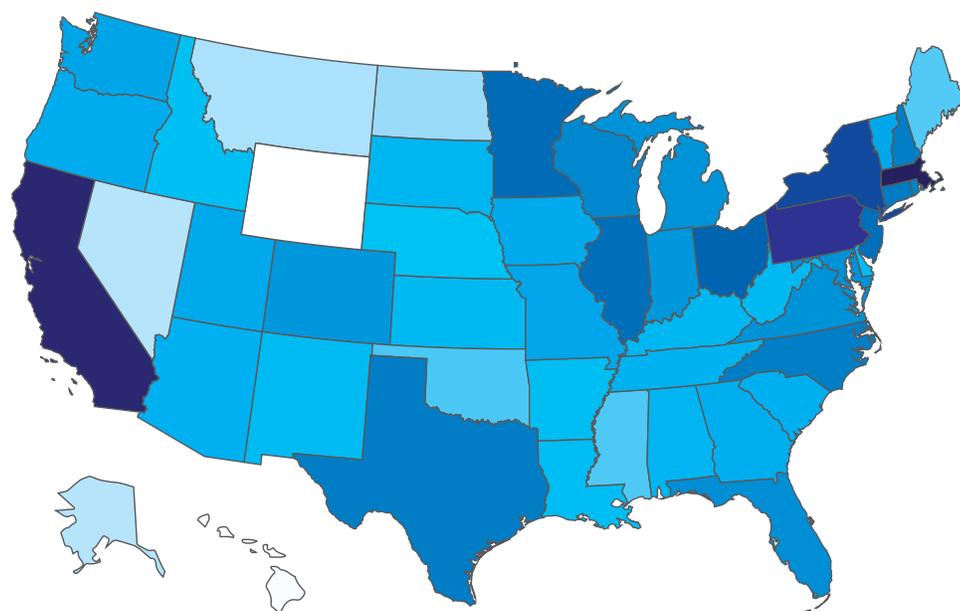


LEADING TECHNOLOGY STATES (LTS)

Every year, the *Index* compares Massachusetts' performance on a number of metrics to a group of "**Leading Technology States**" (LTS). The LTS have economies with a significant level of economic concentration and size in the 11 key sectors that compose the **Innovation Economy (IE)** in Massachusetts. The *Index* accounts for three metrics deemed representative of not only the intensity of the Innovation Economy, but also the size and breadth of a state's Innovation Economy and evaluates them simultaneously.

ELEVEN KEY INNOVATION ECONOMY SECTORS

- Advanced Materials
- Biopharmaceuticals & Medical Devices
- Business Services
- Computer and Communications Hardware
- Defense Manufacturing and Instrumentation
- Diversified Industrial Manufacturing
- Financial Services
- Healthcare Delivery
- Postsecondary Education
- Scientific, Technical, and Management Services
- Software and Communications Services



| 2018 Leading Technology States (LTS) | |
|--------------------------------------|---------------------|
| State | LTS Selection Score |
| Massachusetts | 2.27 |
| California | 2.16 |
| Pennsylvania | 1.99 |
| New York | 1.83 |
| Ohio | 1.62 |
| Minnesota | 1.55 |
| Illinois | 1.52 |
| New Jersey | 1.51 |
| Connecticut | 1.43 |
| Texas | 1.40 |
| North Carolina | 1.39 |
| New Hampshire | 1.39 |
| Rhode Island | 1.34 |
| Wisconsin | 1.32 |
| Florida | 1.26 |

THE METRICS USED TO SELECT THE 2018 LTS

Number of key sectors with significantly above average employment concentration

Defined as the number of innovation economy sectors in each state where employment concentration is more than 10% above the national average and is a measure of the breadth of a state's Innovation Economy.

Overall Innovation Economy employment concentration relative to the nation

Defined as the percent of a state's workers who are employed in the Innovation Economy relative to the national percentage and is a measure of the overall intensity of a state's Innovation Economy.

Total Innovation Economy employment

Measures the number of employees who work within one of the Innovation Economy sectors in each state and is a measure of the absolute size of a state's Innovation Economy. A score is then applied to all of the states in order to determine the top 15.

To learn more about the selection methodology for the LTS, see page 63.

