aspirations for UW–Madison entrepreneurship will likely always be broader than the goals for specific entrepreneurship programs operated by our partner organizations. This means that entrepreneurs who do not secure the support of our partners might become discouraged, which adversely impacts the culture of entrepreneurship on campus. As a group, our partner institutions have relevant expertise, resources, and a willingness to support campus entrepreneurship.
11. **Data and systems.** Despite having some unique assets in this area, UW–Madison is not fully leveraging data systems and data science to advance and support entrepreneurship. We lack a baseline of overall inputs and outcomes across our campus ecosystem. We further lack a data-based approach to find and cultivate potential entrepreneurs. Without data, it is not possible to set goals, measure our progress, and celebrate the impact of our entrepreneurial activity. Accountability tracking is also unclear, given our current data and systems.

Realizing a New Vision and Mission for Entrepreneurship at UW–Madison

RECOMMENDATION 1:

Commit to Excellence in Entrepreneurship with a Focus on Founders

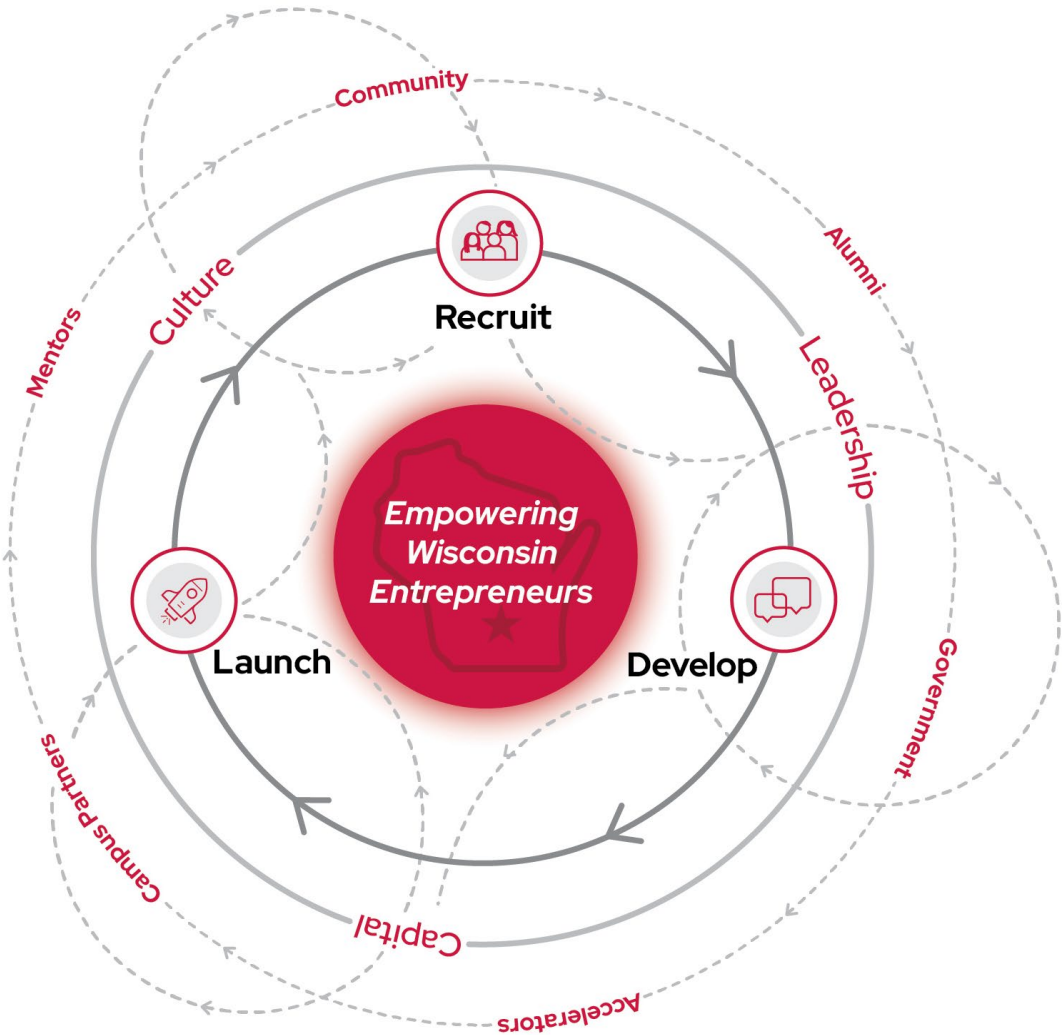
To fully realize our potential in entrepreneurship, we recommend that UW–Madison make an institutional commitment to excellence in entrepreneurship. A commitment to excellence in entrepreneurship will enable UW to fully organize and harness the immense capabilities relevant to entrepreneurship within our community, including our partner organizations and alumni. We propose that this commitment be guided by a new founder-forward institutional strategy for entrepreneurship because entrepreneurship is driven by individuals. We emphasize that a founder-forward strategy is fundamentally different from the technology-focused strategy that has historically dominated university-driven approaches toward entrepreneurship in the United States. This vision is consistent with the Wisconsin Idea and builds on UW’s core activities of teaching, research, and service.

