



2012
RESEARCH REPORT

*Tim Mulcahy, Vice President for Research
December 14, 2012*

Topics

- Research metrics
- Technology transfer and commercialization
- Corporate relations
- Regulatory reforms and advances
- Strategic role of the VP for Research
- The future research landscape

2005 Research Report Summary

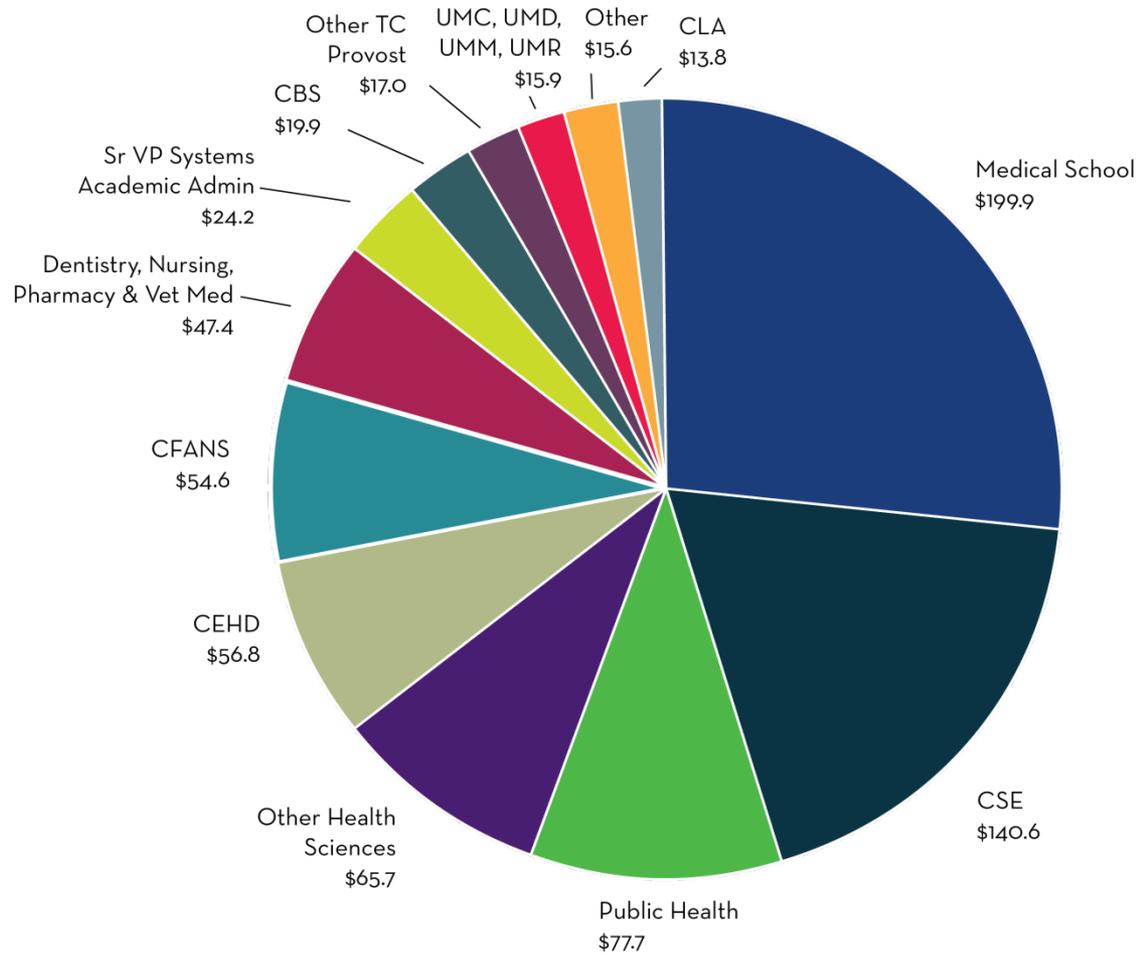
- Research Awards = \$564M; 7.6% increase
- Research Expenditures = \$549M; 4.4% increase
- Trending: Research Expenditures 1995-2005
 - National rank dropped from 6th to 10th among publics
 - 49% increase at UMN; 77% average increase among peers
 - UMN was one of only 3 universities in the top 100 to report a decrease in 2003
 - UMN ranked 15th in growth among 16 universities in its self-selected comparator group

