REPORT OF THE RESEARCH TO JOBS
IMPLEMENTATION COMMITTEE

**Submitted to
Dr. Kevin Reilly
UW System President
May 2010**

RESEARCH TO JOBS TASK FORCE IMPLEMENTATION COMMITTEE

Chair:
Charles Sorensen, Chancellor, UW-Stout

Members:
Mark Bradley, Attorney, Ruder Ware, LLSC
Patricia Brady, General Counsel, UW System Administration
Mark Cook, Board Chair and Founder, Isomark, LLC
Kathleen Enz Finken, Provost, UW-La Crosse
Carl Gulbrandsen, Managing Director, WARF
Thomas Harden, Chancellor, UW-Green Bay
Charles Hoslet, Managing Director, Office of Corporate Relations, UW-Madison
Kim Kindschi, Executive Director, Division of Entrepreneurship & Economic Development,
          UW-Extension
Frank Langley, President and CEO, MPP Group
Brian Levin-Stankevich, Chancellor, UW-Eau Claire
Thomas Mackie, Co-founder, TomoTherapy, Inc.
John Neis, Managing Editor, Venture Investors
Aaron Olver, Secretary, Wisconsin Department of Commerce
Christine Quinn, Provost, UW-Extension
Andy Richards, Senior Special Assistant to the President, UW System Administration
Tom Still, President, Wisconsin Technology Council
Brian Thompson, President, UW-Milwaukee Research Foundation
Dennis Winters, Chief Labor Economist, Wisconsin Department of Workforce Development

Staff and Research Support to Committee:
Kris Frederick, Budget & Policy Analyst, UW System Administration
Grant Huber, Special Assistant, Communications and External Relations, UW System Administration
Doug Mell, Executive Director of Communications and External Relations, UW-Stout
Rita Sears, Special Assistant to the President, UW System Administration

INTRODUCTION

In February 2009, University of Wisconsin (UW) System President Kevin Reilly appointed a Research to Jobs Task Force, chaired by Carl Gulbrandsen, managing director of the Wisconsin Alumni Research Foundation, to investigate ways in which UW can leverage its faculty, students and research resources to help stimulate job growth and strengthen the state economy. The Task Force completed its work and issued a final report, which included a set of recommendations (see Appendix A), in September 2009. One of the recommendations was the creation of an implementation committee to ensure that the initiatives included in the Task Force's final report do not languish.

In late February 2010, President Reilly convened a Research to Jobs Implementation Committee, chaired by Dr. Charles Sorensen, Chancellor of UW-Stout, to continue moving forward and take the next steps to translate the Task Force's recommendations into actionable items. President Reilly specifically asked the Implementation Committee to:

- Evaluate which recommendations will be most effective in stimulating start-ups and which will be most effective in helping mature businesses create jobs;
- Assess which recommendations will have the most impact, especially in terms of job creation, and should be the primary areas of focus for UW in its 2011-13 biennial budget request for the state;
- Determine which recommendations are sustainable (self-funding) over the long term;
- Explore ways to coordinate implementation of these recommendations with similar or related existing efforts, both within and outside the UW System;
- Find the best ways to leverage the resources of UW-Madison, UW-Milwaukee and the comprehensive institutions to enhance job creation across Wisconsin, including enhancing the link between basic and applied research;
- Consider the potential partnerships or funding opportunities with other state (such as DWD or Commerce) or federal agencies for these recommendations or for other joint job creation efforts; and,
- Develop a reporting framework for the recommendations.

Approach

The Implementation Committee held full meetings of all members on February 26 and April 13, 2010. During the initial meeting, it was determined that the best way to proceed was for subcommittees to research and assess the various proposals, taking charge of these initiatives and reporting back with recommendations to the full Implementation Committee. It was initially determined that since the initiatives fell into three general areas, three subcommittees would be appropriate. The Implementation Committee believed that the proposals included by the original Task Force under the "communications" section were supportive of the other recommendations. Therefore, the subcommittees were also instructed to assess which of the proposals under the Communications section would provide the most assistance, and how these initiatives could be integrated into an overall strategy.

The three proposed subcommittees, and the associated Task Force recommendations (see Appendix A), were:

- Portals - databases or Internet resources that provide information about and linkages to UW faculty and other resources *(recommendations#3,10)*
- Entrepreneurs – programs and initiatives that train or support entrepreneurship *(recommendations #2,3,4,5,6,7)*
- Centers (emerging technology centers) – entities that promote technology transfer or provide support to mature businesses *(recommendations #1,9,11)*

After additional review with the Implementation Committee chair and the subcommittee chairs, it was decided that the Portals recommendations did not require an entire subcommittee for review, and could be pursued either as part of the Entrepreneurs Subcommittee (#3) or as a stand-alone project (#10). Charles Hoslet, managing director of the UW-Madison Office of Corporate Relations, agreed to review recommendation #10 in conjunction with the Wisconsin Alumni Research Foundation (WARF).

Centers	**Entrepreneurs**
(recommendations #1,9,11)	*(recommendations #2,3,4,5,6,7)*
Brian Levin-Stankevich (Chair)	Kathleen Enz Finken (Chair)
Mark Bradley	Mark Cook
Patricia Brady	Charles Hoslet
Carl Gulbrandsen	Kim Kindschi
Thomas Harden	Thomas Mackie
Frank Langley	John Neis
Christine Quinn	Aaron Olver
Andy Richards	Tom Still
Charles Sorensen	Dennis Winters
Brian Thompson	

The Implementation Committee also developed a set of evaluation criteria and questions (see Appendix B) for the subcommittees to use during their discussions. The subcommittees were not charged with obtaining answers to these questions, but were to use the set of criteria as a starting point for discussions and as a way to frame their research. The subcommittees reviewed the assigned recommendations in order to assess costs, funding opportunities, short- and long-term returns, and possible prioritization for state funding in the 2011-13 budget.

Both subcommittees analyzed their assigned Task Force recommendations and developed a set of action steps and anticipated funding. A set of steps and funding needs were also developed for the Discovery Portal recommendation. The subcommittee reports are presented in the following sections, and a list of the action steps and anticipated funding are include in Appendix D.

Furthermore, it was determined that, in order to understand how the Task Force recommendations and any proposed implementation plans and funding proposals fit within existing efforts and programs at UW's comprehensive institutions, some baseline information about current operations was needed. To assess and collect this information, the UW-Stout Applied Research Center surveyed the comprehensive institutions about current activities.