We provide an example of such a vision and mission to guide UW–Madison’s work in entrepreneurship:



| | |
|----------------|--|
| VISION | UW–Madison will become the premier research university for students, staff, faculty, and alumni to pursue entrepreneurship. |
| MISSION | UW–Madison will achieve its vision for entrepreneurship by executing a founder-forward strategy. This strategy will increase the university's impact by supporting entrepreneurs in forming new businesses, commercializing science, increasing the impact of the humanities and the arts, and supporting creativity in all fields of inquiry. |
| GOALS | Increase the quantity, quality, breadth, density, and geographic range of entrepreneurship. |

A founder-forward strategy for entrepreneurship focuses on building integrated and collaborative systems that leverage our existing abilities to achieve our objectives in entrepreneurship. The strategy rests on three main activities: recruiting entrepreneurial individuals, developing entrepreneurial talent, and launching entrepreneurial careers and companies. This entrepreneurial talent is immersed in a knowledge enterprise that perpetually advances our human understanding of almost every field known to humankind. This strategy will enable UW to get more companies to the starting line and then get them from the starting line to impact. A central aspect of the strategy is the increase in the volume of entrepreneurial activity at all stages of the process. With the support of our partners, the result of this strategy is greater quantity, quality, breadth, density, and geographic range of organizations formed by our students, faculty, and alumni.



To be successful, this new approach towards university entrepreneurship will require a shift in culture. We advocate for the enactment of an intentionally founder-friendly culture that is promoted across the institution. This starts with communication from leadership at the institutional and school/college levels that entrepreneurship is central to the mission of the university, followed by sustained supportive action, governance, and institutional change. Our change in culture will be most effective with much greater coordination and more highly sustained levels of investment from our partners, including WARF, WFAA, UW Health, University Research Park, and UW Athletics.


While the return on these investments will not be immediate, these investments will benefit these entities directly through a greater prevalence of high-quality entrepreneurship. WARF will have more investment opportunities and a stronger technology portfolio to patent and commercialize. WFAA will have a more engaged alumni base to drive funding. University Research Park will have greater demand for its services. The Isthmus Project will be able to draw on a larger talent pool to commercialize technologies developed at UW Health. UW Athletics will be provided with greater engagement opportunities as well as opportunities for student-athletes. All will benefit from a stronger university. With our unique affiliate partner structure, UW–Madison is uniquely positioned to execute a long-term vision that can become the envy of the world.

Recruit Entrepreneurial Individuals

A major strength of UW–Madison is our ability to attract and retain world-class talent in a wide range of disciplines and roles. This strength has never been harnessed strategically to improve entrepreneurship. UW–Madison should leverage existing systems and create new programs and processes to actively leverage and build its brand to recruit student, faculty, and alumni entrepreneurs to our campus and into our entrepreneurship platforms.

While it is important to recruit and cultivate faculty with an interest in entrepreneurship to build the volume of startup activity required to create the flywheel effect, our strategy should



 Chris Fernandez (BS '14, MS '15), Nick Glattard (BS '14, MS '15), Brock Hensen (BS '12, MBA '21), and Sam Rusk (BS '14) created EnsoData, a Madison-based health care AI company. To date, EnsoData has helped to diagnose over 1M patients with sleep disorders, raised over \$30M in venture funding, and built a team of over 50.

include developing student entrepreneurs. Student entrepreneurs are crucial to the success of entrepreneurship, including startups that commercialize university-patented technology. Our research indicates that at universities known for entrepreneurship, such as MIT, students play leadership roles in many new companies. One manager of a successful technology transfer office shared with us that they emphasize student-founded companies over companies led by external recruits, as the university has several years to train the students how to be successful founders.

Faculty often create startups with an advisee (PhD student or postdoc) or license their IP to be utilized by a startup led by students and experienced serial entrepreneurs. Table 2 provides the distribution of the founders’ backgrounds for AUTM startups for two schools, MIT and CU Boulder. MIT was selected due to its sustained performance in entrepreneurship and CU Boulder due to its more recent outcomes and the similarity of its Metropolitan Statistical Area to Madison. Using publicly available data such as LinkedIn for the companies we located, it appears that trainees play important roles in spinout companies. At MIT 78.6% of the AUTM startup companies included at least one faculty member, which is the same portion of MIT startups that included at least one trainee as a cofounder. In addition, most of the faculty startups included trainees. At CU Boulder, trainees are involved in a larger percentage of startups than MIT based on available data.

This is not to understate the role of faculty in entrepreneurship. Faculty drive knowledge creation at the university. They build teams, labs, and technical capabilities that lead to discoveries that can seed new companies. Faculty raise funding and manage projects, gaining skills applicable to entrepreneurship, and they also link the university and the state to other top experts in their fields. They are also founders. Importantly, those faculty who support entrepreneurship are crucial to our success even if they do not become founders themselves. The point is that students and trainees are important to driving entrepreneurship at universities, even in the most technologically advanced companies. It is important to remember that even when they are not members of the founding team, professional entrepreneurs play important roles in technologically intensive spinouts as mentors and board members. Table 2 also suggest that those with backgrounds mostly in business also play important roles as founders.

Table 2. 2022 AUTM startups by founder type(s) as a % of total AUTM startups from two comparison institutions (best estimate as of May 2024)

| | Faculty ³ | Trainees ⁴ | Business Persons ⁵ | Faculty & Trainees ⁶ |
|--|----------------------|-----------------------|-------------------------------|---------------------------------|
| University of Colorado Boulder ¹ | 78.6% | 78.6% | 85.7% | 57.1% |
| Massachusetts Institute of Technology ² | 43.8% | 68.8% | 37.5% | 25% |

¹University of Colorado Boulder founder data provided by CU Boulder Office of Vice Chancellor for Research & Innovation. Data not validated. ²MIT founder data was retrieved via web search of company names and a following investigation of biographies and LinkedIn profiles. ³Portion of companies including at least faculty founder. ⁴Portion of companies including at least one student, postdoctoral, or other trainee. ⁵Portion of companies including at least one person with business experience. ⁶Portion of companies including at least one faculty and trainee founder.