APPENDIX I: PROFILES OF THE LEADING TECHNOLOGY STATES (LTS)

The following pages include short profiles of the LTS intended to provide data supporting their inclusion, including the Key Sectors MassTech uses to define the Innovation Economy (IE) where each state had a Location Quotient of 1.1 or above, as well as some contextual information such as examples of leading universities and research institutions, notable innovation economy employers, and a few examples of public, private, and non-profit initiatives underway in each state that are intended to support some aspect of the Innovation Economy.

MASSACHUSETTS

2017 POP: 6,859,819
2017 GDP (\$M): \$456,176
of IE Jobs: 1,319,706
% of IE Jobs: 37.3%

KEY SECTORS

- Biopharma & Medical Devices
- Computer & Communications Hardware
- Defense Manufacturing & Instrumentation
- Financial Services
- Healthcare Delivery
- Postsecondary Education
- Scientific, Technical, & Management Services
- Software & Communications Services

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Boston University
- Broad Institute
- Harvard University
- Mass General
- MIT
- Northeastern University
- Tufts University
- UMass System
- Worcester Polytechnic Institute

EXAMPLE COMPANIES

- athenahealth
- Biogen
- Dell EMC
- Fidelity Investments
- General Electric (GE)
- Genzyme
- Raytheon
- State Street Bank

EXAMPLE INITIATIVES

MassRobotics: An independent non-profit focused on growing robotics and connected devices. It seek to help bring together startups and established organizations through events with the goal of promoting economic growth and innovation. It has a 2,000 square foot lab and prototyping space, 8,000 square foot open workshop, and is renovating a second location which will be 25,000 square feet.¹

Lab Central: LabCentral is a 103,000 sq. ft. facility that serves as a launching point for startup companies. Since 2014, companies and alumni from LabCentral have raised a total of \$2B in total funding.²

MassChallenge: A non-profit startup accelerator that runs a highly competitive program that attracts applications from all over the world. MassChallenge participants do not give up equity as winners, and share over \$1.5M of grants at the end of each annual program, made possible by public and private sector donors. Since being founded in 2010, MassChallenge has grown into the world's largest accelerator program expanding to Israel, the UK, Switzerland, Mexico, and Texas, as well as key programs focused on growing verticals/sectors such as healthcare technology and financial tech (FinTech). MassChallenge has over 1,500 alumni that have created over 80,000 jobs and raised \$3B.³

CALIFORNIA

2017 POP: 39,536,653
2017 GDP (\$M): \$2,386,388
of IE Jobs: 4,754,674
% of IE Jobs: 27.9%

KEY SECTORS

- Biopharma & Medical Devices
- Computer & Communications Hardware
- Defense Manufacturing & Instrumentation
- Scientific, Technical, & Management Services
- Software & Communications Services

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Cal Tech
- Lawrence Livermore National Lab
- Scripps Oceanographic Institute
- Stanford University
- UC Berkeley
- UCLA

EXAMPLE COMPANIES

- Amgen
- Apple
- Cisco
- Facebook
- Google
- Intel
- Lockheed Martin
- Oracle
- Qualcomm

EXAMPLE INITIATIVES

California Nanotechnology Initiative: A Northern California-based initiative to push the development of nanotechnology and the “nano-bio-IT convergence technology economy” of the area.⁴

SFMade: A non-profit organization dedicated to building and sustaining a manufacturing industry in San Francisco. It engages with entrepreneurs and small companies who are based and manufacture in San Francisco, offering education, networking, and assistance making connections to local resources. It engages directly with employers on workforce problems, seeking to connect it with local hiring resources and training programs. SFMade also engages with the larger San Francisco community, hosting educational workshops, factory tours, and other programs to highlight manufacturing and its importance to the local economy.⁵

CONNECT: A non-profit organization spun out of UC San Diego tasked with fostering the growth of San Diego's innovation ecosystem by acting as an incubator of sorts for cluster organizations, eventually spinning them off when they are able to stand on their own. Past successes include BIOCUM, San Diego Telecom Council, and CleanTECH San Diego. CONNECT's Springboard mentorship program has 465 alumni, 35 of which have been acquired and 255 of which are still in business. Participating companies have raised \$1.95B in capital and created over 6,400 jobs since inception, with 50 alumni raising \$291M in 2017.⁶

