The University’s Role in Innovation, Entrepreneurship, & Economic Development

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What Does Economic Development Mean for a University?

Cradle-to-Grave Human Capital and Talent Development

Talent

Community-Connected Institutions and Stewardship for Vibrant Communities

Innovation

Research, Creative Work, Problem-Solving, and Entrepreneurship

Place
1. Greater Engagement with the Private Sector
2. Health and Well-Being of the Community
3. Transdisciplinary Research
4. Innovation in All Disciplines
5. Innovation in Teaching & Learning Practices
6. Serving Regional Human Capital & Workforce Needs
7. Active & Responsive Community Partners
8. A Comprehensive Culture of Innovation & Entrepreneurship
9. Sharing Resources & Best Practices
Greater Engagement with the Private Sector
To achieve intellectual, scientific, public policy, social, cultural and economic outcomes:

- Apply knowledge
- Ease tech transfer & licensing
- Support regional industry clusters
- Accelerate innovation
- Explore new partnership models
- Assess the evolving innovation ecosystem
Greater Engagement with the Private Sector

Purdue University – Gallup-Purdue Index

- Leveraging expertise to challenge traditional views on performance metrics
- Measures the most important outcomes of higher education
- Provides critical insights for universities, educators, and employers
- Largest representative study of college graduates in U.S. history
Greater Engagement with the Private Sector

Business Engagement Center
  • Provides a single, visible point of entry to the university for industry seeking to partner with university

Venture Center
  • Central hub for university startup ventures
  • Serves entrepreneurs and venture funding partners who are interested in starting new businesses based on university research
Health and Well-Being of the Community
Health and Well-Being of the Community

• Share responsibility with many other organizations in the community and region

• Engage with stakeholders committed to health, wellness, and social well-being of local populations

• Build an integrated network with deep roots in the community

• Leverage university expertise for community resources
Health and Well-Being of the Community

Bard College – Bard Prison Initiative

- Opportunity for incarcerated men and women to earn credits toward a bachelor’s degree

- Largest prison initiative of its kind in the U.S.
Health and Well-Being of the Community

Northern Illinois University
Excellence in community, social, and cultural development

• Commitment to expanding broadband internet access throughout region and state

• Helping grow businesses and create jobs

• Supporting growth and development of an aerospace cluster in a distressed region of state

• Leveraging workforce education, R&D partnerships, regional branding, and stimulation of entrepreneurship
Transdisciplinary Research
Transdisciplinary Research

- Facilitate 21st Century Knowledge creation at the intersections, collisions, and new fusions of academic disciplines

- Recognize that generating knowledge in the 21st century requires problem-focused and transdisciplinary perspectives

- Enhance opportunities for faculty, students, and staff to engage with the public, industry, and government beyond their disciplines and institutions
Stanford University – Digital Humanities

Interdisciplinary program sheds new light on humanities research using tools such as:

- 3-D mapping
- Electronic literary analysis
- Digitization
- Advanced visualization techniques
Innovation in all disciplines
Innovation in all disciplines

- Affirm that, in innovation and engagement, humanities, arts social sciences, and STEM disciplines are all vital

- Engage diverse disciplines to play significant roles in creating economic opportunity and effective societies

- Strategically integrate perspectives and strengths of multiple disciplines into public and social policy

- Recognize that the combination of disciplines can make communities competitive and desirable places to live
Innovation in all disciplines

New York University – NYU Wagner Innovation Labs

- New series of public policy experiments
- Marrying theory and practice
- Promoting informed, evidence-based decision-making in a complex world
Innovation in Teaching & Learning Practices
Align teaching and learning goals with institutional incentives

Provide access to programs that encourage innovative teaching and pedagogy exploration

Convene teachers from diverse sectors and backgrounds to provide ongoing assessment of effectiveness

Collaborate with cross-institution and cross-sector stakeholders to explore new practices
Innovation in Teaching & Learning Practices

Georgia State University – Center for Instructional Innovation

- Campus-wide approach to address student outcomes
- Dramatic increases in graduation rates
- Successfully eliminated income and race as predictors of student outcomes
Serving Regional Human Capital & Workforce Needs
Consider human capital development to mean the cultivation of intellect, general knowledge, career/occupation skills, life/civic responsibility, and global citizenship across all populations.

Leverage university resources, such as workforce education and R&D partnerships, to serve the local economy.