In 2019, Shasparay Irvin (BS '20, MA '23) launched the Black Arts Matter Festival in Madison, curating a blend of slam poetry, music, and visual arts with representation from local and national artists.

When it comes to recruiting entrepreneurial talent, increasing diversity in entrepreneurship is important for at least two reasons. First, to the extent that there are lower participation rates in entrepreneurship by specific populations, increasing entrepreneurship participation rates in these populations should increase the prevalence of entrepreneurship. Second, research suggests that the type of innovations individuals produce is influenced in part by knowledge corridors unique to their experiences, which includes differences in experiences due to diversity. For example, Koning and colleagues find that patents with all-female inventor teams are 35% more likely than patents with all-male teams to focus on women's health [3].

At UW–Madison, data collected on entrepreneurship by the Entrepreneurship Science Lab shows that women students are much less likely than male students to be involved in entrepreneurship. For example, the fall 2023 campus survey indicates that women students are less likely to self-report they are founders of a startup company, in the process of forming a company, or intend to start a company at some point in their careers when compared to male students. This data suggests that new approaches will be necessary to recruit a pool of entrepreneurial talent that will enable UW–Madison to maximize entrepreneurship based on its knowledge capabilities.

Develop Entrepreneurial Talent

In our undergraduate and graduate degree programs, sufficient time exists to provide entrepreneurship training to prepare interested individuals for leadership roles as founders upon graduation. This training comes in three forms. First, entrepreneurship training on the basic frameworks of entrepreneurship is likely best delivered through for-credit courses accompanied by not-for-credit experiential learning activities such as business competitions. Second, domain-specific entrepreneurship training provides training in how entrepreneurship is conducted in specific industries using specific technologies. This second form of training is probably best

offered by entrepreneurial faculty with expertise in each domain within the schools and colleges, in partnership with expert entrepreneurs. Third, opportunity-specific training is training provided to entrepreneurs actively pursuing a specific opportunity that has information and knowledge needs unique to the business being pursued.

Opportunity-specific training is very similar to the high-touch customized training provided to PhD students in the dissertation phase of their program. The first two types of training are most efficiently offered in cohort models, while opportunity-specific training is best delivered as high-touch training provided by structured mentoring programs and company boards staffed by alumni, experienced entrepreneurs, and industry experts. UW Athletics has deep expertise in character building and coaching individuals to achieve excellence, expertise which may be helpful in the design and delivery of the development platform.

UW–Madison has a strong portfolio of training on the basic frameworks for entrepreneurship, such as the suite of undergraduate and graduate courses offered by the Weinert Center for Entrepreneurship. However, UW is lacking domain-specific training, opportunity-specific training, and engagement for students enrolled in for-credit programs and there is a gap in training for the postdoctoral, alumni, and faculty populations. The development of high-touch, opportunity-specific training will require investments in the organizational processes and training of personnel. These investments will allow the university to build systems to engage the high-quality entrepreneurs and mentors that are available and within UW–Madison’s reach.



Launch Entrepreneurial Careers and Companies

UW–Madison has traditionally stopped short of establishing goals and fully investing in organizational structures to facilitate startup formation. We encourage UW–Madison to invest in programs and structures explicitly designed to foster business formation. Explicit pathways will need to be built to foster business formation via the different ways people become entrepreneurs on our campus. For example, pathways should be built to help students facilitate the transition into the labor force as startup founders, similar to our current job placement programs that connect students to job opportunities in existing companies. Similarly, pathways should be built for the different types of faculty founders. Improving pathways includes facilitating resource acquisition for entrepreneurs and expanding access to capital.

Business formation should start with the proactive management of people and technologies built around a founder-friendly culture. This approach is a departure from our current reactive model, where business formation resources are designed to respond to the needs of individuals who have self-selected into entrepreneurship and survived our gated processes.

Measures of Success

As an institution, UW–Madison makes investments with an expected financial return, and it makes investments where no financial return is expected. To be successful in entrepreneurship, it will be necessary to support initiatives that should not be assessed using an ROI framework (such as recruitment, education programs, and engagement platforms), and it will be necessary to support initiatives that are best assessed using an ROI framework (such as venture funds). However, all initiatives should contribute to the success of the vision and mission. We propose the development of specific targets tied to the following measures of success:

1. Number of companies formed, of all types, including high-growth companies, companies based on UW–Madison science, and non-employer firms that may be more common in the arts.
2. Dollars of venture capital raised by UW–Madison-affiliated startups including alumni startups.
3. Total valuation (when available) of UW–Madison-affiliated startups including alumni startups.
4. Number of funded founders, or founders with revenue, at graduation.
5. Jobs created by UW–Madison-affiliated startups including alumni startups.

RECOMMENDATION 2:
Leadership and Structure

Entrepreneurship Executive

UW–Madison should create an executive-level position tasked with refining and executing a founder-forward strategy for entrepreneurship. While similar positions may be perceived to exist at other universities we envision an individual empowered to partner with and lead change in processes and activities throughout campus in a manner much broader than how the role has been conceptualized elsewhere. This executive should operate with the direct support of the chancellor and remain outside the institutional reporting structure responsible for risk management and regulation. A position that reports directly to the chancellor may be appropriate, or instead perhaps a suitably leveled expert positioned in a group focused on external engagement and economic development.