The executive summary of the survey is attached as Appendix C. While the survey covered each of the Task Force recommendations regarding Portals, Centers and Entrepreneurship, two findings stand out in relation to the Committee's work:

- There is support for a Portal or database that contains information for all UW System institutions, but there is concern about the need to retain institutional identities and oversight of programs, as well as reflect regional needs and priorities; and,
- There are a variety of programs designed to achieve many of the Task Force's objectives and recommendations already underway at the comprehensive institutions; however, there is a need for both coordination of efforts and additional resources to allow for the expansion of these initiatives, as many currently operate with low levels of support.

The Implementation Committee believes this information will be extremely useful in developing a comprehensive, statewide approach by UW System institutions for translating research into jobs, assisting mature businesses and encouraging economic development across Wisconsin.

Findings

As the Task Force Report indicated, there is no magic bullet for stimulating start-ups and job creation, and the variety of needs to be addressed requires a broad response. The Implementation Committee concurs and feels that significant improvements to the state economy will require a comprehensive strategy with multiple components, and any successful strategy must focus on long-term programs and approaches. While successes will not occur overnight, a sustained focus on, and investment in, initiatives that build firms from the ground up and develop partnerships with mature businesses has a much greater chance for making successful and lasting contributions to Wisconsin than a focus on short-term returns and quick fixes. In addition, these are the types of initiatives that leverage UW's strengths in innovation and research, and therefore which UW is best prepared to contribute.

The Implementation Committee broadly conceived the concept of self-sustaining projects, as some of the proposals considered to be the most valuable may never be "purely" self-sustaining in terms of revenue generated versus the cost of program operation. However, given the potential for job creation and business expansion, which will result in corresponding increases in tax revenues, many of these initiatives have the potential to generate benefits to Wisconsin that will far exceed their cost as measured by direct cash outlays.

The Implementation Committee found that these initiatives could be accomplished with a reasonable investment of resources, including new state funding that would be requested through the 2011-13 biennial budget process. The recommendations of the Entrepreneurs Subcommittee could be implemented for less than $500,000 annually, some of which could be generated through in-kind or private sources, for a total cost below $1 million for the biennium. The Discovery Portal would cost approximately $170,000 for the 2011-13 period, with an additional $40,000 in 2013-14 and a similar amount in ongoing costs after this initial three-year development period.

The cost of the centers, recommended by the Centers Subcommittee, will vary depending on several factors, including the number of centers moving forward, the amount of base start-up funding to be provided each year and the resource commitment required of the participating institutions. The subcommittee did note that annual funding needs could exceed $1.5 million per center, with seven centers costing $10.5 million annually. A 2011-13 biennial budget request could seek lower amounts of initial funding, which could gradually increase over a period of three years as a way to phase-in the state commitment for this initiative.

The CORE Jobs Act, which was signed into law on May 10, 2010, is supportive of these types of programs and provides partial funding for two of these identified initiatives, which reduces the need to secure funds through the state biennial budget process. First, $125,000 is provided annually to support an existing UW business plan competition, aside from the Burrill Business Plan Competition at UW−Madison. UW must secure matching funds from private contributions in order to receive the state funds. Second, $400,000 is appropriated during the 2009−11 biennium to develop an emerging technology center at the UW−La Crosse. UW must also secure matching funds from "non-state" sources, which can include in-kind contributions, in order to access these funds.

In addition to the action steps and anticipated funding regarding the specific Task Force initiatives, the Implementation Committee recommends that each project under the Research to Job framework should be required to develop outcomes and accountability metrics, so that progress can be measured, and revisions and improvements can be developed and implemented. Due to the administrative alternatives available for implementing these recommendations, the Committee decided not to adopt specific benchmarks or evaluation criteria, but believes that the criteria used by the subcommittees can serve as a good starting point for developing project outcomes.

The Implementation Committee also believes that ongoing, hands-on management of these and similar research to jobs efforts, such as a central support infrastructure, should be strongly considered. Similarly, the conversations and discussions among the Committee members were both important and helpful for not only crafting the recommendations, but also for providing a forum to share ideas and information. This could be accomplished through a working group, dedicated staff or some other structure that would provide leadership and coordination of efforts among the doctoral and comprehensive institutions and UW Colleges/Extension. Extensive coordination and collaboration already occurs among UW colleagues at the research level, as well as among the three research foundations — the Wisconsin Alumni Research Foundation (WARF), the UWM Research Foundation and the WiSys Technology Foundation. The Implementation Committee strongly believes that these types of dialogues have significant value and should continue. There is a need, however, to build upon existing efforts and, especially, to create additional forums for dialogue and partnerships; to establish a mechanism for locating funding opportunities and potential partnerships; and, when needed, to provide administrative and financial support for researchers, grant applications and related projects.

Finally, the Committee believes that the Task Force recommendations and the associated action/implementation steps presented in this report are important components in any strategy for translating and linking UW's research — and research capacity — into jobs. The Committee recognizes, however, that other approaches and initiatives also will (and must) play an important role in stimulating economic development. Therefore, UW institutions and staff should not be limited to these recommendations, but should be actively encouraged to think creatively, pursue other proposals and experiment with alternative program designs as a means of developing a basket of options that can comprise a comprehensive approach to research innovation, job creation and business assistance.

CENTERS SUBCOMMITTEE REPORT

The report of the original Research to Jobs Task Force, delivered to the University of Wisconsin System Board of Regents in September 2009, recommended the establishment of seven Emerging Technology Centers (ETCs) to augment the two existing centers at UW-Platteville and UW-River

Falls. The concept for these centers was limited to a suggested technology area and a limited number of industry partners (see page 39 in the original Task Force Report).

The final Research to Jobs Task Force report laid out the following objectives of these centers:
- Undertake cutting-edge R&D in select emerging technology areas;
- Develop products and technologies useful for Wisconsin industries;
- Engage students in R&D training and instill passion for research;
- Encourage the development of technologies leading to start-up companies;
- Educate students and faculty in entrepreneurship;
- Attain self-sufficiency in five years;
- Generate opportunities leading to the creation of high-paying jobs; and,
- Engage emeritus faculty and retired industrial scientists in productive R&D.

Comprehensive campuses would establish these centers "to direct and stimulate research in specific technology areas important for Wisconsin's growth."

The Implementation Committee found that these were worthy goals and saw the need to incorporate into them considerations and criteria that will allow for the creation of technology-specific research programs within and among the comprehensive universities. However, after much discussion and study, the Implementation Committee now believes the original concept of the ETCs, as envisioned in the September 2009 report, should be broadened and the scope of the ETCs be expanded. Furthermore, it recognizes the need to support other, broader types of centers that are either already operational or nascent and developing private sector relationships.

A broad range of models of technology or research centers were reviewed — from pure incubator programs to broad-based campuses that are fully integrated with industrial parks. Some of the examples were related to expertise in specific technologies. Where these exist in sufficient critical mass to build infrastructure around them and to connect to developing companies, technology-specific centers should be supported.