“It is imperative that the University revitalize its research enterprise to achieve its strategic objective.” Annual Research Report Dec. 2005

Awards by College

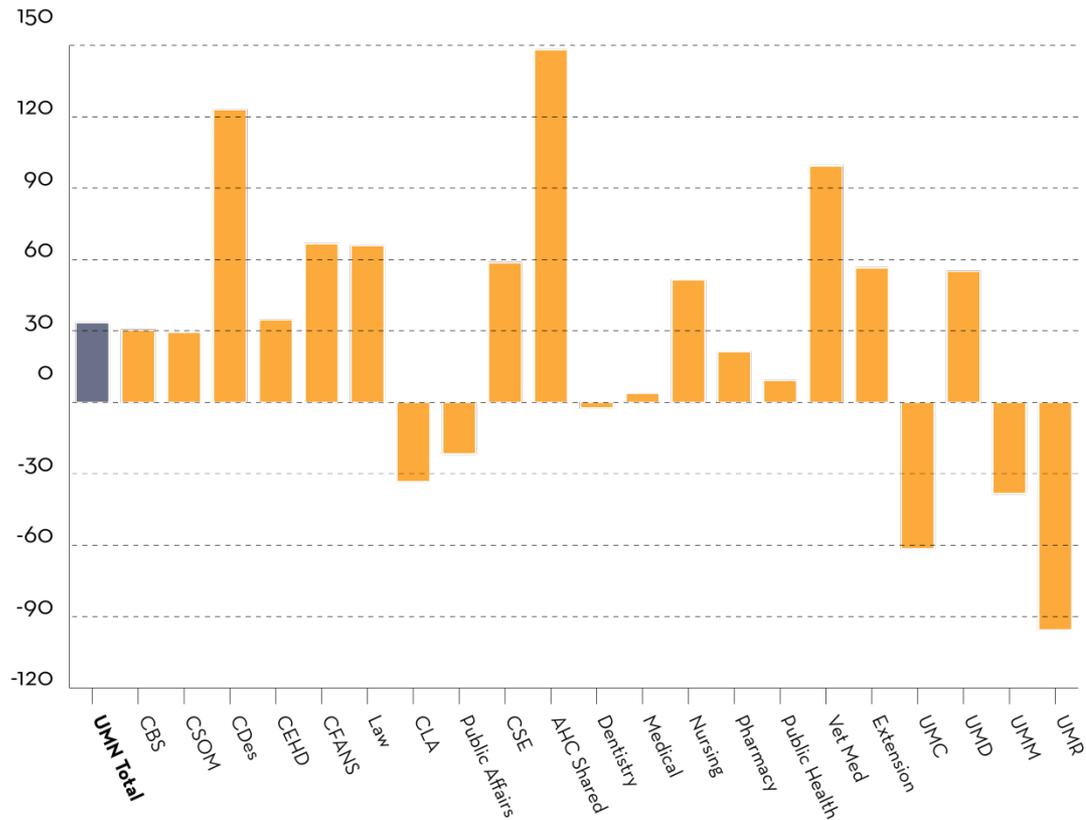
FY2012

\$749.1M
Total



College Performance: Awards

2012 vs. 2005, % change



*2011 Research Report Summary**

Expenditures

- Research Expenditures = \$872M
- 7.9% increase from 2010
 - Average increase among top 20 research universities = 6.8%
- Ranked 8th among public universities in 2011
 - 10th among all universities
- 2011 vs. 2005
 - Rank improved from 10th to 8th among publics
 - 59% growth; average of top 20 universities = 45%
 - 6th largest growth rate among the top 20; 4th largest among publics

*latest date for which comparative data is available

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Stakeholders' Assessments ca. 2005