In either case, to be successful, this person will need to (1) have the standing and network to coordinate with and effect change in student, staff, faculty, administrative, and alumni communities; (2) drive change in administrative systems such as admissions and the research enterprise; (3) work directly on behalf of the university with partner organizations such as WFAA, URP, WARF, UW Health, UW Athletics, federal and state agencies such as the Wisconsin Economic Development Corporation, and the business community; (4) support and lead a broad vision for entrepreneurship spanning the entire campus, which leverages cross-functional operations not traditionally incorporated in economic development or academic entrepreneurship at other universities; (5) facilitate pathways for entrepreneurs by breaking down barriers and building support systems designed to train and resource entrepreneurs; and (6) take responsibility for the experience that enterprising students, alumni, and faculty have when trying to form companies.

As such, we envision the scope of this position to be much broader than has been established at other universities. In addition to enhancing entrepreneurship at UW–Madison, the creation of this position will communicate to constituencies within and outside the university the importance of entrepreneurship to the university and UW’s 21st-century vision of the Wisconsin Idea.

The focus of this position should include:

- Refining and implementing a founder-forward strategy for entrepreneurship through program building and leveraging the strengths of our current decentralized assets.
- Socializing and further refining the new strategy with stakeholder groups, including campus governance.
- Working with the vice chancellor for strategic communication on developing a communication strategy to achieve business and reputational goals, and engaging with key stakeholder groups in the process.

- Leading the proposed entrepreneurship unit (below), including leading the initial design and establishment of resource requirements. If the proposed unit is formed, the senior leadership role could be conceptualized as a vice chancellor (associate or assistant) for entrepreneurship and director of the entrepreneurship entity.
- Defining the needs and allocation of resources to support the growth and development of programs campus-wide, including successful programs outside of the entrepreneur executive's direct control.
- Being accountable for achieving performance metrics focused on company creation and culture, while defining joint accountabilities with schools and colleges interested in resource allocation to support entrepreneurship. To enhance collaboration and institutional success, the executive should be assessed against university-wide objectives instead of objectives achieved only by their team.
- Coordinating with admissions, including the undergraduate Office of Admissions and Recruitment, on how to set admissions targets and design systems to recruit entrepreneurial talent to UW–Madison.

It is important for the executive to have a strong understanding of how to be effective in business and academic cultures. A question to consider is which should dominate. If a leader in business is selected, it is strongly advised that they be paired with a team that can help navigate the academic enterprise that must be activated for this work to be successful. Similarly, if an academic is selected, they should be paired with a team to help them activate and sustain the interests of world-class entrepreneurs. A faculty entrepreneur interested in administration might have the right balance of business and academic experience to be successful. It is imperative that this individual understand how to lead and effect change in an academic environment where decision-making authority and influence has been dispersed by design for over 175 years.

Entrepreneurship Unit

A central entrepreneurship unit, such as an institute, should be established and resourced to coordinate entrepreneurship activities across campus, fill in gaps necessary to achieve success, assure persistent energy behind individual entrepreneurial efforts, and provide a platform for entrepreneurs and other experts to engage with campus entrepreneurship.

The new unit should form several advisory boards, including an academic advisory board composed of representatives with entrepreneurial experience, and a board appointed by the deans from the schools or colleges to align fragmented initiatives. When outside experts are involved in decision making, such as serving on selection committees, conflict of interest policies should be established to preserve the legitimacy of decision-making processes. However, because advisory boards are advisory only, in general, conflict of interest rules should not be used to prohibit the involvement of engaged alumni and board members from becoming economically involved in university startup companies as executives, board members, or investors.

Examples of unit activities include hosting campus-wide entrepreneurship events, running startup-focused cohort programs, operating individual customized training programs, operating a central mentoring service, and managing a centralized entrepreneurs in residence program. The unit should include project management experts designed to keep the energy behind ideas and disclosures, measure and report progress, and help entrepreneurs navigate entrepreneurial resources on and off campus. The unit should be resourced and held accountable for building spinout and startup companies. The unit should serve as an important conduit between industry, students, and faculty, but it is important that the unit not be conceptualized as the sole interface between the university and these groups.

The initial activities of the new unit should prioritize:

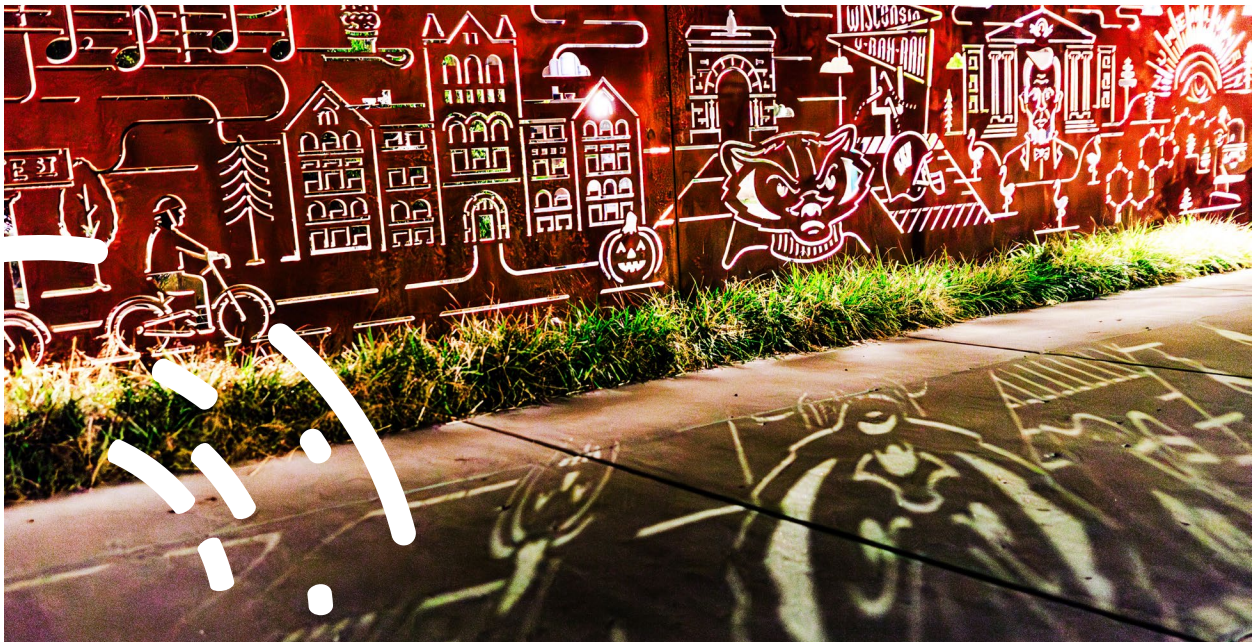
- Creating advisory committees, including an internal-external partner advisory council, a committee of deans' representatives, and a student advisory board to facilitate coordination amongst partner organizations and stakeholders. Entrepreneurs should be heavily represented in this work.
- Building a plan and portfolio of programs to support technology entrepreneurship and other forms of entrepreneurship, such as entrepreneurship in the arts.
- Creating opportunity-specific entrepreneurship training programs.
- Coordinating closely with WARF on building deal flow, startup licensing, and company formation.
- Contracting with external service providers such as business accelerators to achieve objectives as appropriate.
- Designing domain-specific education programs with faculty in schools and colleges.

- Operating culture-enhancing activities, such as events, pitch competitions, and at least one annual entrepreneurship conference.
- Operating a startup visa program designed to support entrepreneurship amongst our international trainees.
- Leading initiatives and programs designed to diversify entrepreneurship.

Entrepreneurial Satellites

A major strength of our distributed knowledge system is the ability of enterprising groups of faculty and administrators to build programs, centers, and initiatives that support entrepreneurship, termed satellites. Examples of these efforts include the Law and Entrepreneurship Clinic and the Isthmus Project. Some of these efforts, such as the Forward BIO Institute and the N+1 Institute, are designed to connect the scientific capabilities of the institution to the commercial economy. Many of these satellites are transitory; they will come and go based on the interests of faculty members and sources of funding. It is important to acknowledge that basic, applied, and translational research can all produce insights that lead to commercial outcomes and should be integrated into the strategy.

In a departure from prior practice, we encourage that distributed entrepreneurship efforts be supported by the central campus, and that the entrepreneurship executive be provided with funds that they can allocate to support those efforts deemed and measured to be most productive in supporting entrepreneurship. Centrally allocated funds can be used to foster collaboration when helpful, but duplication of efforts should not necessarily be used as a framework to discourage energy and innovation. Further, leadership should identify gaps in UW's portfolio of entrepreneurial satellites, especially in scientific domains holding commercial promise, and encourage the formation of new satellites as needed.



Partners

WARF, WFAA, URP, and UW Athletics, are exemplary partner institutions that can be leveraged to enhance entrepreneurship. WARF has immense resources and legal, technical, and business expertise, all relevant to building great startup companies. The URP has valuable expertise and a financial structure favorable for supporting building projects designed to foster entrepreneurship and industry engagement. WFAA has access to business expertise through its alumni network, which can advise and financially support entrepreneurship. UW Athletics has expertise in many areas including entrepreneurship and leadership development.

However, many experts who we interviewed with direct experience with our partner organizations shared that they felt these organizations could be doing more to support entrepreneurship. As discussed above, the lack of quantity, quality, breadth, and density of firms produced by the campus may make it difficult for partner organizations to invest heavily in supporting entrepreneurship as the lack of entrepreneurial activity might suggest that their additional investments may not yield sufficient activity to warrant the allocation. The likely solution is for the campus to lead by committing strategically to supporting entrepreneurship as described in this report. In regards to our partners, we recommend that the campus should:

- Forge a mutually beneficial commitment with our partner organizations to support entrepreneurship. The campus must commit to entrepreneurship to fully unlock the potential of our partner organizations.
- Work with our partners to forge a founder-friendly culture that seeks new ways to improve processes and leverage our unique assets to support entrepreneurship. This change in culture would also lead the most productive and creative basic scientists to think more about advanced applications that are often the most valuable to disclose to WARF. Part of this change should include campus leadership working with WARF to streamline the business formation process including developing licensing terms that are more favorable to startup companies¹. The proposed new entrepreneurship unit can provide a platform to turn this initial cooperation into a long-term change in culture and activity.
- Continue to coordinate with URP on the development of infrastructure to support entrepreneurship, thereby accelerating the current pace of development.
- Bring additional mentoring services online quickly, encourage the WFAA to segment and cultivate people who are willing to mentor startup companies, and invite a list of experienced mentors to form a steering committee to provide mentorship for entrepreneurs.
- Provide a forum with WFAA for virtual and in-person alumni to hear pitches from UW and UW alumni startup companies.