The Implementation Committee, however, recognizes that there are additional needs in the Wisconsin economy, particularly in many regions of Wisconsin. While some of these may be best served by technology-specific centers of the type proposed by the final Task Force report, these should not be the only types of centers encouraged among the comprehensive universities.

The Implementation Committee believes that one size does not fit all and that centers could encompass a broad array of scopes and types; the word "center" representing a configuration of resources brought to bear on the economic development of the region without prejudicing the type of organization or structure such a center might employ. Any funding that becomes available through this project should serve to create incentives for comprehensive campuses to find the most effective ways to connect with their region's businesses and industries and to contribute to economic development and job growth. Campuses can do this while also meeting many of the objectives outlined in the original Research to Jobs Task Force Report.

Principles
These are the principles that the Implementation Committee recommends be used when evaluating proposals for funding a particular center:

- Centers must contribute to economic development through regional connections, collaboration across institutions and sectors, public-private partnerships and networking.
- Centers can create new jobs through R&D and technology creation.
- They can also create jobs by attracting new employers to the research they perform or the services they provide.
- Finally, they can add or retain jobs by strengthening existing, mature businesses and industry sectors by helping them stay competitive and/or expand, thereby retaining and attracting new companies to Wisconsin.
- Any funding in this area should be available to both establish new centers and strengthen the capacity of proven existing centers. Centers should be collaborative in nature and, ideally, would include multiple UW, educational and industry partners.
- Campuses and centers must leverage the multiple resources available across each particular campus and within the UW System for infrastructure support for R&D and business development (e.g. grant writing capacity, grant management services and staffing, project management and faculty expertise available at other campuses).

Criteria

The Implementation Committee recommends the following criteria for reviewing specific center proposals:
- There must be a clear indication that the campus(es) leadership is firmly committed to the center proposal. There is no guarantee that funding for all the myriad needs of the center will be provided by the UW System or other funding sources. The center may very well require a campus to adjust spending priorities to support the center. This will require firm leadership at the campus level to champion the center's cause.
- Proposals must demonstrate that faculty and academic staff are committed to the long-term research and service objectives of the center. Along with this, the institution's leadership should indicate a commitment to provide faculty and staff with the time needed for their involvement. Ideally, then, centers should be established where there is already some evidence of faculty/academic staff engaged in outreach, engagement and research with students and external partners.
- Proposals must demonstrate collaboration beyond one institution, including multicampus collaboration, engagement with technical colleges or collaborations that incorporate the research universities and/or other institutions.
- Center leadership must demonstrate a track record and strong commitment to partnerships with Wisconsin businesses, entrepreneurs or industry. The center goal is to turn research into jobs. This can only be accomplished by working closely with the private sector for job creation.
- Since the centers should encourage spin-off businesses, mechanisms to train and mentor faculty, staff and students in business and entrepreneurship, and plans to deal with commitment and conflict of interest issues must be addressed in the proposals.
- Proposals should demonstrate that the centers will provide an opportunity for involving students in the research being conducted.
- Proposals must identify the staffing and other infrastructure resources needed and costs anticipated by the center. They also should outline efforts underway to leverage such infrastructure resources through collaborations or reallocated resources on campus.
- Proposals must clearly contain a business model, preferably one that indicates the center, over time, has the ability to become self-sustaining. However, the Implementation Committee understands that not all centers can become self-sustaining; these centers contribute to the educational mission of the institution and should be viewed in that context.

Obstacles

The Implementation Committee believes there are some obstacles standing in the way of successful centers in the UW System. These include:

> Faculty at comprehensive universities can have a hard time finding additional time to devote to research and development activities because of already high workloads, including teaching, scholarly research, service, and advisement. However, there is concern that simply "buying out" the course loads of these faculty and hiring adjunct faculty could alter the "teaching mission" of the comprehensive universities. Many of the models reviewed by the Implementation Committee involved building or leasing space for research and incubation activities. This would require flexibility, given existing restrictions on capital funding sources and leasing practices. Centers will need to be responsive to opportunities.

> There is anecdotal evidence that caps on faculty overload earnings hampers recruiting from current faculty for entrepreneurial activity. The UW System should review the caps, and they should be abandoned or adjusted to ensure that faculty and academic staff members are not discouraged financially for entrepreneurial activity.

Final points

The major questions that the Implementation Committee considered were the number of centers that would be appropriate for the UW System and where they should be located. In the end, the Committee's consensus was that the centers should span regional campuses where appropriate. The UW System cannot afford to build discrete, self-contained centers throughout the state.

The Implementation Committee believes very strongly that the UW System should support centers that have a regional draw and provide service across the state.

Concerning costs, the original Research to Jobs Task Force Report estimated the cost to UW System for each center at $1.1 million over four years. Of this amount, $450,000 in start-up funding would be required in the first year of operation. The Implementation Committee decided not to make a funding recommendation at this time because it had significantly broadened the center concept as envisioned by the original Task Force report; the original task force report indicated that the total five-year cost of each center could exceed $2.5 million.

ENTREPRENEURS SUBCOMMITTEE REPORT

The Entrepreneurs Subcommittee evaluated the following recommendations from the Research to Jobs Task Force (original Task Force recommendation number in parentheses):

- Weeklong course to teach basic business and entrepreneurial skills (#2);
- UW System website for posting start-up ideas and requests (#3);
- UW systemwide business plan competition (#4);
- UW Certificate Educational Program on Technology Transfer (#5);
- Wisconsin Entrepreneur-in-Residence Program (#6); and
- Wisconsin Tech Transfer CEO Placement Program (#7).

The subcommittee recognizes the value of each recommendation as part of a comprehensive strategy for launching both businesses and an entrepreneurial workforce from UW System institutions. The

attached "Vision: Research to Start-ups" chart (see page 15) presents the elements in the translation of academic research into jobs. It clearly illustrates the recommendations made by the original Task Force for the creation of jobs and their interdependence with UW System, Wisconsin business and investor communities, and state government. Recommendations made by the original Task Force are shown by the corresponding number indicated above and were the focus of the Entrepreneurs Subcommittee.

The original Task Force's recommended initiatives are already underway, either in other states or at a particular UW institution. Therefore, when able, the subcommittee conducted a series of conference calls with the administrators of these programs. These discussions provided subcommittee members with a better understanding of the program operations, the related costs and implementation issues associated with the programs, and approaches for expanding and leveraging existing programs statewide at a minimal cost. The subcommittee was especially interested in learning how these recommendations assist with job creation, or support efforts to translate research into jobs. An additional consideration was the need to understand how to best evaluate these recommendations as possible investments of public resources.