- *Commercialization: A Contact Sport, December 2004*
 - Structural issues impede interdisciplinary research
 - Faculty frustrated by admin and regulatory burdens
 - Complex organization, difficult to navigate
 - Work with B&I and technology commercialization are not valued
 - Lack of training about commercialization and entrepreneurship
 - Misaligned expectations regarding role of technology commercialization
 - Lack of scientific and business expertise in tech transfer office
 - Lack of marketing strategies; cradle-to-grave responsibilities
 - Lack of licensing expertise
- *ITASCA, February 2005*
 - Urgent need to improve commercialization of technologies
 - Forge better strategic partnerships with corporate partners

Technology Commercialization

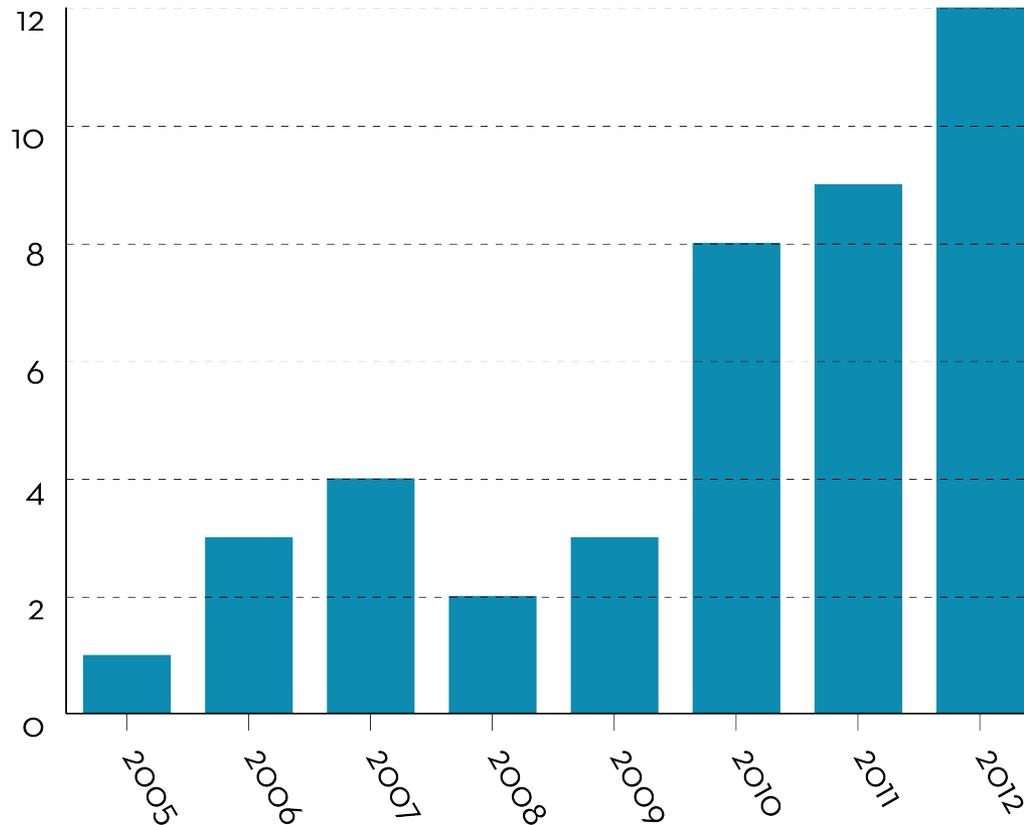
FY2007-2012*

	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
<i>Disclosures</i>	193	217	244	255	250	321
<i>New U.S. Patent Filings</i>	51	52	65	66	78	115
<i>New Licenses</i>	77	63	44	67	76	71
<i>Startups</i>	4	2	3	8	9	12
<i>Current Revenue Generating Agreements</i>	n/a	281	306	399	457	426
<i>Gross Revenues</i>	\$65.2	\$86.9	\$95.2	\$83.8	\$10.1	\$45.70
<i>Non-Glaxo Revenues</i>	\$8.5	\$7.9	\$8.7	\$8.6	\$10.1	\$10.74
<i>Outgoing Material Transfer Agreements</i>	n/a	67	106	171	271	313

* Performance metrics after restructuring of the U's tech transfer operation

UMN Startups

2005-2012



OTC Innovations

- Technology and marketing strategists
- Stage-gate technology evaluation process
- Express licensing
- Internal business units
- Startup workshops for faculty, post-docs and grad students
- Annual inventor recognition event
- Entrepreneurial leave program
- Minnesota Innovation Partnership (MN-IP)
- MN Ventures, a new initiative introduced to the Finance and Planning Committee yesterday