APPENDIX I: PROFILES OF THE LEADING TECHNOLOGY STATES

PENNSYLVANIA

2017 POP: 12,805,537
2017 GDP (\$M): \$663,847
of IE Jobs: 1,854,819
% of IE Jobs: 32.0%

KEY SECTORS

- Advanced Materials
- Biopharma & Medical Devices
- Business Services
- Diversified Industrial Manufacturing
- Financial Services
- Healthcare Delivery
- Postsecondary Education

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Carnegie Mellon
- Penn State
- Temple University
- University of Pennsylvania
- University of Pittsburgh

EXAMPLE COMPANIES

- Allegheny Technology
- Comcast
- GE Transportation
- PNC Financial
- Uber
- Wyeth Pharmaceuticals

EXAMPLE INITIATIVES

Pennsylvania Life Sciences Greenhouse Initiative: A group nonprofit biotechnology initiative that includes BioAdvance Biotechnology Greenhouse of Southeastern PA, Life Sciences Greenhouse of Central PA, and the Pittsburgh Life Sciences Greenhouse. The overall program has invested more than \$90M, with \$245.7M in federal follow-on funding and more than \$4.7 billion private follow-on funding. The Initiative has funded 227 projects and companies, which have created 4,896 jobs and 261 new technologies.⁷

Ben Franklin Technology Partners (BFTP): BFTP has been an important seed stage capital provider for PA's technology sectors, boosting PA's economy by more than \$23.5 billion from 1989-2011 and generating 51,000 jobs in client firms with another 89,000 generated beyond those client firms. In 2014 BFTP assisted 1,125 client firms, which created 1,103 jobs, and had 130 patents and software copyrights awarded to client companies. BFTP has regional headquarters in the Lehigh Valley, Philadelphia, Pittsburgh, and State College.⁸

The Science Center: Five educational and medical institutions in Philadelphia joined together in 1963 to create the Science Center, an organization that promotes place and innovation-based economic developments in the Philadelphia region by convening entrepreneurs, investors, and academia, as well as through the creation of a large, urban science park. Since its founding in 1963 it has provided incubation services to 442 firms, 214 of which are still in business today. The Science Center has 12,000 employees, which in turn support 28,000 jobs in the region, and over its lifetime has had \$7.1 billion in direct output and \$5.8 billion in indirect output.⁹

NEW YORK

2017 POP: 19,849,399
2017 GDP (\$M): \$1,294,571
of IE Jobs: 2,933,622
% of IE Jobs: 31.6%

KEY SECTORS

- Business Services
- Financial Services
- Postsecondary Education

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Columbia University
- Cornell University
- New York University
- State University of New York System
- University of Rochester

EXAMPLE COMPANIES

- Bristol Myers Squibb
- IBM
- Global Foundries
- Most major banks
- Xerox

EXAMPLE INITIATIVES

Cornell Tech: In 2011, New York City created a \$100M prize paired with free land to attract a graduate engineering school. The winning proposal was submitted by Cornell University of Ithaca, NY and Technion-Israel Institute of Technology for Cornell Tech, located on Roosevelt Island. The new campus is a multi-decade endeavor, purpose built to encourage collaboration, innovation, and entrepreneurship. Since 2014 more than 41 startups have been founded by alumni, which employ 173 people and have raised more than \$32 million.¹⁰

NYS STEM Incentive Program: An incentive program to provide tuition awards to students who are in the top 10% of their graduating class who are pursuing a two- or four-year STEM degree and agree to live and work in a STEM field in New York State for five years after graduation.¹¹

NYSTAR Centers for Advanced Technology (CAT): Created in 1983, CAT funds and facilitates a program of basic and applied R&D as well as technology transfer in collaboration with private industry. NYSTAR identifies strategically important technology fields for New York State and uses a competitive process to award 10-year CAT designations to universities, university-affiliated research institutes, or consortia of several institutions. There are currently 15 active CATs.¹²