Create flexible and responsive pathways to prepare for demands of a rapidly changing economy.
Serving Regional Human Capital & Workforce Needs

University of New Mexico – Project ECHO

- Lifelong learning and guided practice model for medical education
- Increases workforce capacity to provide specialty care and reduce health disparities
- Virtual clinics with community providers to better serve rural populations
Serving Regional Human Capital & Workforce Needs

Rework America Connected

• Partnership will use online technology to improve the way job seekers find jobs, learn new skills and improve the way employers find workers.

• Rework America Connected is building the platform in partnership with LinkedIn, Arizona State University, and edX

• The City of Phoenix and Phoenix employers and educators will connect and scale these efforts while tailoring the program to Phoenix’s needs
Active & Responsive Community Partners
Active & Responsive Community Partners

- Engage with communities in social, physical, and virtual forms

- Actively pursue working and collaborating for the common good with other community stakeholders

- Leverage university resources to assess needs and emerging trends in community
Active & Responsive Community Partners

University of California system – The AB450 and Undocumented Student Center

Provides support for undocumented students, including:

- Community resources
- Academic success services
- Pro-bono legal assistance
A Comprehensive Culture of Innovation & Entrepreneurship
A Comprehensive Culture of Innovation & Entrepreneurship

- Embed Economic Engagement, Innovation, and Entrepreneurship Across Institutional Mission

- Align business process with goals for collaboration and innovation

- Value productive partnerships and collaborations and ensure that business processes reflect this value

- While respecting legitimate institutional or governmental constraints, also redesign, streamline, and adapt business and decision-making processes
A Comprehensive Culture of Innovation & Entrepreneurship

The University of North Carolina at Chapel Hill

- Kauffman Campuses Initiative recipient
- Campus culture encourages entrepreneurial mindset and innovation
- Opportunities and resources that support students and faculty across the institution
A Comprehensive Culture of Innovation & Entrepreneurship

University of Houston

• Creating an innovation ecosystem that fully integrates internal resources and input from university stakeholders and industry experts

• Culture of developing technical capacity and entrepreneurial talent in students

• Building an Energy Research Park that is making a social and cultural impact in community
Sharing Resources & Best Practices
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- Make access to the institution’s assets and collaboration with its experts easier

- Provide both organizational structures and internet “front doors” to facilitate access by various constituents to information about the institution’s resources and expertise

- Create responsive mechanisms for efficient information transfer and communication

- Provide mechanisms to proliferate best practices across institutions (e.g., University Innovation Alliance)
Northwestern University – Partnerships for Biotechnology Education

- Partnering with Baxter, a global healthcare company, and Lindblom Math & Science Academy, a Chicago public school serving predominantly minority and low-income students

- Trains hundreds of teachers

- Reached 20,000 students through innovative curriculum
Arizona State University

A New American University
Industry Collaboration

- Supporting industry development
  strategic partnerships accelerate success

- Business Retention
  keeping a company thriving in Arizona
Greater Engagement with the Private Sector

Collaboration & Use-Inspired Research

ASU leads 4 NSF Industry/University Cooperative Research Centers

ASU is home to 2 Engineering Research Centers (ERCs) by the National Science Foundation and partners in 3 others

- Quantum Energy and Sustainable Solar Technologies (QESST)
- The Center for Bio-mediated and Bio-inspired Geotechnics (CBBG)
Health and Well-Being of the Community

Mayo Clinic and ASU
Transforming Health Care

• School for the Science of Health Care Delivery

• College of Nursing and Health Innovation

• School of Biological and Health Systems Engineering

• Mayo Medical School Campus

• Joint research centers, degree options, projects, and faculty appointments

• First and only university to partner with Mayo Clinic Care Network
Transdisciplinary Research
Biodesign Institute
Nature inspired solutions for advancing human health, national security and sustainability
Transdisciplinary Research

Center for Cognitive Ubiquitous Computing (CUBiC)

- Interdisciplinary research that serves the needs of physically challenged individuals
- Human-centered multimedia computing focusing on assistive, rehabilitative and health care technologies
Innovation in all disciplines

2016 most innovative schools in the U.S.

#1 Arizona State University

- U.S. News & World Report

Rankings based on schools making the most innovative improvements in terms of curriculum, faculty, students, campus life, technology or facilities
Innovation in Teaching & Learning Practices

**EdPlus at ASU**

- Digital learning platform with over 130 3rd-party tools and services used by faculty and students
- Collaborative partnerships exploring technology to improve online teaching and learning experiences
- ASU Online instructional designers and technologists working with partners to guide product development
Global Freshman Academy

- Partnership with edX allows individuals anywhere in the world to take freshman-level courses online for free
- After completion, students may pursue option to receive course credit from ASU
- Cost-effective, flexible opportunity for lifelong or college-track distance-learning
Partnership between ASU and Starbucks provides education benefits to Starbucks partners.