*OTC External Assessment**

June, 2011

- *“...by almost any standard metric, the University of Minnesota has an outstanding track record of accomplishments that put it at the highest ranks of university tech transfer offices.”*
- *“UM’s volume of start-ups, when adjusted for the university’s research base, place it at roughly the same rate of start-up creation as Stanford, Columbia, Harvard, University of Wisconsin-Madison, and other peer schools.”*
- *“UM’s OTC is an office at or near the top of its peer group, and should be considered an exceptional success story over the past 5 years.”*

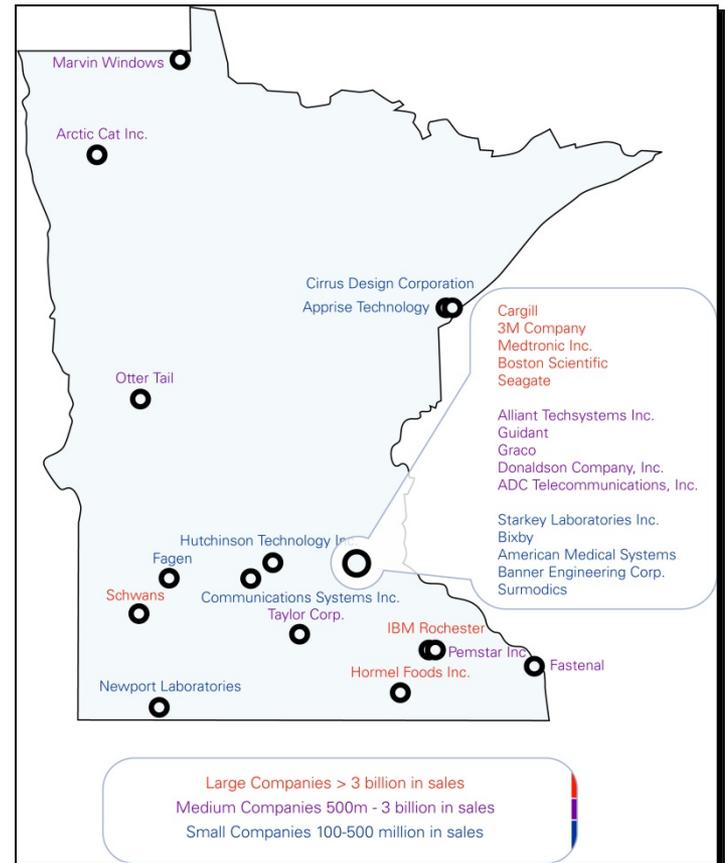
* By directors of Stanford, Columbia and Wisconsin Alumni Research Foundation (WARF) tech transfer offices

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The Relationship Web: Collaboration between Minnesota Companies and the University of Minnesota

A Report Exploring Corporate Attitudes Toward Working with the U of M, December 2005

