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UNIVERSITY OF MINNESOTA
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CICEP | INNOVATION AND ECONOMIC PROSPERITY UNIVERSITIES AWARDS PROGRAM

CASE STUDY 2015

IEP CATEGORY • INNOVATION

Industry-engaged research that promotes knowledge transfer for public good and economic benefit

OVERVIEW

The University of Minnesota has a long history of innovation that continues to this day. It is home to many breakthrough discoveries that have made lasting contributions to society in many fields, including medicine, engineering, agriculture and the arts. Just last year the University honored 285 faculty inventors for their efforts, including three who have made significant discoveries and contributions to their fields in biological engineering, genetics and antiviral drug design. From 2006 to 2011, inventions by the university delivered an additional $390 million to the state.

University of Minnesota Professor Robert Vince, inventor of the ground-breaking AIDS drug Ziagen

For the past five years, the University has continued to increase the number of new licenses, patents and startup companies from university technologies. A Nature Biotechnology report of U.S. university technology transfer offices in 2013 ranked the University of Minnesota fifth overall in life sciences technology transfer.

Technology Commercialization							
	FY08	FY09	FY10	FY11	FY12	FY13	FY14
Invention Disclosures	217	244	255	250	321	331	343
MN-IP Agreements	-	-	-	-	14	41	51
New U.S. Patent Filings	52	65	66	78	115	148	138
New Licenses	63	44	67	76	71	91	154
Startups	2	3	8	9	12	14	15
Current Revenue Generating Agreements	281	306	399	457	426	331	429
Gross Revenues	$86.9	$95.2	$83.8	$10.1	$45.7	$39.5	$27.4
Non-Glaxo Revenues	$7.9	$8.7	$8.6	$10.1	$10.7	$12.5	$23.4
Outgoing Material Transfer Agreements	$67	106	171	271	313	281	288

Dollar amounts represented in millions

Since 2006, the University has launched a total of 86 startup companies in a variety of sectors, including biotechnology, engineering, medical devices, software, energy and the environment, and food and agriculture. In fiscal year 2015 the University launched 16 startups, a record number for the University. More than $200 million in aggregate investment capital has been raised to date.

THE PROCESS

The University's success in part has resulted from the development of transdisciplinary and public-private partnerships, the so-called "Triple Helix" model of innovation and business development.

What the model represents is the complex and dynamic relationship between the entrepreneurial university, industry partners and government entities. The goal of this interconnected partnership is to create an innovation ecosystem that thrives on combining the knowledge creation capabilities, of the entrepreneurial University, with the needs of private and non-profit partners, along with the policies, investments and oversight of government to support the regional economic ecosystem.

Examples of the University's commitment to the Triple Helix model include: MnDRIVE, MN-IP, Discovery Capital and the Corporate Engagement Workgroup.

MnDRIVE

The premiere example of the Triple Helix model in action at the University is a landmark partnership between the state, industry and the University called MnDRIVE, Minnesota's Discovery, Research and InnoVation Economy. MnDRIVE is an $18 million annual investment from the state that aligns areas of University strength with the state's key and emerging industries to advance new discoveries that address grand challenges.

MnDRIVE, which focuses in four core areas—robotics, global food, treatments for brain conditions, and the environment— was designed to help the University work with state and industry partners in new ways to tackle the challenges of the future, strengthen the economy and advance research.

The first two years of the program have been highly successful and have demonstrated the value of MnDRIVE in promoting transdisciplinary engagement and leveraging the University's research and economic development strengths.

MnDRIVE Outcomes			
	Year One	Year Two	Total
Minnesota State Investment	$17,750,000	$17,850,000	$35,600,000
MnDRIVE Projects	120	90	210
Researchers	354	275	629
Campuses Involved	3	0	3
Colleges Involved	20	1	21
Departments Involved	70	33	103
People Hired	169	152	321
Publications	375	263	638
Invention Disclosures	21	20	41
Successful External Proposals	$7,300,000	$49,700,000	$57,000,000
Outreach, Meetings, Conferences	110	390	500
People in Attendance	6,000	24,000	30,000

As it develops over the next several years, MnDRIVE will become a national, even international, model for strategic, regional investment in applied university research as a way to address grand challenges in healthcare, food security and the environment.

MN-IP

Another groundbreaking program, Minnesota Innovation Partnerships, or MN-IP, makes it easier for businesses to partner with the University to transform discoveries into innovative solutions. MN-IP is designed to improve access to university-developed technology while reducing the risk and cost associated with licensing intellectual property (IP) and sponsoring research.

MN-IP provides two primary options for companies interested in partnering with the University to license technology or sponsor research:

1. MN-IP Try & Buy provides companies with a low-cost, low-risk method to license University-developed technologies. Companies can take available technologies for a low cost "test-run" to test the viability of the innovation for their company. Companies are offered financial incentives and streamlined negotiation to make it easier to test the feasibility of solutions already developed.

2. MN-IP Create streamlines the process to sponsor research and license technology. It establishes industry-friendly terms up front, granting companies an exclusive worldwide license to the resulting IP. Companies control all patent filings associated with the technology developed during research. And, they are free to sublicense the technology at any time.

The goal of MN-IP is to transfer technology from the laboratory to the private sector where new industries—and job growth—are made. The ease and low-cost of participating creates predictability in doing business with the University on intellectual property licensing because terms and conditions are established in advance of technology development and available for review ahead of time.

MN-IP Outcomes—FY2015	
New Sponsored Research Agreements	69
Sponsored Research Agreements to Date	180
Company Partnerships	124+

MN-IP is one of the nation's most unique partnership structures between a public university and industry and its significance has been recognized by the U.S. Department of Commerce and the White House.

DISCOVERY CAPITAL

The University is also responding to the needs of the market, as well as the need to get life-changing university research into the field, through strategic investments in University startups. The Discovery Capital Investment Program accelerates the process of turning breakthrough research into a commercially available product by providing University startups the seed funding needed in the highly critical early stages.

The program invests up to $350,000 in qualifying startup companies formed from University technology. The amount is matched by an equal or greater investment from an outside investor and approved by a board of advisers.

The Discovery Capital program demonstrates the University's commitment not only to advancing knowledge and transforming breakthroughs into real-world improvements, but also to supporting entrepreneurship for the benefit of the community and state.

CORPORATE ENGAGEMENT NETWORK

To coordinate and leverage these innovative programs and resources, the University has developed a university-wide economic development strategy through the Corporate Engagement Workgroup (CEW). The vision of CEW is to connect the University's extensive innovation and talent resources with the needs and goals of private sector partners. The group includes members from each college and the system campuses and meets regularly to strategically manage a portfolio of "active" corporate partners and a "discovery" portfolio. CEW's work to date has resulted in new public-private partnerships as well as a broadening of economic engagement with existing industry partners.

Active Portfolio—*Companies that currently partner with the University and who have a demonstrated interest/capacity to deepen the engagement.*

Discovery Portfolio—*Companies that currently have little to no engagement with the University.*

Through innovative programs and partnerships, the University of Minnesota is leading the way in industry-engaged research that promotes knowledge transfer for public good and economic benefit.