

THE ART OF INNOVATION

INVENTIONS TO INNOVATION: HOW UNIVERSITIES
CAN DRIVE THE ECONOMY

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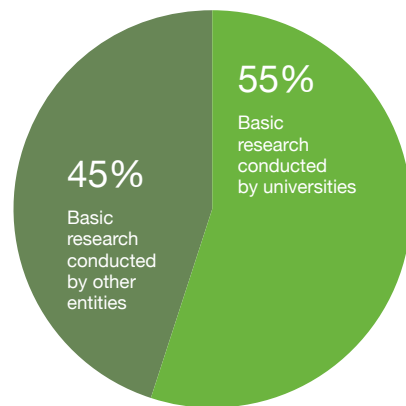


INVENTIONS TO INNOVATION: HOW UNIVERSITIES CAN DRIVE THE ECONOMY

Universities across the country embrace statements of purpose that include the terms “innovation,” “scholarship” and “solutions.” And most universities embrace the idea and ideals of “innovation,” with a great deal of emphasis during the last two decades on “invention,” that is, moving ideas generated at a given university to the marketplace. This is generally accomplished through a series of efforts led by a university’s Technology Transfer Office.

In 2011, universities conducted 55 percent of the basic research — the critical first step in the innovation process.

— National Science Foundation



THE METRICS

Today, innovation is measured as invention. Invention is measured in dollars acquired by the university through licensing, and a university’s “economic development” efforts are measured through the creation of a product or product company.

According to the Association of University Technology Managers, there have been significant increases of measured economic impact led by universities. By the association’s calculation, the number of issued patents has increased more than 11 percent since 2014, while the number of companies started as a direct result of university research continues to grow annually by double digits.

BEYOND TECHNOLOGY

Should we be thinking beyond technology? “Inventions” are typically viewed as technology developments — new products. Think: Apple. “Innovations” are typically broader in content and outcome — it may be as “simple” as a new way of doing something — new and improved, even. Innovations may be a new idea, or a more effective device or process — leading to better solutions. Think: Disney.

An “*innovation*” approach may be the key to moving the U.S. economy forward.

INNOVATION = ECONOMIC IMPACT



Innovation. Invention. Start-ups. Entrepreneurship. Small Business. Next Gen. Onshoring. Most would agree that these terms represent the path to *economic strength*. What are the key areas of innovation that matter? What are the key areas of research that will impact the bottom line — and grow the economy? These are the key questions. Among the answers: Biological Sciences, Medical Sciences, Engineering.

Investment in innovation — time, money, energy, strategy, partnership — is the key to the United States once again leading in the race for global innovation advantage.

THE INNOVATION ECONOMY

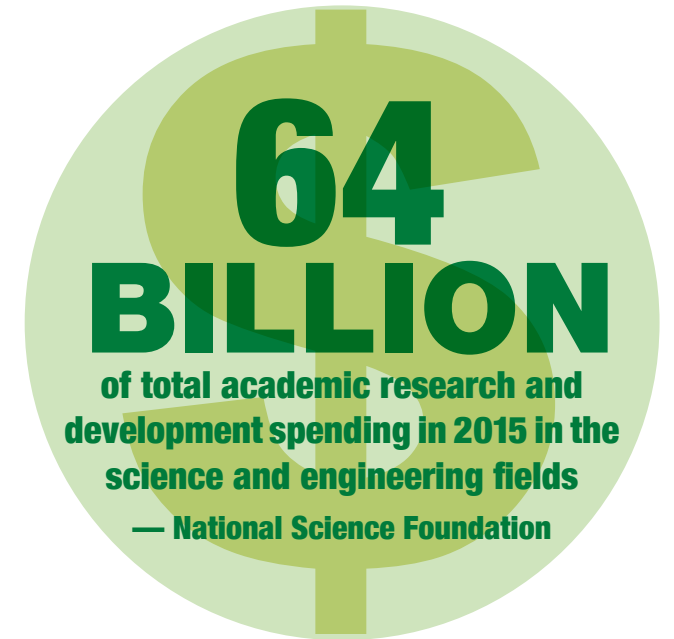
Economic success depends on the ability to continually reinvent through a steady process of innovation. Where is the future of our economy going? The U.S. economy has seen significant change over the past few decades. Global competition and new production technology have displaced thousands of U.S. manufacturing workers. As a result, economic activity shifted away from large-scale capital accumulation to a knowledge-based economy.