APPENDIX I: PROFILES OF THE LEADING TECHNOLOGY STATES

ILLINOIS

2017 POP: 12,802,023
2017 GDP (\$M): \$705,414
of IE Jobs: 1,794,788
% of IE Jobs: 30.3%

KEY SECTORS

- Advanced Materials
- Diversified Industrial Manufacturing
- Financial Services
- Postsecondary Education
- Scientific, Technical, & Management Services

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Northwestern University
- University of Chicago
- University of Illinois
- University of Illinois Urbana-Champaign

EXAMPLE COMPANIES

- AbbVie
- Boeing
- Caterpillar
- Chase Bank
- Chicago Mercantile Exchange
- John Deere
- Motorola

EXAMPLE INITIATIVES

University Technology Park at IIT: Opened officially in 2006, UTP is a 300,000 sq. ft. facility run by the Illinois Institute of Technology, housing both wet and dry labs. Currently has 18 companies residing there with 45 having graduated.¹³

Illinois Innovation Network (IIN): Launched in 2013, IIN serves as a platform to connect a wide ranging variety of local entities; from startups to researchers to community leaders, and many others. IIN helps to connect entrepreneurs to resources, bring together the Illinois Innovation Economy, and generally advance the goal of Illinois becoming a top destination for innovation.¹⁴

Illinois Technology Development Account: In 2003, the State Treasurer was authorized to invest up to 1% of the state's investment portfolio into venture capital and private equity in Illinois. The first fund launched in 2005 and accrued \$38.8 million in realized gains as well, and created an estimated 2,861 direct jobs and 3,433 indirect jobs. It is scheduled to wind down between 2016 and 2023, but was successful enough that in 2016 a second fund was announced. It is expected to create 8,500 jobs directly and another 10,300 indirectly and invest \$222 million of the State's Investment Portfolio while attracting \$400 million of additional private sector money.¹⁵

OHIO

2017 POP: 11,658,609
2017 GDP (\$M): \$561,803
of IE Jobs: 1,636,208
% of IE Jobs: 30.5%

KEY SECTORS

- Advanced Materials
- Business Services
- Defense Manufacturing & Instrumentation
- Diversified Industrial Manufacturing
- Healthcare Delivery

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Case Western Reserve
- Cleveland Clinic
- Kent State University
- Ohio State
- University of Cincinnati
- Wright-Patterson Air Force Base

EXAMPLE COMPANIES

- GE Aviation
- General Dynamics
- Jones Day
- Nationwide Insurance
- Timken Steel

EXAMPLE INITIATIVES

Bioenterprise: A public-private partnership started by the state government, several foundations, research universities, and hospitals to grow the biotech industry in the Cleveland Metropolitan Area.¹⁶

Ohio Third Frontier: Ohio Third Frontier is a business incubator launched by the Ohio State Development Agency with a focus on "accelerating the creation and growth of investable and scalable technology and tech-enabled companies throughout Ohio." Since creation they have created 3,074 jobs across 330 companies by investing \$85.2M in state dollars, matched by private for investments that bring the total to \$175M. This in turn has attracted \$1.6B in follow-on equity.¹⁷

Partners for a Competitive Workforce: A public-private partnership in the Greater Cincinnati Area that seeks to meet current and future demands for skilled workers through the creation of job matching programs, designing new training programs, and working with educational institutions to develop career pathways.¹⁸

CONNECTICUT

2017 POP: 3,588,184
2017 GDP (\$M): \$224,739
of IE Jobs: 561,469
% of IE Jobs: 33.6%

KEY SECTORS

- Biopharma & Medical Devices
- Computer & Communications Hardware
- Defense Manufacturing & Instrumentation
- Diversified Industrial Manufacturing
- Financial Services
- Postsecondary Education

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Hartford Hospital
- UConn
- Yale

EXAMPLE COMPANIES

- Accenture
- Aetna
- Apex
- Cigna
- United Technologies
- General Dynamics
- Kayak
- Priceline
- Sikorsky
- The Hartford
- Travelers

EXAMPLE INITIATIVES

UConn Tech Park: Phase one of a new university technology park, the Innovation Partnership Building was completed in 2017 and a ribbon cutting ceremony to mark its official opening was held on September 20th, 2018. The goal is to facilitate partnerships between industry and the university by providing flexible lab space and access to UConn's research resources and "Industry Centers."¹⁹