The subcommittee believes that each of the recommendations represents a valuable tool as part of a comprehensive strategy to encourage entrepreneurship, foster collaboration and shepherd ideas and talent through the critical initial stages of development. Each of the recommendations helps to address a critical gap in training, a missing resource that restricts the development of new businesses or breakthrough ideas, or a need to foster entrepreneurship among both undergraduate and graduate students.

In terms of job creation, all of these proposals are best viewed as longer-term investments that will not produce large returns in the short term (less than three years). However, they are essential components of any strategy if Wisconsin is to develop and retain the talent that will create breakthrough technologies that will spur job creation in emerging fields. The enhanced training, entrepreneurship education and access to capital provided through these recommendations also will provide existing, mature businesses with talented leaders and the resources necessary for expansion within Wisconsin.

In addition, each of these recommendations is a relatively low-cost option — when combined, the proposals total less than $7 million. The potential return on this small investment, however, is quite large. If only one or two new ideas from the business plan competition leads to the formation of new businesses, or the website attracts investment and collaboration that leads to a new technology that can be implemented by Wisconsin businesses, then the public could recoup this small investment many times over. The subcommittee, therefore, believes that, overall, these proposals represent a wise investment in the economic future of Wisconsin and the economic security of its citizens.

More detailed discussions of the recommendations and the subcommittee's findings are presented below:

Weeklong course to teach basic business and entrepreneurial skills (#2)
> The subcommittee discussed this proposal with Dan Olszewski, who, along with Prof. Anne Miner and John Morgridge, started the Wisconsin Entrepreneurial Bootcamp (WEB), which is hosted and coordinated by the Wisconsin School of Business (UW-Madison). This is a low-cost program, requiring a cash expenditure of approximately $50,000 annually, primarily for texts, materials and meals for the participants. Aside from some teaching assistant support,

instruction is provided by School of Business faculty and national and local business leaders. Currently, between 50-60 students participate each year, with the audience generally consisting of graduate students in engineering, science, medicine and law (approximately two-thirds are Ph.D. students). The program could accommodate an additional 20-30 graduate students without diminishing its quality or effectiveness. It is available to students free-of-charge through support from private donors with faculty and staff costs (of approx. 1.5 times direct costs) provided by the School of Business. Incorporating students from outside UW-Madison would require providing housing and coordination and would, therefore, increase the cost of the WEB.

The subcommittee believes there is a great and increasing need to provide entrepreneurship training opportunities to undergraduates and graduates, and that an expanded entrepreneurial bootcamp model is one way to address this need. Replication outside the Madison or Milwaukee metro areas could provide challenges, as there is a need for a critical mass of students, business faculty, staff and members of the business community to develop and sustain such a program over time. Similarly, the in-person, participatory aspect of the program is critical to success, so simply providing Internet, videoconference or telepresence access to this course is not an appropriate substitute or addition to the current program design. The Wisconsin Department of Commerce's Forward Innovation Fund, while not a source of long-term funding, could provide initial funding to start smaller, pilot bootcamp initiatives.

Therefore, the subcommittee recommends pursuing the following implementation steps/action items:
   ➢ Work with the Wisconsin School of Business to expand the Wisconsin Entrepreneurial Bootcamp by 20-30 graduate students;
   ➢ Investigate ways to encourage participation by undergraduates or design an additional program for them;
   ➢ Investigate ways to encourage participation by graduate students from outside Madison in the WEB; and
   ➢ Identify funding sources to support expanded entrepreneurial bootcamp opportunities. This could include support for housing for attendees from outside Madison and/or creation of a second course, which could be offered at UW-Madison through a residential model with on-campus housing, or at another institution that can provide the appropriate administrative infrastructure and critical mass of resources to support the course.

   ❖ Anticipated funding need: $50,000-$100,000 per year, through a combination of direct base funding, in-kind support and/or private donors.

UW System website for posting start-up ideas and requests (#3)

The subcommittee believes this proposal has the potential for being a gem for Wisconsin, in terms of encouraging collaboration, matching ideas with resources and providing talent with support. Although patterned after the University of California, Berkeley's "Big Ideas @ Berkeley" marketplace, a UW website could be more than a source for requesting and finding funding for research ideas or connections to potential partners. A robust, professionally managed website could be interactive and multifunctional, using social networking tools to provide a forum for collaboration and resource sharing. It would also be a vital communications link for information about the variety of programs available and projects

underway, both within the UW System and across Wisconsin. This website could include a variety of functions, such as:

- Linking students and/or researchers to foster collaboration by sharing ideas and discussing solutions to problems;
- Providing a forum for soliciting capital or other support, and for matching donations or support with these requests;
- Fostering discussions and networking across UW institutions;
- Connecting ideas and people with knowledge and expertise; and,
- Providing a one-stop resource for finding information about federal, state and private programs, grants and funding opportunities.

The subcommittee is concerned, however, that without strict administration and management, the website could simply become another search engine or a marketing venue for private firms looking to increase sales, rather than a tool to support research and innovation. Therefore, while the website must be dynamic, it also must be closely monitored, with membership limited to UW students, faculty and other approved parties, such as angel investors and venture capitalists, business professionals and Wisconsin state economic development officers. A professional administrator/manager is needed to provide the required ongoing staff support — for both monitoring the website and finding additional resources to include, such as tracking the availability of outside opportunities for funding and training; exploring new uses and possibilities for the website; and seeking outside (nonpublic), ongoing financial support. This position also would be responsible for marketing and driving traffic to the website.

Therefore, the subcommittee recommends pursuing the following implementation steps/action items:
- ➢ Investigate existing UW resources and systems, such as the Center for Advanced Technology and Innovation (CATI) website at UW-Parkside which links companies' unused technological assets with existing and up-start firms, which can leveraged to form a base for building a UW website;
- ➢ Convene a group of individuals with knowledge and skills in research, entrepreneurism and information technology to develop a scope statement for the development and ongoing maintenance/administration of a website;
- ➢ Contract for the development and implementation of the website; and,
- ➢ Recruit and hire appropriate staff to manage and administer the website.

- ❖ Anticipated funding need: $100,000-$200,000 per year, through a combination of public funds and private donors. The subcommittee believes that, given the small cost but potential benefit to all UW System institutions and students, as well as the potential return in terms of possible technology transfer opportunities and business start-ups, this would be an appropriate item to include as a budget request for the 2011-13 state budget.