¹Staff at WARF are actively researching options to enhance the startup licensing process and terms for UW–Madison startup companies.

Interdisciplinary Faculty Cluster

The proposed unit will be operated by an executive appointed by the chancellor (or designee) and advised by external and internal advisory boards. In addition to the unit, it is essential to establish a structure to form a body of expertise within the faculty to provide informed faculty governance for entrepreneurship. We propose an interdisciplinary, cross-campus faculty cluster in entrepreneurship to build and organize this expertise in the faculty. Members of the faculty cluster should (1) create companies or have experience in entrepreneurship; (2) create and teach entrepreneurship courses tailored to their specific domains; (3) launch satellites to support entrepreneurship in their domains; (4) coordinate entrepreneurship as an interdisciplinary, cross-campus endeavor within faculty governance processes; and (5) conduct research on entrepreneurship to enhance the quality of entrepreneurship programs. The cluster should be closely affiliated with and supported by the unit, but fully integrated within the faculty governance structure.

The result would be a cascading governance structure, with engagement in the governance of entrepreneurship at all levels (faculty, deans, alumni, and central administration), reflecting and leveraging our decentralized structure. If appropriately resourced and supported, this structure could be effective in overcoming the lack of leadership and coordination in entrepreneurship that many of the experts we interviewed saw as an impediment to our success.

RECOMMENDATION 3: **Culture**

UW–Madison has many ingredients necessary to foster entrepreneurship, which are the envy of our peers. However, as described above, our work uncovered a culture that at a fundamental level can be more supportive of entrepreneurship. It is important that instructors, service providers, partner organizations, and mentors adopt a founder-friendly culture that is both supportive of risk-taking and business formation while also realistic in terms of advice and resources provided. The proposed structure and accompanying investments will go a long way towards helping to improve the culture for entrepreneurs on campus. In addition to structural improvements, we recommend the following:

Organizational and Leadership Commitment

A flourishing entrepreneurial culture at UW–Madison will require the commitment of leaders, existing teams, and the broader campus community to understand, embrace, and actively implement strategies that advance entrepreneurship. Prior entrepreneurship initiatives at UW have often failed to address the importance of organizational culture. Because of limited attention to culture, the barriers of reluctance, reticence, and resistance stifled momentum. With this proposal, we recommend that culture be an essential focus with roles for executive leadership (chancellor, provost, deans) to communicate a strategic vision and to support opportunities that amplify the influence of existing champions to fully activate the most creative aspects of our culture.

Success in fostering an entrepreneurial culture is dependent upon strategic communication to increase awareness of the vision for and impact of entrepreneurship. Buy-in and support will be expanded when university leadership, including deans, department heads, administrators, and faculty fully understand the benefits of a robust entrepreneurial ecosystem for the university and the broader community. The definition of success will be enhanced by a pragmatic recognition that not all parts, or people, of the institution will be involved in or support entrepreneurship.

Critical to a thriving culture will be investment in recurring conversations, professional development, and training programs specifically designed to equip university leaders with the knowledge and skills to champion entrepreneurship initiatives. These efforts should address topics such as how to support entrepreneurs, work with external experts including alumni entrepreneurs, understand startup communities, and foster entrepreneurship within departments. Starting with smaller pilot programs that demonstrate effectiveness will create early wins that build momentum and garner wider support for a more comprehensive rollout. Developing culture will require the creation of robust networks that encourage faculty and staff to actively engage with and support entrepreneurs. The key to success will be building internal capacity with existing staff across academic departments, career services, libraries, and our partners. Training and professional development opportunities will equip them with the knowledge and skills necessary to effectively support student and faculty entrepreneurs.

To build trust and encourage broader buy-in across the institution, regular communication about the university's vision for fostering entrepreneurship should provide transparent updates on progress made. Data-driven insights can inform future strategies and demonstrate the return on investment in entrepreneurial support mechanisms.

Strategic Communication

We recommend that a communication and marketing strategy for entrepreneurship be developed by the UW–Madison Office of Strategic Communication in partnership with the appointed institutional leader to support an intentional culture around innovation and risk taking. Strategic communication will be a key enabler of this work, and resources will be required to support this institutional priority and accomplish the following:

- Oversee the strategic positioning of the entrepreneurship initiative in communication to generate awareness and initiate alignment.
- Define and segment priority audiences, and develop a channel-specific outreach and engagement strategy to accomplish goals, engage key stakeholders, and motivate participation.
- Explicitly demonstrate the value of entrepreneurship in and beyond the campus community through storytelling, campaigns, and high-impact communications.
- Support bidirectional communication between expert stakeholders and campus-wide leadership and partners to establish honest, transparent, and trust-building dialogue to receive input to enhance quality and results.

Changes in the Regulation of Campus Entrepreneurship

Our work generally found that the laws, rules, and policies that govern entrepreneurship at UW–Madison are similar to those at other peer institutions. However, the rules are generally conservatively managed, and the application of rules and policies governing entrepreneurship are inconsistent. It appears that many administrators, including department chairs, have little training in how to support entrepreneurs in their departments and why doing so may yield benefits to the institution and the world.