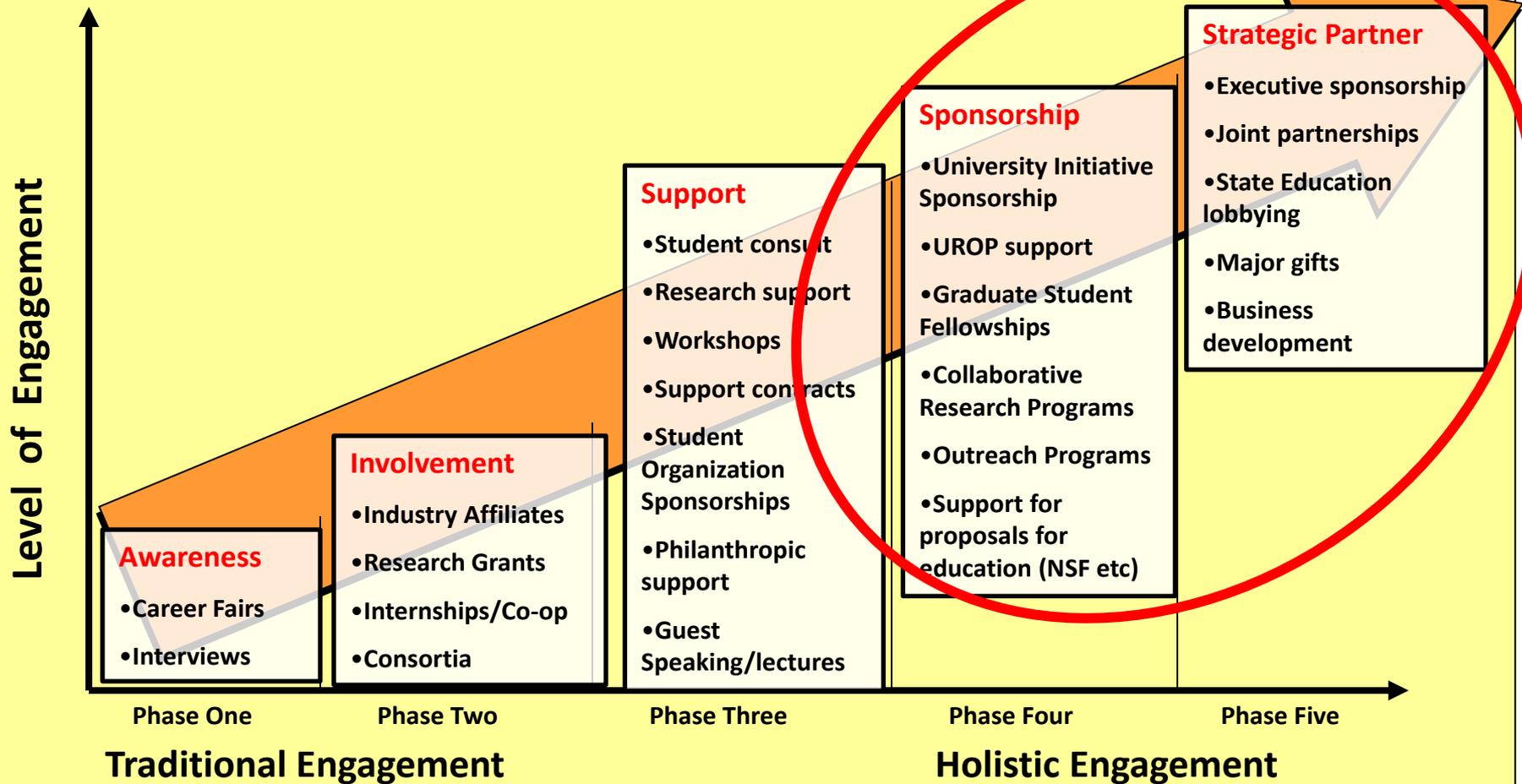


The Relationship Web: Recommendations

The University should:

- Re-examine IP policies to make collaboration more desirable to industry
- Refocus admin practices to foster business applications of the U's knowledge base
- Promote more interdisciplinary research by lowering existing departmental barriers
- Incentivize faculty to value industry collaboration as a priority
- Stay abreast of the needs, strategies and talent needs of companies in MN
- Create strategic partnerships with MN research companies

Objective: Strategic Partnerships



Adapted from "The Collaboration Imperative: Universities and Industry as Partners in the 21st Century Knowledge Economy." Wayne Johnson, VP Hewlett-Packard April 25, 2006

Corporate Relations Initiatives

- Established and opened the Office of Business Relations

Business Relations and Outreach

The collage features several overlapping elements:

- University of Minnesota Website:** The top layer shows the 'UNIVERSITY OF MINNESOTA' logo and the slogan 'Driven to Discover'. Below it, there's a navigation bar with 'myU' and 'One Stop' links, and a search bar for 'U of M Web sites'.
- Twitter Feed:** A Twitter interface is visible, showing a tweet from 'Office of Business Relations' dated November 2012, mentioning trends in robotics and the Visible Heart Lab.
- YouTube Video:** The central focus is a YouTube video titled 'Office of Business Relations' by 'UniversityofMinn'. The video shows two individuals in white lab coats working in a laboratory setting. The video player shows a progress bar at 0:02 / 2:16.
- Video Description:** Below the video, the title is 'Inside the University of Minnesota's Nanofabrication Center'. It indicates 471 videos, 1,259 likes, and 5,584 subscribers. The description states: 'Uploaded on Jan 10, 2012. Take a look inside the University of Minnesota's Nanofabrication Center, a state-of-the-art facility dedicated to the design, fabrication and testing of small-scale devices. Video produced by the Office of Business Relations.' There is one comment from 'FunUsernamesAreGone'.
- Other Content:** On the left, a snippet of a website page shows a 'Must-read work day' article dated December 7, 2012. On the right, a sidebar lists other videos such as 'Inside the Minnesota Supercomputing Center', 'Minnesota Master Gardener', and 'Yum Science'.

Corporate Relations Initiatives

- Established the Office of Business Relations
- Founding member in the NAS's University:Industry Demonstration Partnership (UIDP)
 - VP Mulcahy served as national VP (2008), President (2009), Past President (2010)
- Minnesota Innovation Partnerships (MN-IP)
- Increased staff focused on Business and Industry collaborations
- Played a leadership role in ideation and run-up to the recently announced Medical Device Innovation Consortium (MDIC)
- Collaborated with Life Science Alley to launch the Optimize Productivity Project
- Contributed significantly to the planning, promotion and legislative creation of the MN Science and Technology Authority
 - VP for Research serves on the S&T Authority Advisory Council

“Innovative and Entrepreneurial: Higher Education, Innovation and Entrepreneurship in Focus”

A conference hosted by Dept. of Commerce Office of Innovation and Entrepreneurship and the White House Business Council, October 2012

- *“I found the overhaul of the technology transfer office in recent years to be an excellent best practice that helps to spur the effective commercialization of new technology.”*
- *“The Minnesota Innovation Partnership is another forward-thinking practice in terms of making it easier to market university technology and get it commercialized quickly while also helping to foster a stronger relationship between the university and businesses.”*
- *“A discussion of how the University of Minnesota has revolutionized the technology transfer procedure and how the licensing strategies that have developed have helped to build a more fruitful partnership between the University and appropriate industries would be especially valuable to the panel.”*

Nish Acharya, Director of the Office of Innovation & Entrepreneurship and Senior Advisor to the Secretary of Commerce

The U to Be Featured in NACIE Report

“As part of the President's National Council on Innovation and Entrepreneurship (NACIE) efforts to highlight what universities are doing to encourage innovation and entrepreneurship on their campuses we have compiled a report with the top trends and ideas. The report has been based on our findings and highlights information gathered from different universities.

University of Minnesota has many ground breaking ideas in the area of technology transfer and industry collaboration; therefore we would like to highlight your university in our upcoming report.”

Office of Innovation and Entrepreneurship
Department of Commerce

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Regulatory Reforms and Advances

- Management of the Certified Approvers program
- Annual SPA symposium, attended by ~450 grant administrators
- SPA advanced SPECTRUM training program for grant administrators, with certification
- Successful back-to-back full AAALAC accreditation of animal care and use program; first time in 15 years
- Three-plus years without a finding by USDA inspections of the animal care and use program
- Five-year AAHRPP accreditation of the human subjects protection program; one of the first programs to be so recognized
- Staff incentives for professional certifications
- Led the campus-wide risk recalibration initiative; OVPR piloted the process
- Launched eProtocol, an integrated electronic submission and compliance tool for faculty and staff

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Strategic Role of the VP for Research