UW systemwide business plan competition (#4)

The subcommittee discussed this recommendation with John Surdyk of the Wisconsin School of Business (UW-Madison), which conducts the G. Steven Burrill Business Plan Competition. The competition is limited to UW-Madison students and includes a series of seminars to assist with plan development. The seminars are not limited to competition participants and, therefore,

provide a source of training in entrepreneurship for all students. A mock competition is staged early in the process for students to present their concepts to professional communications, business and business law experts to provide early feedback, as well as to develop networking opportunities. The 2009 competition attracted 18 teams (with 30 students), with a top cash prize of $10,000. Several of these plans have been translated into actual businesses. Similar to the entrepreneurial bootcamp, a business plan competition is a low-cost program model, requiring small cash expenditures for materials, prize money and incidentals. The program demands approximately $30,000 per year in staff time, using student hourly help and the partial time of one tenured faculty member and one academic staff person. Ongoing staff support is crucial, as student-run competitions can lack institutional memory, which can be a hindrance to success. The most critical component of a successful competition is finding volunteers to serve as judges, advisers, seminar presenters — locating and leveraging business expertise among alumni and the community.

The subcommittee believes a business plan competition offers another avenue for providing entrepreneurship training and skills development opportunities to both graduate and undergraduate students. A systemwide approach to a competition, however, would likely require that one institution take the lead in coordinating the program. This approach would also require the necessary resources to coordinate such a competition across multiple institutions, including staff and the technology to potentially broadcast the program seminars and student presentations to multiple locations. Aside from funding, the largest challenge will be finding the base of volunteers to provide business expertise and advice to students, either through the seminars, the project/plan development stage or the judging process.

The subcommittee recommends pursuing the following implementation steps/action items:
  ➢ Work with the Burrill Business Plan leadership and representatives from other UW institutions to develop a program model that could be administered across the UW System;
  ➢ Investigate the resource and infrastructure needs to implement this program;
  ➢ Coordinate with the Wisconsin Technology Council so that the winners of the UW competition advance to the Governor's Business Plan Competition; and,
  ➢ Identify a lead institution and sources of ongoing funding to support a competition.

  ❖ Anticipated funding need: $100,000-$150,000 per year for resources, dedicated staff and prize money, through a combination of direct base funding from institutions, in-kind support and/or private donors.

UW Certificate Educational Program on Technology Transfer (#5)

UW institutions should view technology transfer and entrepreneurial education as critical parts of any curriculum, and should be encouraged to provide seminars and educational opportunities in these areas. The subcommittee believes the most immediate need, however, is for more short-term, specialized training that will put this information and skills into the hands of economic development professionals. This need is especially critical in the emerging area of technology transfer, as a gap appears to exist in this field, in terms of both the availability of focused training and knowledge about the variety of resources available. Institutions should be encouraged to work with their local business and economic development communities to determine their needs in this area, as well as the best ways to provide this training and skills development, from conferences to short-course and online training, to full certificate programs.

Based on discussions with economic development professionals, it appears that low-cost, flexible training options, such as online modules or courses, would be viewed as most useful.

The subcommittee found that while there are organizations, such as the Wisconsin Economic Development Association, that provide training in this area, there is little coordination and no central resource for finding available training opportunities. Therefore, there is also a pressing need for coordination among the training programs currently offered for economic development professionals and a one-stop database for finding training opportunities.

The subcommittee recommends pursuing the following implementation steps/action items:
- ➢ Encourage UW institutions, WARF, WiSys and the UWM Research Foundation to work with the business community and economic development agencies to determine where training needs exist and how to best meet these needs;
- ➢ In conjunction with the Wisconsin Department of Commerce, work with the Wisconsin Economic Development Association to expand the availability of training opportunities regarding technology transfer; and,
- ➢ Encourage the development of a centralized, actively managed database or resource where training opportunities for economic development professionals can be listed.

- ❖ Anticipated funding need: none at this time.

Wisconsin Entrepreneur-in-Residence (#6) and Tech Transfer CEO Placement Programs (#7)

The subcommittee discussed these programs with LeAnn Auer, executive director of the Michigan Venture Capital Association (MVCA), which administers the Entrepreneur-in-Residence (EIR) and CEO Placement programs in Michigan. These are not state programs, but are private loans administered by a 501(c)(6) membership organization, using a $1 million grant provided by the Michigan 21st Century Jobs Fund. The CEO Placement program, which assists Michigan venture capital firms with recruiting CEOs, has placed eight CEOs with firms spread across Michigan that have created approximately 100 jobs in the three years since the program was established — with some companies already attracting additional investments of venture capital and repaying their loans.

The entire $1 million grant has been allocated through loans; it was recommended that a more appropriate and effective starting base for a comparable program in Wisconsin would be $3-$4 million. Aside from this funding for the loans, the cost to manage and operate the program is low, with legal fees and other incidental costs totaling less than $35,000 over a three-year period. Depending on the administrative model selected, some resources for staff and oversight would also be required.