CT Next: Statewide network with more than 1,500 members that connects start-ups to mentors, collaborative workspaces, universities, suppliers, and other entrepreneurs. CT Next offers easy to navigate resource guides tailored to entrepreneurs and start-ups in different phases of development. It also offers a variety of grant programs to first-time entrepreneurs, start-ups, and municipalities aimed at making it easier to start a business, find talent, and attract more of each to Connecticut.²⁰

Connecticut Skills Challenge: Coding and engineering contests for college students to test their skills and get noticed by employers. Challenge participants are entered into an online directory where employers can search for talent and are invited to participate in Connecticut Technology Council Job Fairs.²¹

APPENDIX I: PROFILES OF THE LEADING TECHNOLOGY STATES

MINNESOTA

2017 POP: 5,576,606
2017 GDP (\$M): \$305,627
of IE Jobs: 914,590
% of IE Jobs: 32.0%

KEY SECTORS

- Biopharma & Medical Devices
- Business Services
- Computer & Communications Hardware
- Diversified Industrial Manufacturing
- Financial Services

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Mayo Clinic
- University of Minnesota

EXAMPLE COMPANIES

- 3M
- IBM
- Medtronic
- St. Jude Medical
- U.S. Bancorp
- United Health

EXAMPLE INITIATIVES

Minnesota’s Discovery, Research, and Innovation Economy (MnDRIVE): An \$18M annually recurring investment in four research areas at the University of Minnesota: Robotics, Global Food, Environment, and Brain Conditions. In 2017, a fifth area, Cancer Clinical Trials, was added and an additional \$4M per year was appropriated. To date MnDRIVE has leveraged \$167M in external funding and launched 13 start-up companies.²²

Enterprise Minnesota: A non-profit manufacturing consulting organization that works with small-and medium-sized companies to increase efficiency and profitability. It has helped 510 Minnesota manufacturing companies gain access to strategies that increase efficiency and promote growth. Resulting from the organization’s work, clients have realized a total positive economic impact of over \$696 million in sales, reduced costs by over \$131M, invested over \$289M in capital expenditures and modernization and added or retained over 6,600 jobs. Also administers the Growth Acceleration Program through which the Minnesota state government provides matching funds to small businesses looking to invest in improving their operations.²³

University Ave Innovation District: Towson Innovation District is a 370-acre innovation district which extends from the University of Minnesota east into St. Paul. It is the only innovation district in the Twin Cities “with the intent to mix entrepreneurs, residents, researchers, developers and businesses with a new, restorative, healthy and arts-inspired community.” The District spreads across two cities, has three light rail stations, and has over 30 community partners.²⁴

NORTH CAROLINA

2017 POP: 10,273,419
2017 GDP (\$M): \$459,287
of IE Jobs: 1,291,795
% of IE Jobs: 29.8%

KEY SECTORS

- Advanced Materials
- Biopharma & Medical Devices
- Computer & Communications Hardware
- Postsecondary Education

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Duke University
- North Carolina State
- UNC Chapel Hill

EXAMPLE COMPANIES

- Bank of America
- Cisco Systems
- GlaxoSmithKline
- IBM
- Red Hat
- SAS Institute

EXAMPLE INITIATIVES

Research Triangle Park (RTP): An industry, university, and government partnership that leverages its proximity to Duke, UNC Chapel Hill, and NC State to create the world’s largest research park run by a non-profit that re-invests profits in improving the community. RTP is home to 250 companies and 50,000 skilled workers, and has \$300 million in annual investment by industries in the region’s universities each year.²⁵

NCBioImpact: A partnership between North Carolina Biotechnology Center (NCBIO an industry group), the North Carolina Department of Commerce, and the state’s university and community college systems that created a training program to support the needs of the nascent biotech industry in the state. More than \$100 million has been invested in training facilities and programs around North Carolina.²⁶

NC IDEA: NC IDEA serves as a “catalyst for young, high-growth, technology companies in North Carolina.” Its main focus is providing grant financing for companies in IT, Medical Diagnostics and Devices, Material Sciences, and Green Technology. Grantees may also utilize the extensive expertise of NC IDEA management in growing early stage companies. Since 2006, over 250 companies have been supported, 70% of which are still in business. Twelve of those companies have raised more than \$5 million in funding and 25% of them have raised more than \$250,000.²⁷