Today, successful firms are those designed to quickly diffuse information through collaborative work teams and cooperative social networks within an organization — transforming “knowledge” into “innovation.”

HOW UNT IS LEADING INNOVATION

Identifying problems and solving them through collaboration. This is an approach that UNT is taking with students and researchers. UNT is challenging students to think broadly, aggressively and across disciplines — to drive innovation. Industry is the beneficiary.

And the idea — The Art of Innovation — embraces Leonardo da Vinci’s principles of the “complete mind,” expressing the importance of engaging the left and right sides of the brain while stressing that connectivity across disciplines brings greater results.



GENERATING INNOVATION

Since 2014, research at public universities has led to:

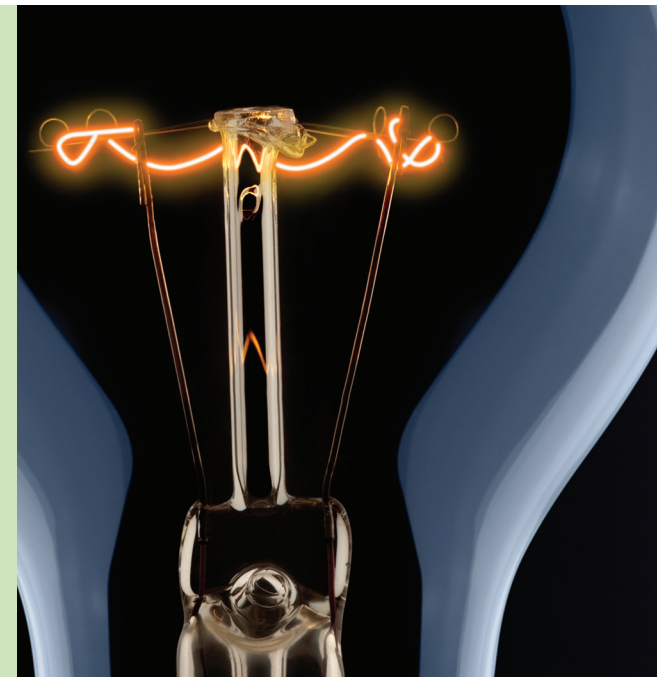
PATENTS
up 11%

LICENSING AGREEMENTS
up 4.5%

UNIVERSITY DISCOVERY-BASED BUSINESSES
up 12%

NET PRODUCT SALES
up 11%

Source: Association of University Technology Managers



COMMERCIALIZATION AND LICENSING

Meeting the objectives of embracing innovation along with invention, UNT has outreach across campus to encourage creativity — research, discovery, invention, new business ideas and new business services. Commercialization AND licensing capabilities at UNT encourage efforts from the College of Music to the College of Business and from media arts to biology.

“It’s imperative that we help students discover and faculty innovate through their interdisciplinary settings and work,” says Michael Rondelli, associate vice president in UNT’s Office of Research and Economic Development. “To be stewards of the public’s trust, universities must find new ways to ensure that new ideas, new solutions — music therapy to materials technology — find a way to market so that communities and people who live in these dynamic communities thrive. Universities like UNT are working to do just that.”

“At UNT, we are breaking down the barriers of linear thinking and fostering interdisciplinary collaborations to push innovation and breakthroughs across all disciplines.”

— *Tom McCoy,*
*vice president of research and
economic development at UNT*

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