The subcommittee believes these proposals would be valuable tools for encouraging and attracting venture capital in Wisconsin, and would provide a relatively short-term return on the funds invested. The program would provide a critical link between the initial start-up phase and the stable small business. This program does not, however, fit within the UW's typical purview or skill set. A more logical and appropriate entity to spearhead these programs would be the Wisconsin Department of Commerce or a similar agency with a specific economic development mission that has experience working with venture capital and administering these types of programs. Furthermore, the subcommittee noted this proposal would likely require
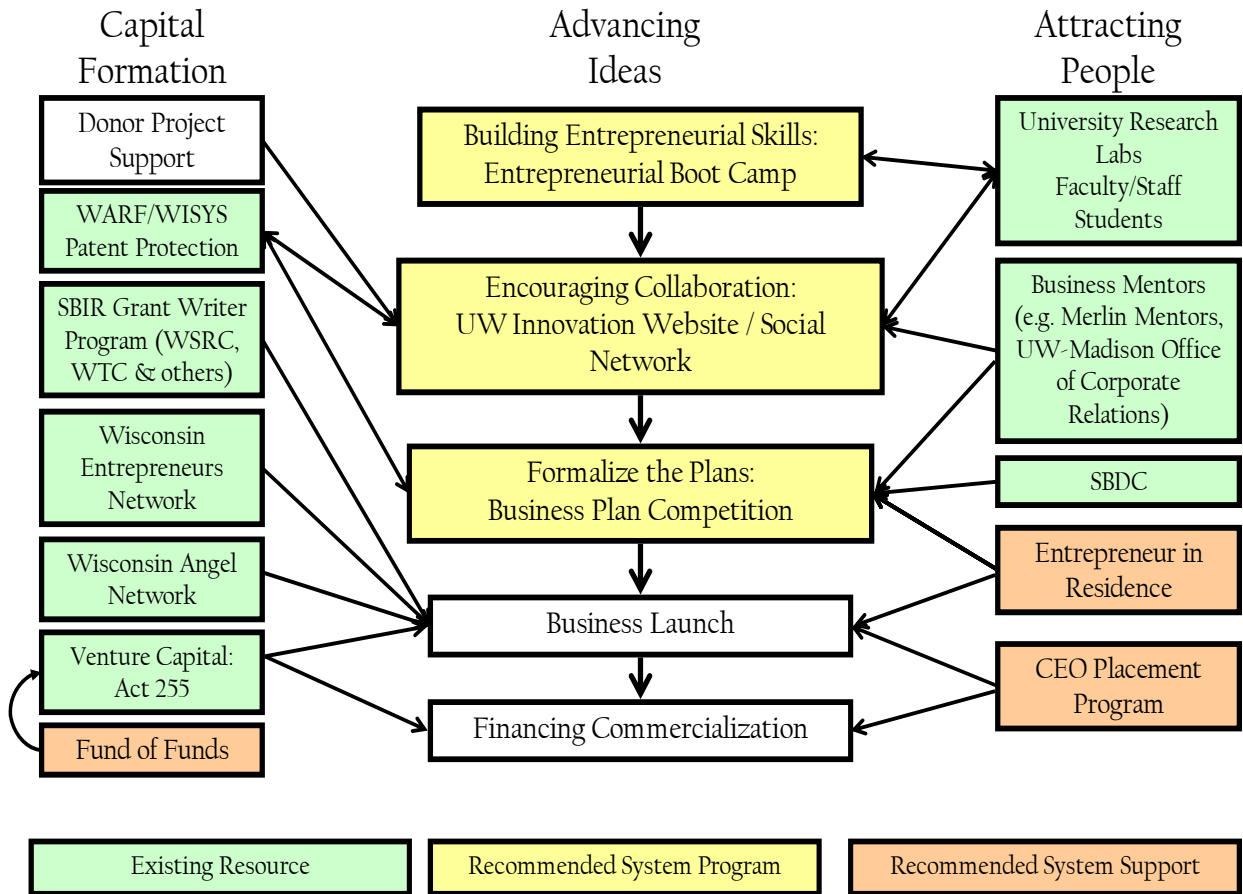
legislative approval and, given the state's current fiscal climate, approval of this recommendation might be challenging. Nonetheless, the potential of the CEO Placement program to have a positive impact on business growth in a relatively short period of time suggests that the program should be viewed as an important option.

The subcommittee recommends pursing the following implementation steps/action items:

➢ Share information regarding the EIR and CEO Placement programs with the Wisconsin Department of Commerce for consideration for development and inclusion as part of its venture capital initiatives.

❖ Anticipated funding need: none for the UW System.

Vision: Research to Start-Ups

Capital Formation	Advancing Ideas	Attracting People
Donor Project Support	Building Entrepreneurial Skills: Entrepreneurial Boot Camp	University Research Labs Faculty/Staff Students
WARF/WISYS Patent Protection	Encouraging Collaboration: UW Innovation Website / Social Network	Business Mentors (e.g. Merlin Mentors, UW-Madison Office of Corporate Relations)
SBIR Grant Writer Program (WSRC, WTC & others)	Formalize the Plans: Business Plan Competition	SBDC
Wisconsin Entrepreneurs Network	Business Launch	Entrepreneur in Residence
Wisconsin Angel Network	Financing Commercialization	CEO Placement Program
Venture Capital: Act 255		
Fund of Funds		

Existing Resource	Recommended System Program	Recommended System Support

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EXPANSION OF THE DISCOVERY PORTAL REPORT

Expand Wisconsin Discovery Portal database (#10)

The Wisconsin Discovery Portal is a Web-based database that can be freely accessed by the public to identify all UW-Madison faculty and certain staff with technical expertise, including (among other things) their areas of research expertise, current funding, issued patents and patent applications, technologies available for licensing, recent publications and their contact information. This provides an opportunity for industry to identify potential collaborators for sponsored research, consultants and campus resources or facilities that may be available to them on a fee-for-service basis. Currently, the database has close to 3,000 UW-Madison faculty and staff listings. The Wisconsin Alumni Research Foundation (WARF) developed the Portal and the WiSys Technology Foundation (WiSys) manages/updates it on a regular basis.

An expanded Portal, which would cover faculty at other UW System campuses, was discussed with the managing directors of WARF and WiSys. They both agreed that the Portal can and should be expanded to include all faculty and technical experts at all the other UW System institutions (UW-Milwaukee, the 11 comprehensive campuses and the 13 two-year campuses). While this approach would be slightly more expensive than including only individuals in the science and technology areas, to include all faculty and technical experts from the other institutions, so that we are not artificially limiting access to faculty/staff with which companies may want to interact, imposes only a marginal increase in costs.

It was also determined that these added functions would be beneficial and make the Portal more robust:

- The ability to search/sort by campus;
- Technology transfer office contact information; and
- A "license ready" technology list for each campus.

In addition, marketing of the availability of the expanded Portal will be important to ensuring that business and industry around the state is aware of this valuable resource. Strategies likely to be used include preparing permanent posters for exhibitions; creating a Discovery Portal booth for workshops and symposia; e-mail, website and regular mail communications to companies; inclusion of Portal news in faculty seminars; and prominent links on campus websites. The Portal currently receives approximately 650 unique visits per month, resulting in nearly 6,000 pageviews. However, considering that no major marketing efforts have been done for the Portal to date, WiSys expects to double the total traffic over time, resulting in approximately 1,000-1,300 unique visits and 10,000-12,000 pageviews per month.

Therefore, the following implementation steps/action items are recommended:
- Designate a management team to lead the development of the expanded Portal, oversee implementation and provide ongoing high-level oversight;
- Collaborate with WiSys on the development and implementation of the expanded Portal; and,

➢ Recruit and hire appropriate staff to manage, administer and market the Portal.

❖ Anticipated funding need: approximately $202,000 over the first three years, with roughly $40,000 per year in ongoing costs (plus standard personnel and fringe increases) for subsequent years.

Appendices:
A: List of Research to Jobs Task Force Recommendations
B: List of Research to Jobs Implementation Committee Evaluation Criteria
C: Executive Summary: Research to Jobs Survey of UW Comprehensive Institutions
D: List of Implementation Committee Action Steps and Recommendations

Appendix A
List of Research to Jobs Task Force Recommendations

Job Creation through Start-ups
1. **Recruit experienced SBIR** grant writers to assist University of Wisconsin System start-ups attract early non-dilutive funding.
2. **Week long course to teach basic business and entrepreneurial skills** to students, staff, and faculty in the scientific and engineering disciplines. This is modeled after the successful entrepreneurial boot camp on the UW-Madison campus.
3. **A UW System website for posting start-up ideas and requests** for support, which may include employment, advisors, financial support, etc. (the "UW Innovation Machine").
4. **A UW system-wide business plan competition** modeled after the Burrill Business Plan Competition on the University of Wisconsin-Madison campus.
5. **A UW Certificate Educational Program on Technology Transfer** for economic development professionals and business incubator managers.
6. **Wisconsin Entrepreneur-in-Residence Program** to identify and retain qualified and experienced CEO candidates for start-ups.
7. **Wisconsin Tech Transfer CEO Placement Program** to award loans to early-stage companies to recruit CEOs.
8. **UW System Leave of Absence policy** be modified to encourage faculty to engage in Wisconsin startup companies.