APPENDIX I: PROFILES OF THE LEADING TECHNOLOGY STATES

TEXAS

2017 POP: 28,304,596
2017 GDP (\$M): \$1,521,003
of IE Jobs: 3,423,587
% of IE Jobs: 28.5%

KEY SECTORS

- Computer & Communications Hardware

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- NASA Johnson Space Center
- Rice University
- Texas Medical Center
- Texas A&M
- University of Houston
- University of Texas
- M.D. Anderson Cancer Center

EXAMPLE COMPANIES

- Apple
- Celanese
- Dell
- Freescale Semiconductor
- Rackspace
- Texas Instruments

EXAMPLE INITIATIVES

Governor’s University Research Initiative (GURI): Established in 2015, GURI is a matching grant program to assist eligible institutions of higher education in recruiting distinguished researchers, with the goal of bringing Nobel Laureates, winners of other prestigious awards, and members of honorific societies to Texas universities.²⁸

Texas Enterprise Fund (TEF): A financial incentive program awarding cash grants to economic development projects where significant job creation and capital investment are projected, with the stipulation that a single Texas site be in competition with a viable out-of-state option. The fund is intended as a “deal closer” to push companies to choose Texas over the next closest competitor. Award amounts are determined by projected job creation and investment. As of 2017, TEF awarded 146 grants totaling nearly \$610M to projects that have committed to create over 83,000 jobs and generate more than \$27B in investment.²⁹

BioHouston: A non-profit organization leading a broad-based effort to establish the Houston region as a top-tier global competitor in life science and biotechnology commercialization. Its mission is to create an environment that will stimulate technology transfer and research commercialization, thereby generating economic growth for the Houston region and making it a global competitor in the life sciences industry.³⁰

NEW JERSEY

2017 POP: 9,005,644
2017 GDP (\$M): \$511,302
of IE Jobs: 1,203,931
% of IE Jobs: 30.0%

KEY SECTORS

- Biopharma & Medical Devices
- Financial Services
- Scientific, Technical, & Management Services
- Software & Communications Services

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- New Jersey Institute of Technology
- Princeton University
- Rutgers University
- Stevens Institute of Technology

EXAMPLE COMPANIES

- Bristol Myers Squibb
- Johnson & Johnson
- Merck
- Pfizer
- Prudential

EXAMPLE INITIATIVES

New Jersey Innovation Institute: New Jersey Innovation Institute is a non-profit organization intended to match local firms with university researchers in order to accelerate R&D in health care, bio-pharmaceutical production, civil infrastructure, defense and homeland security, and financial services. This program proved successful for New Jersey in 2014, with 20 start-ups initiated from universities, hospitals, research institutions, and technology investment firms, more than doubling the total amount from 2013.³¹

New Jersey Business Incubation Network: A statewide network of business experts and resource facilities focused on supporting early and expansion stage entrepreneurial companies, increasing high value jobs, and assisting the state economic growth strategy. Over the past three years, companies in their incubators have created or retained on average over 1,350 higher-paying jobs, have generated \$130 million in revenue, have brought \$30 million third-party funding to NJ, and have trained more than 200 student interns.³²

Newark Innovation Acceleration Challenge: Entrepreneurs submit ideas to be evaluated by a panel of judges for the opportunity to win \$3,000 to fund a summer fellowship to work on their idea. Open to Greater Newark college students and Greater Newark residents who are proposing to start a business in Newark.³³

APPENDIX I: PROFILES OF THE LEADING TECHNOLOGY STATES

NEW HAMPSHIRE

2017 POP: 1,342,795
2017 GDP (\$M): \$70,509
of IE Jobs: 208,004
% of IE Jobs: 31.8%

KEY SECTORS

- Computer & Communications Hardware
- Defense Manufacturing & Instrumentation
- Diversified Industrial Manufacturing
- Financial Services
- Postsecondary Education

KEY SECTORS (cont)

- Software & Communications Services

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Dartmouth College
- Dartmouth Hitchcock Medical Center
- University of New Hampshire