Both the Office of Research and the Office of Legal Affairs indicated that entrepreneurship policies have been in place for a long time without broad review. Both believe it is time to review them and make necessary changes to reflect current practices. We recommend the following steps to leverage the regulatory platform to better support entrepreneurship:

- Form a committee to participate in a review of current COI management policies to ensure they are clear, concise, and standardized. The committee should write a campus guidebook to clarify regulatory pathways that support entrepreneurship. We recommend that this committee include entrepreneurial faculty members and at least one venture capitalist and that good project management principles be deployed for this review to ensure it is completed in a fair and timely manner. We recommend returning to the former, more permissive one-day-a-week policy for outside activities if permitted by law.
- Institutionalize ways for faculty to take partial or total unpaid leaves of absence for a fixed duration, utilizing their salary for temporary faculty replacements for teaching, service, and even research if necessary and appropriate.
- Create staffing that provides navigation, information, and education to faculty about the regulatory and faculty governance issues that affect their work, and advocate on behalf of faculty².
- Continue improvements in our processes for Institutional Review Board (IRB) approval and clinical trials management. Recently, there have been efforts to make the IRB approval process, which governs clinical trials with startup and established companies, more streamlined and efficient without losing sight of safety and ethics. We applaud and encourage these efforts, as they make UW ever more attractive to industry for clinical trials.

²The Law & Entrepreneurship Clinic at the Law School could provide these advocacy services.

- Provide guidance on what is de minimis use of university resources for entrepreneurship. Currently, decisions on what constitutes de minimis expenses and use is determined at the school and college level, and there is significant inconsistency across campus.
- Celebrate time spent on and the impact of entrepreneurial endeavors. We should not manage entrepreneurship through the narrow lens of compliance. As recommended by a senior university leader, time spent on entrepreneurial endeavors should be viewed as equivalent to important activities faculty perform for other organizations, such as working on external grant review committees or serving as editors of journals.

Tenure and Promotion

Entrepreneurship is not an obvious factor in either tenure decisions or the post-tenure review process. Some schools, colleges, department chairs, and review committees consider research that leads to commercialization as inferior research. This may be because, historically, applied science was viewed as inferior to theoretical research. Faculty governance processes also inconsistently recognize entrepreneurial activities.

Major research universities have begun to examine if and how to incorporate innovation and entrepreneurship activities in promotion and tenure decisions. The NSF, DOD, DOE, DOC, and more recently the NIH are requiring commercialization plans as part of grant awards. This same sentiment is becoming more common in the federal SBIR grant process. In support of the Wisconsin Idea, which imagines campus research influencing the lives of the people in Wisconsin and beyond, we recommend that UW–Madison:

- Begin work to enable the incorporation of applied research and entrepreneurship as factors to be considered in tenure and the post-tenure review process.
- Hire faculty with entrepreneurial experience, including in the proposed cluster, to staff governance committees with people who understand how to assess applied research and commercialization. This proposed hiring initiative could be integrated with the RISE initiative.
- Develop entrepreneurial training for pre-tenured faculty, including educating them on the SBIR process, training them in project management, and teaching them the basics of commercialization, which includes understanding where societal problems reside and designing products that have an impact on society.

Facilities

Our interviews and benchmarking efforts show there is a current need for physical entrepreneurial spaces, an area where other institutions have made significant investments. A physical space would provide a central, energizing, and organizing place to build an entrepreneurial culture. This would also create a place for entrepreneurs and service providers to convene, enhance density of entrepreneurship, and perhaps house the proposed entrepreneurship unit. However, opinions vary on the topic of whether entrepreneurial space should be a priority, relative to other campus space needs. Given that there already plans afoot to provide new spaces on campus to support industry partnerships and engagement with the business community, we recommend that by the fiscal year 2025, an assessment be completed for physical space requirements for entrepreneurship, in partnership with the office of the vice chancellor for finance and administration, University Research Park, and other interested parties.

Business Community and Alumni Involvement

We strongly encourage UW–Madison to invest in fostering engagements with industry to support founders and help create new companies. We encourage investments in programs and activities that are designed to support a more porous partnership between the economy and UW–Madison's teaching, research, and service activities. It is likely that experimentation will be required as well as the use of multiple initiatives, as we have not found a turnkey model that might be best for all scientific and nonscientific domains in our market. However, examples that warrant future study and elicited high levels of interest among external stakeholders include the WYSS Institute (<https://wyss.harvard.edu/>), which has fostered formalized industry relationships with venture capitalists (<https://www.npv.vc/>)³, and entrepreneur-in-residence programs. Entrepreneur-in-residence programs could be structured in many ways, including integrating with degree programs, operating as paid positions designed to provide expertise to several startup teams, or fostering the formation of specific companies. We also reviewed a proposal for a program that would partner with large employers to loan executives to the campus to foster the formation of new ventures of mutual interest. All of these programs are designed to expose the university community to expertise and information about opportunities to form new companies. All have synergistic benefits with current industry engagement efforts on campus.

State Partnership

Our research uncovered many examples of significant coordination and support between the economic development arms of state governments and major research universities, including in the Midwest. For example, the state of Michigan funds a mentor-in-residence program through the University of Michigan; Nebraska allocates \$4 million for SBIR funding and will seed \$5,000 for SBIR proposals and higher amounts for matches; and Indiana uses proceeds from a multi-million dollar toll tax to fund entrepreneurship ecosystem-building, education, and investments.