Growth of Mature Business
9. **Development of Emerging Technology Centers in the UW System** to focus on specific technologies and connect with companies throughout the State.
10. **Expand Wisconsin Discovery Portal database** to include all UW campus faculty to facilitate inter-campus and industry collaborations.
11. **Remove existing barriers** and promote research as an integral part of undergraduate teaching.

Communicating the Critical Role of UW Research to the Public and Industry
12. **Improve the UW's tele-presence statewide,** whether through internal communications tools or through mediums such as Wisconsin Eye, the Big 10 Network, WisBusiness.com, the Wisconsin Technology Network and other targeted sources that offer online video options. These are opportunities to showcase UW R&D success stories.
13. **Make better use of alumni publications,** both print and online.
14. **Use available "ambassadors" more effectively**. These include alumni, "star" business partners and license-holders, faculty and staff who have successfully worked with business, and students – who are ultimately the No. 1 "tech transfer" product of the university.
15. **Consider establishing a UW System version of the UW-Madison Office of Corporate Relations**, working through that existing framework, to better connect businesses working with the nondoctoral comprehensive campuses.
16. **A Wisconsin Idea bus tour** or similar outreach function such as The Wisconsin Edge, which is cosponsored by WARF. This process and others have highlighted "best practice" examples of university-industry collaboration.
17. **Gain a better grasp of "new media"** and determine ways to better help news organizations in performing an increasingly difficult, resource-restrained job.

18. **Start-up funding for the Center on Public Opinion and Technology** (CPOT) within the UW-Madison Department of Life Sciences Communications would help put that research into the right hands – and launch a national center that could eventually pay dividends to the university.

19. **Routinely capture business community opinion using survey research tools.** The Wisconsin Technology Council and WisBusiness.com have launched a "Tech Leadership Survey" to regularly sample business opinion in that sector.

20. **Improve marketing of the technologies in the WARF, UWM Research Foundation, and WiSys portfolios**, especially to small- and medium-sized businesses and Wisconsin trade associations that often represent those businesses.

21. **Leverage UW System graduates in the Milwaukee area**, where there are excellent examples of collaboration (the GE Healthcare "master agreements" with WARF, for example) but a lack of recognition. The UW System should work harder to close the Milwaukee-Madison cultural and business divide while supporting the growth of the UW-Milwaukee research infrastructure.

22. **Use statewide and regional groups to communicate** the fact that UW-Madison R&D is available to be deployed anywhere in Wisconsin (or the world) and that all UW System campuses offer significant R&D capacity, either individually or collectively.

23. **Consider reviving the Wisconsin Economic Summit**. The focus of the next summit might be twofold: "best practices" in Wisconsin and elsewhere, and getting direct feedback on business needs.

24. **Commit the resources** for the UW System's "Growth Agenda" to be successful.

Appendix B
List of Research to Jobs Implementation Committee
Evaluation Criteria

- What are the outcomes?
  - Number of jobs created?
  - Number of tech transfer agreements?
  - Number of start-ups/new businesses?
  - Number of patents filed?
  - Number of program participants/attendees?
  - Number of individuals/businesses aided?
  - Number of faculty participants?
- What is the cost?
  - Overall cost?
  - Cost per outcome?
  - How much funding can be leveraged (leveraged $ per $ invested)?
  - Can the program be implemented with existing funds?
  - What is the GPR cost?
    - How much new GPR would need to be requested?
- Is outside funding currently available?
  - Funding through state grants, programs or agencies?
  - Funding from federal sources?
  - Is private funding/are private sources (grants, contracts, partnerships) available?
  - Is outside funding sustainable?
    - As one-time or ongoing funding?
  - Is outside funding sufficient for implementation stage (until project becomes self-funding/sustaining)?
- Is the project sustainable/viable over the long term?
  - Will project become self-funding?
    - If so, when would this occur/how long?
    - How much initial investment is required?
  - What is the cost until project becomes self-sustaining?
  - How will the project be self-sustaining/what is the source of sustaining funds?
- Are there potential partners?
  - Are private partners available?
    - Can partners provide funding?
  - Public sector collaborations?
    - Number of UW System institutions participating?
    - State agencies/programs?
  - What would be the relationship between the partners?

Appendix C
Executive Summary
Research to Jobs Survey of UW Comprehensive Institutions

This is a report of a survey administered to all eleven UW System Comprehensive Universities in spring 2010. The response rate was 100%, with eleven Comprehensives submitting data. The report describes the responses by each of the Comprehensives to the survey questions and provides information on what is already being done in regards to the recommendations of the Research to Jobs Task Force, namely:

- Connect with Wisconsin Industry
- Promote a culture of entrepreneurship
- Promote research as an integral component of teaching in the comprehensive campuses
- Recommendations for private sector or joint public private sectors

The authors believe the data support the following conclusions:

Part 1: Portals

1. The most frequently mentioned resource to link entrepreneurs and researchers with **mentors, advisors and possible collaborators** was the Small Business Development Center (SBDC) at their University (8 Comprehensives).

2. Two comprehensives listed their University Foundations as a resource to link entrepreneurs and researchers with **donors.** Other resources listed include: Institute for Entrepreneurship and Innovation, Angel Mentors Group, Center for Advanced Technology and Innovation, within colleges, SBDC, and Office of Research and Sponsored Programs.

3. Eight Comprehensives reported having worked with the Wisconsin Angel Network, and UW-Eau Claire reported working indirectly with them via a local agency.

4. Just over ½ of the Comprehensives reported having a publicly accessible database. If they had such a database, information about faculty, faculty research interests, faculty technical expertise, resources available, and potential interest in collaborations was most frequently available.

Part 2: Centers

1. No Comprehensive reported having grant writers who assist with obtaining funding for start-ups. However, just over half have other staff who assist with obtaining funding for start-ups. Most often, they report to a Dean or Associate Vice Chancellor.

2. Three comprehensives reported having applied for SBIR grants in the last 3 years, and one (UW-Green Bay), received a grant, with $16,000 in federal funding provided.