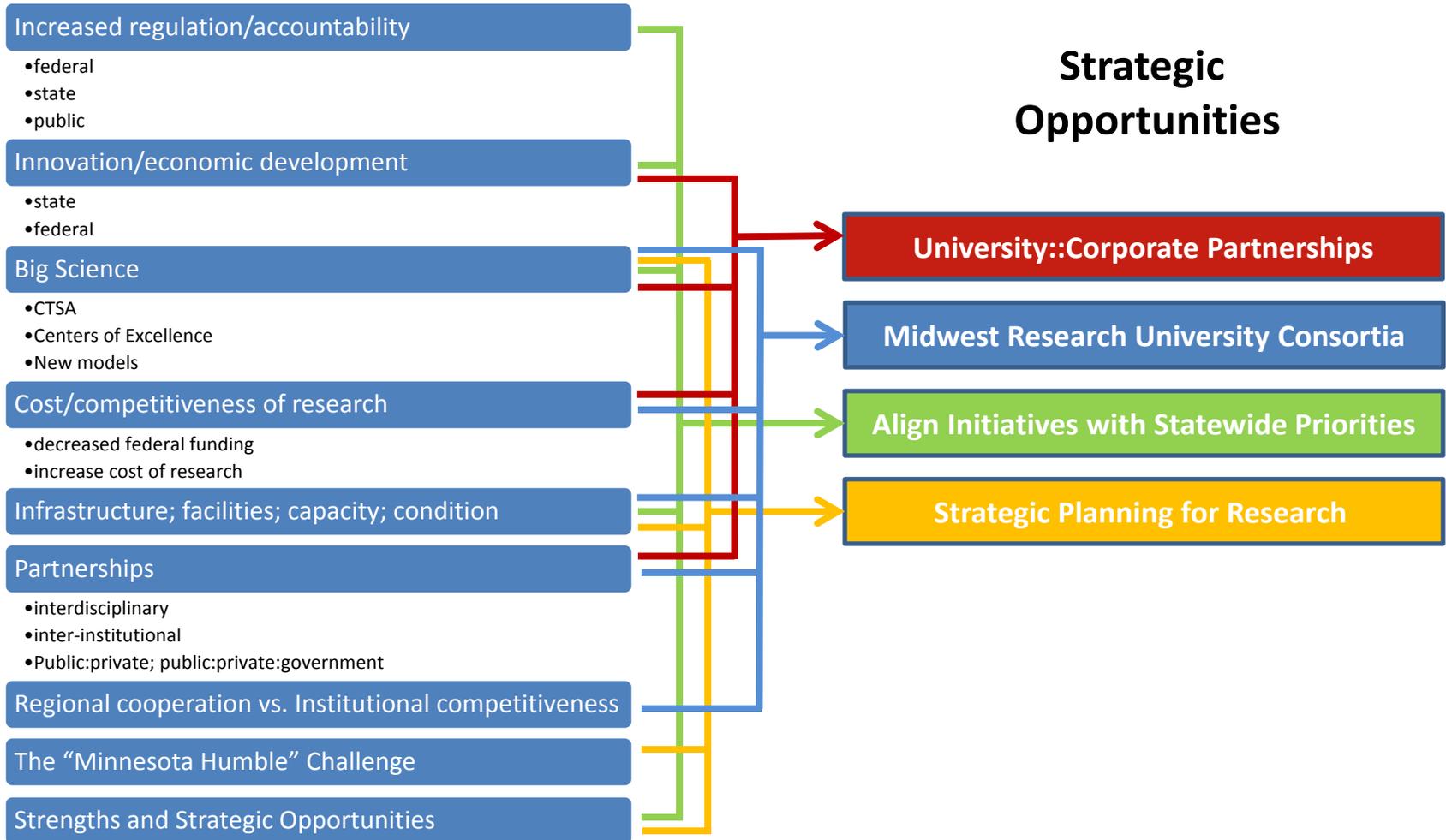
- With faculty support, the role of the VP for Research was transformed to one of strategic leadership
- Significant contributions of strategic, administrative and academic resources in support of the successful CTSA application
- Collaboratively leading efforts to integrate the numerous support functions and services vital to clinical and translational research
- Financial resources to support the unique research and scholarly work of faculty at each of the system campuses
- Effective partnership with the VP for U Services and the General Counsel to protect the university's vital research interests during light rail construction and operation
- Brokered collaborative arrangements to stabilize the budgets of key core research facilities
- Led efforts to assess and support critical research infrastructure
- Member of the Budget group
- Administrative home for major research centers

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The Change Imperative

Emerging Research Issues



Parting Words

“Open your arms to change but don’t let go of your values.”

His Holiness the Dalai Lama XIV

“Live long and prosper.”

Lt. Commander Spock

“I have been, and shall always be, your friend.”

Captain Spock



UNIVERSITY OF MINNESOTA
Driven to DiscoverSM