In the case of CU Boulder, the Colorado Office of Economic Development has a program called Advanced Industries that provides approximately \$1 million to CU Boulder each year. This funding is used for an annual competitive, non-dilutive grant program that awards grants of \$125,000 each

³[Link to the news story on the partnership.](#)

to the most promising early stage spinouts at the university. WEDC and the state's significant support of the Regional Tech Hub for Biohealth is a welcome and bold development, as is recent news of a new \$100 million investment fund to support startups statewide. However, opportunities remain for the university to build programs with WEDC to enhance the entrepreneurial impact of UW–Madison. An example of such an opportunity is WEDC investing in the Piloting Research Innovation & Market Exploration (PRIME) grants that are administered by D2P. We encourage university leadership to engage leaders in government and the WEDC to seek their support to join us in advancing entrepreneurship in Wisconsin.

Measurement and Data Systems

We see great potential in building data systems to drive entrepreneurship outcomes at UW–Madison. Top corporations harness data science to achieve objectives, including improving operations and discovering opportunities for growth. Similarly, some universities have begun to use data analytics to drive fundamental change. For example, Georgia State University proactively retains at-risk students by identifying students in need of help by tracking 800 risk factors in their student population daily—risk factors developed through the use of data analytics [4]. Through our research, we learned that Georgia Tech uses data systems to drive the creation of spinout companies, and it was reported to us that this approach has become the primary source of deal flow for their technology transfer office. Wisconsin has some promising data analytics initiatives that can be leveraged to help drive entrepreneurship [5]. We recommend that:

- Leadership, managers, and program operators of entrepreneurship programs at UW–Madison use data analytics and data-driven decision making to both achieve outcomes and support the telling of UW's story of entrepreneurship. We should develop actionable, interoperable data on who participates in specific campus programs, startups in our ecosystem, and alumni.
- UW should partner with WARF to source or examine the feasibility of developing a technology scanning system similar to the systems in use at Georgia Tech.
- UW should partner with data groups on campus to expand the impact of campus data systems designed to foster entrepreneurship.
- UW should consider a strategic partnership in support of the above, in collaboration with the Chief Information Officer, to engage a leading technology platform or provider to expedite progress and contemporary methods and tools.

RECOMMENDATION 4: Capital

Capital is an impediment to entrepreneurship at UW–Madison. Access to expert capital within specific technological and business domains is needed. Building processes that increase the quantity and quality of investable companies produced by UW–Madison, a focus of this report, is likely essential to our potential success in building a more liquid market of expert venture capital around UW–Madison. However, in addition to increasing the quality of the ventures produced by UW–Madison, which is the focus of other sections in this report, a more focused effort needs to be made to improve access to capital that can support business formation. While we extensively studied different financing models, no easy solution emerged.

In the short term, the best strategy may be to accumulate more non-expert, industry-agnostic venture capital, but our goal should be to seek creative solutions to bring more industry-specific venture capital into our community. Industry-agnostic financing platforms, including industry-agnostic business accelerators, are unlikely to be effective in attracting the types of expert capital needed. We encourage working closely with WARF, WFAA, UW Athletics, and the WEDC on access to capital. In the longer term, the university should leverage its relationships, alumni networks, and successes to attract expert capital. In the development of sources of capital, it is important for the university to carefully consider and manage the potential conflicts of interest that can arise in the provision of venture capital. However, the goal should be to create pathways to finance business through conflict management instead of viewing conflicts as barriers to harnessing insights from external experts who become involved in companies by providing capital.

To move this work forward, we recommend that a funding committee be charged with two goals. First, the committee should seek to develop solutions to immediately improve access to sources of non-dilutive and dilutive capital for student, faculty, and alumni entrepreneurs. Assessing the performance and models of programs at Indiana University⁴ and Purdue University⁵ may be beneficial. Second, the funding committee should be charged with developing access to expert capital, including exploring the feasibility of forming a multi-university fund or fund-of-funds, alumni venture funds, alumni angel funds, or shared carry funds⁶, and leveraging our partners to develop syndicate opportunities. The composition of the committee should be inclusive of stakeholders from the state, venture capital, and the alumni communities.

⁴<https://iuventures.com/>

⁵<https://purdueinnovates.org/ventures/capital/>

⁶UC Berkeley has a model of venture capital in which designated university funds are run independently and provide carry (i.e., a percentage of the profits) back to the campus.

Resource Requirements

The resource requirements to fund the anchor initiatives described in this work, such as the formation of a new unit, are extensive, and budgeting should follow discussion and prioritization of the ideas presented. However, other proposals, such as making further improvements to conflict of interest and conflict of commitment management, do not require significant upfront investments and can be acted on in a shorter time frame. To produce a greater quantity, quality, breadth, density, and geographic range of entrepreneurship, it is important to make investments in all elements in parallel as soon as possible. Every year that passes where we do not leverage the full capabilities of the institution to enhance entrepreneurship is another year of missed opportunity for our students, alumni, faculty, and Wisconsin citizens.

We expect short-term resource allocation to depend upon authorization, decision-making, prioritization, and planning. Initially, we expect resource allocation to emphasize staffing and initial space. In regard to staffing, funding will need to be secured to hire the entrepreneurship executive and staff to support the planning, budgeting, sequencing, and initial piloting of programs. This team will need additional resources to build advisory committees and engage in external engagement to seek input and build momentum around the initiative. Interim funding may be necessary if an interim entrepreneurship executive or special advisor is required.

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