3. Most (10) Comprehensives report having some incentives in place to promote research and remove barriers. Most frequently mentioned strategies were: reductions in teaching load (10), help in seeking extramural funds to continue research projects (10), support personnel to provide legal

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and/or administrative assistance on research projects (8), seed funds to conduct feasibility studies for research projects (7) and communication about confidentiality and proprietary information when partnering with industry (6). There was a broad range of scope, with some of the Comprehensives cautioning that their scope is very narrow.

4. New/Emerging Businesses: Eight Comprehensives report having Centers in place to focus on specific technologies and connect with companies throughout the state. The Center heads most frequently report to Deans, along with a Vice Chancellor, and an Executive Director (who reports to Provost).

5. Mature Businesses: Eight Comprehensives report having Centers that work with mature businesses on technology development. As was the case with the previous question, the Center director most frequently reports to a Dean.

6. 70% of the Centers provide internship opportunities for students.

7. Less than ¾ of the Comprehensives reported at least one partnership with a regional company on a joint research/development project. One institution reported 15 partnerships.

Part 3: Entrepreneurship

1. Training is most often available in: basic business principles, financial strategies, key tools and concepts for starting a new firm, how to understand and use financial analysis, and the passion and perils of entrepreneurship as a life path (offered at 73% of the Comprehensives).

2. Students are most frequently offered training in key considerations in basic business principles, financial strategies, core knowledge, and the passion and perils of entrepreneurship as a life path (offered at 36% of the Comprehensives).

3. Faculty/Staff are most frequently offered training in basic business principles and financial strategies (offered at 27% of the Comprehensives).

4. There has been participation from six Comprehensives in the Governor's Business Plan Contest. UW-Platteville has had the most success thus far, with a Grand Prize Winner in 2008.

5. Eight Comprehensives participate in a Business Incubator and ten Comprehensives participate in an Economic Development Organization. Five Comprehensives offer training in technology transfer, with one offering training to Business Incubator Managers and Economic Development professionals.

6. Four Comprehensives indicated that they have processes in place to help connect start-ups with potential CEO candidates. The existing Centers at the Comprehensives provide the connection largely on an informal basis.

Appendix D
List of Implementation Committee
Action Steps and Recommendations

Centers Subcommittee:

Encourage the establishment and/or growth of emerging technology centers (ETC) across the UW System (#9)

- ➤ Work with the Board of Regents, Legislature and governor to raise awareness of the need for and value of ETCs. It is vital that this discussion include the broad range of ETCs called for in the Implementation Committee's report;
- ➤ Work with UW System administration and the Board of Regents to put in place useful and practical criteria for evaluating ETC proposals from campuses, using the principles and criteria set forth in the Implementation Committee's report;
- ➤ Work with the private sector to raise awareness of the need for ETCs, with the goal of increasing business and industry support for these campus-based initiatives. (The Centers Subcommittee report indicated that collaboration was a key factor in the success of any ETC);
- ➤ Work with UW System administration and the Board of Regents to remove any obstacles that prevent full faculty and staff participation in ETC efforts, including caps on faculty overload earnings;
- ➤ System and campus leaders must reach out to regional economic development officials, when appropriate, to begin discussions about the UW System's ETC efforts; and,
- ➤ Review existing policies that may limit the ability to build or lease space needed for ETCs.

- ❖ The Implementation Committee decided not to make a funding recommendation at this time because it had significantly broadened the center concept as envisioned by the original Task Force report; but, it did indicate that funding needs could exceed $1.5 million for each center.

Entrepreneurs Subcommittee:

Weeklong course to teach basic business and entrepreneurial skills (#2)

- ➤ Work with the Wisconsin School of Business to expand the Wisconsin Entrepreneurial Bootcamp by 20-30 graduate students;
- ➤ Investigate ways to encourage participation by undergraduates or design an additional program for them;
- ➤ Investigate ways to encourage participation by graduate students from outside Madison in the WEB; and
- ➤ Identify funding sources to support expanded entrepreneurial bootcamp opportunities, which could include support for housing for attendees from outside Madison and/or creation of a second course that could be offered at UW-Madison through a residential model with on-campus housing, or at another institution that can provide

the appropriate administrative infrastructure and critical mass of resources to support the course.

❖ Anticipated funding need: $50,000-$100,000 per year, through a combination of direct base funding, in-kind support and/or private donors.

UW System website for posting start-up ideas and requests (#3)
➢ Convene a group of individuals with knowledge and skills in research, entrepreneurism and information technology to develop a scope statement for the development and ongoing maintenance/administration of a website;
➢ Contract for the development and implementation of the website; and,
➢ Recruit and hire appropriate staff to manage and administer the website.

❖ Anticipated funding need: $100,000-$200,000 per year, through a combination of public funds and private donors. The subcommittee believes that, given the small cost but potential benefit to all UW System institutions and students, as well as the potential return in terms of possible technology transfer opportunities and business start-ups, this would be an appropriate item to include as a budget request for the 2011-13 state budget.

UW systemwide business plan competition (#4)
➢ Work with the Burrill Business Plan leadership and representatives from other UW institutions to develop a program model that could be administered across the UW System;
➢ Investigate the resource and infrastructure needs to implement this program; and
➢ Identify a lead institution and sources of ongoing funding to support a competition.

❖ Anticipated funding need: $100,000-$150,000 per year for resources, dedicated staff and prize money, through a combination of direct base funding from institutions, in-kind support and/or private donors.

UW Certificate Educational Program on Technology Transfer (#5)
➢ Encourage UW institutions, WARF, WiSys and the UWM Research Foundation to work with the business community and economic development agencies to determine where training needs exist and how to best meet these needs; and,
➢ Encourage the Wisconsin Department of Commerce to develop a centralized, actively managed database or resource where training opportunities for economic development professionals can be listed.

❖ Anticipated funding need: none at this time.

Wisconsin Entrepreneur-in-Residence (#6) and Tech Transfer CEO Placement Programs (#7)
➢ Share information regarding the EIR and CEO Placement programs with the Wisconsin Department of Commerce for consideration for development and inclusion as part of its venture capital initiatives.

❖ Anticipated funding need: none for the UW System.

Discovery Portal:

Expand Wisconsin Discovery Portal database (#10)

- ➢ Designate a management team to lead the development of the expanded Portal, oversee implementation and provide ongoing high-level oversight;
- ➢ Collaborate with WiSys on the development and implementation of the expanded Portal; and Recruit and hire appropriate staff to manage, administer and market the Portal.

- ❖ Anticipated funding need: approximately $202,000 over the first three years, with roughly $40,000 per year in ongoing costs (plus standard personnel and fringe increases) for subsequent years.