Investment in the education of our nation’s workforce through opportunity to

Starbucks will invest up to $250 million to help at least 25,000 partners graduate by 2025.

Nearly 2,000 Starbucks partners have enrolled since April 2015.

#5 in the nation for producing the best-qualified graduates
- Wall Street Journal Survey of corporate recruiters

Serving Regional Human Capital & Workforce Needs
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**Business Attraction**
Leveraging ASU assets to support our local economic development objectives
Serving Regional Human Capital & Workforce Needs

Collaborations with Cities

Scottsdale
- SkySong (Groupon, Theranos)
- Alexandria Co-working Network

Phoenix
- Mayo Medical School Arizona Campus
- Markle Rework America Connect

Mesa
- Air Force Research Lab (now AZLabs)

Tempe
- Stadium District (State Farm)
- ASU Research Park (Go Daddy, MacroTechnology Works)

Chandler
- Intel Corporation, Arizona Campus
The Biodesign Institute: Translating research into REAL-WORLD IMPACT

Creating companies and advancing technologies

Breezing
The world's first mobile metabolism tracker

ARBSource
Fast, efficient and modular wastewater treatment

Kentucky BioProcessing
Plant-based pharmaceutical proteins, including Ebola treatment

HealthTell
Diagnostics to detect cancer and other diseases

Roche
Licensed Biodesign's nanopore technology to decode an individual's complete genome for less than $1,000

$291 MILLION
AZ annual direct impact

3,165
AZ jobs added yearly

Annual state and local tax revenues
$24.1 MILLION

13
research centers

96
diseases studied

42
patents

540
inventions

12
startup companies

34
licensed technologies
Economic impact of ASU in 2014:

**County GDP impact**
- 2009: $3.1 billion
- 2014: $3.9 billion

**State & local tax revenue**
- 2009: $253 million
- 2014: $316 million

**Construction growth**
- 2009: $15.2 million
- 2014: 2,138 jobs
Active & Responsive Community Partners

ASU Public Service Academy

- First undergraduate program in the nation to integrate cross-sector and civilian-military experiences to develop collaborative leaders of character

- Two tracks: one for ROTC students and one for aspiring civilian service leaders

- Capstone project requires focus/application to community
A Comprehensive Culture of Innovation & Entrepreneurship

$5M Kauffman Foundation grant to expand and transform ASU entrepreneurship education

1,000 students participated in entrepreneurship programs:
- Startup Summit
- Edson Student Entrepreneur Initiative
- Innovation Challenges

More than 200 students participated in the 2014 CGI U conference at ASU

Entrepreneurship centers open in schools of business and engineering

More than 9,000 students participated in entrepreneurship outreach and engagement activities in 2014/2015
A Comprehensive Culture of Innovation & Entrepreneurship

Impact: Entrepreneurship

- **Innovation Challenges, Launch Days, Start-up Spring Break** engaged over 12,000 students last year.

- **Entrepreneurship Outreach Network**, expanded with grant from National Institute of Library and Museum Services.

- **Startup School**, open access continuing education program.

- **Furnace**, PACE/T2 commercializes tech from DOD labs and facilitates venture creation.

- **Diversity in Entrepreneurship**, supported by U.S. Small Business Administration and JP Morgan Chase Foundation.

- **Women’s Entrepreneurship Initiative**, supported by U.S. Small Business Administration.

- **Clinton Global Initiative University**, social entrepreneurship.
Technology Transfer

Notable achievements in FY15 include:

- 270 invention disclosures
- 63 U.S. patents
- 12 new start-up companies launched
- 81 major licensing and option transactions

Spinout companies based on technologies developed by ASU researchers have raised over $500 million in external funding as of fiscal year 2015.
Sharing Resources & Best Practices

Higher Engineering Education Alliance Program (HEEAP)

ASU's Ira A. Fulton Schools of Engineering and industry partners are transforming top engineering and technical universities in Vietnam
Sharing Resources & Best Practices

University Innovation Alliance

A unique consortium of public research universities established to help more students from all socioeconomic backgrounds graduate from college
ASU’s Approach

Economic Development Impact

- **Provides access** to a quality education for an increasing number of students
- **Produces highly qualified graduates** for companies to improve and increase their workforce
- **Develops multiple connection** points for the people that we serve
- **Creates collaboration** to help revitalize the socio-economic communities in which we live
- **Enables the success** of all of our academic, industry, agency and foundation partners
Thank You and Invitation to Visit ASU

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