

AN INNOVATION DRIVER FOR THE WISCONSIN ECONOMY ADDENDUM

The University of Wisconsin–Madison’s \$30 Billion Impact on the Wisconsin Economy

NorthStar Analytics, LLC
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UW-MADISON: AN INNOVATION DRIVER FOR THE WISCONSIN ECONOMY

What is innovation and why do we need it?

Innovation increases your chances to react to changes and discover new opportunities. It can also help foster competitive advantage as it allows you to build better products and services for your customers.¹

RESEARCH

The University of Wisconsin–Madison’s contribution to innovation and entrepreneurship begins with its large, interdisciplinary research base. UW–Madison is one of the top ten research universities in the United States. Its annual research budget exceeds a billion dollars. This research activity is a major source of employment, and the output of patents and research-trained people has helped to build a high-tech base in Wisconsin.

Most of the \$1.3 billion in research funding comes from sources outside of the state of Wisconsin. The UW–Madison research program attracts a large amount of federal money, such as funding from the National Institutes for Health (NIH). That money is spent in Wisconsin and benefits Wisconsin citizens and companies.

Research has also drawn the support of many alumni who have generously supported research centers and programs. Examples of this include the Grainger Institute for Engineering, and The Morgridge Institute for Research.

RESEARCH LEADS TO INNOVATION

The output from the UW–Madison research effort is intellectual capital in the form of patents—new ideas for products, processes, and services. This output leads to new products, processes, and new businesses. In 2018, UW–Madison was ranked 7th among universities in the world in U.S. patents received.

\$1.3B

Annual Research Budget –
A Top 10 University in the U.S.

#7

Patents Granted of Universities
in the World

Patents are the intellectual capital that drives further economic activity in Wisconsin. Historically, licensing revenue from UW–Madison patents used by out-of-state firms has brought money back to the state and university that is then reinvested in more UW–Madison research.

¹“The Importance of Innovation – What Does it Mean for Businesses and our Society?” Viima blog, April 26, 2019.

INNOVATION LEADS TO NEW COMPANIES

More recently, UW–Madison research, patents, and talent have driven a surge in new startup company formation in Wisconsin. In the last three decades, more than 400 new companies have been started using university patents or talent.

The effort to track these startups began with the work of Professor Anne Miner of the Wisconsin School of Business, who identified more than 280 UW–Madison-related startup companies. That effort continued with studies by UW INSITE and other organizations such as WARF, as well as several economic studies.

UW–Madison startup activity began in the 1980s and has accelerated ever since. We can confidently state that, to date, there have been more than 400 startups with connections to the university. Early startups struggled to survive. Many of the early firms experienced good growth and in the early 2000s larger firms acquired many of them. In the last ten years, several of these startups have grown rapidly and have themselves begun to acquire other companies.

The growth of UW–Madison startups has helped the Wisconsin economy in several ways. First, many of these companies have now become major employers and have created high-paying scientific and professional jobs. Second, UW–Madison-related startup activity has attracted venture capital investment and produced significant wealth as firms go public and are bought out or merge with other firms. Finally, these startups have created an entrepreneurial climate that has attracted talented individuals and high-tech firms to Wisconsin.

RESEARCH AND INNOVATION HELP EXISTING BUSINESSES

The global accounting and consulting firm, Deloitte, provides this perspective on innovation:

Having the courage to see and do things in new ways, and staying ahead of new technologies and business models drives breakthrough benefits and industry-leading impact for our clients.

Deloitte goes on to state,

We live in a time of unprecedented change that is disrupting the way we work and live. Companies have to innovate, or else they run the risk of becoming irrelevant.

The application of research in the university to real-world problems and industries has a long history at UW–Madison. The most famous example, the game-changing research that led to saving Wisconsin farmers by introducing dairy farming, is but one of dozens of examples of research that has helped Wisconsin. The best expressions of that connection to existing Wisconsin industries and organizations are the nationally recognized applied research centers and consortiums on the UW–Madison campus. These centers include:

- The Center for Dairy Research
- The Engine Research Center
- The Carbone Cancer Center
- Wisconsin Center for Nanoscale Technology
- Wisconsin Center for Applied Computing
- Grainger Institute for Engineering
- Wisconsin Electric Machine and Power Electronics Consortium
- Great Lakes Bioenergy Research Center
- The McPherson Eye Research Institute
- Wisconsin Advanced Materials Industrial Consortium

This is just a sample of the dozens of applied research programs that connect UW–Madison research with the problems and opportunities of actual Wisconsin businesses and organizations.

²“Our perspective on innovation,” Deloitte: <https://www2.deloitte.com/us/en/pages/about-deloitte/articles/innovation-technology-business-perspectives.html>

³Ibid

THE INNOVATION MODEL

To gain a better understanding of how UW–Madison produces and drives innovation in Wisconsin, we have developed an Innovation Model. The model brings together all of the innovation inputs on a platform to illustrate the components that produce the innovation output. Those inputs include \$1.3 billion in annual research spending; the WARF organization, which commercializes discoveries; the UW–Madison faculty, staff and student talent base, which produces the discoveries; labs, computing power, and physical space which hosts newly created companies; and the applied entrepreneurial curriculum that trains student entrepreneurs.

One or more of these inputs then interact to produce the innovation output. That output helps to spur innovation and economic growth in Wisconsin. The output includes patents on new processes and ideas, new startup companies, and venture capital investment in new companies and ideas. The innovation output also includes application of research and ideas in applied research centers and consortiums. Finally, the innovation output also attracts other high tech companies to locate in Wisconsin.

INNOVATION DRIVEN BY UW-MADISON: A STATEWIDE IMPACT