EXAMPLE COMPANIES

- BAE Systems
- Dyn
- Fidelity Investments
- Hypertherm
- Lonza Biologics
- Portsmouth Naval Shipyard

EXAMPLE INITIATIVES

New Hampshire Innovation Research Center (NHIRC): A program at the University of New Hampshire, created in 1991 by the state legislature with the goal of increasing university-industry collaboration and commercializing innovations to increase the number of high wage jobs in New Hampshire. To date, \$8M in state funds have been awarded to support research projects, resulting in at least 685 new jobs. Awardees have received \$32M in Small Business Innovation Research (SBIR) funding and \$900M in investment/acquisition capital.³⁴

Game Assembly: A group of video game developers committed to advancing the digital gaming industry in New Hampshire. The group aims to achieve this by growing the number of game studios in NH, retaining the talent in-state, and creating awareness and education opportunities for local students.³⁵

Future Tech Women: An initiative to increase the number of women in technology through empowerment, and programs such as mentorship, to increase awareness and success of women in technology related fields.³⁶

RHODE ISLAND

2017 POP: 1,059,639
2017 GDP (\$M): \$51,195
of IE Jobs: 148,704
% of IE Jobs: 31.1%

KEY SECTORS

- Biopharma & Medical Devices
- Business Services
- Diversified Industrial Manufacturing
- Financial Services
- Healthcare Delivery
- Postsecondary Education

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Brown University
- Rhode Island School of Design
- University of Rhode Island
- U.S. Naval War College

EXAMPLE COMPANIES

- Amica Insurance
- Citizens Financial
- CVS Caremark
- Fidelity Investments
- General Dynamics
- Metlife
- Textron

EXAMPLE INITIATIVES

UnderSea Technology Innovation Consortium (UTIC): A consortium of private defense and marine companies, the University of Rhode Island, and the U.S. Navy intended to accelerate the development of advanced undersea and maritime technologies for academic, commercial, and defense purposes. In June 2018, the Other Transaction Authority (OTA) agreement was awarded to UTIC by the Naval Undersea Warfare Center. The three-year, potentially 10-year OTA agreement, was awarded for industry, academia, and the nonprofit sector, to prototype a wide range of undersea and maritime activities.³⁷

Innovation Vouchers: The Rhode Island Commerce Corporation program lets business utilize R&D capacity in the state. Rhode Island businesses with fewer than 500 employees can receive grants of up to \$50,000 to fund R&D assistance from a Rhode Island university, research center, or medical center. Rhode Island manufacturers also have the option to use the voucher to fund an internal R&D project.³⁸

Innovate RI Fund: Created in 2013 by the Rhode Island General Assembly, the Fund supports a variety of programs through which eligible Rhode Island small businesses may apply for grants to reduce the cost of applying for SBIR/STTR awards, to match SBIR/STTR Phase I and Phase II awards, and to hire interns.³⁹

APPENDIX I: PROFILES OF THE LEADING TECHNOLOGY STATES

FLORIDA

2017 POP: 20,984,400
2017 GDP (\$M): \$836,056
of IE Jobs: 2,350,603
% of IE Jobs: 27.7%

KEY SECTORS

- Biopharma & Medical Devices
- Business Services
- Scientific, Technical, & Management Services

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Florida State
- NASA Cape Canaveral
- University of Florida
- University of South Florida

EXAMPLE COMPANIES

- Boeing
- Electronic Arts-Tiburon
- First Data
- FIS
- Lockheed Martin
- Raymond James
- Sanofi Pasteur/Vax Design
- SRI International

EXAMPLE INITIATIVES

Florida Gulf Coast University Innovation Hub: The Emergent Technologies Institute (ETI) is a 26,000 square foot complex with research labs, classrooms, and offices situated on a 6.5-acre campus. ETI supports workforce and economic development along with education initiatives. For R&D it has 3 research labs, 2 high-bay research labs, 2 teaching labs, and a machine shop along with 2 acres fenced in for outdoor research projects. There are 2 large classrooms, 3 regular classrooms, a computer lab and 10 offices. ETI is planned to be the first part of a 240-acre development in Fort Myers called ITEC, which hopes to attract research and technology companies.⁴⁰

Innovation Florida: A non-profit organization working to create an innovation economy in Florida through five different strategies: Academic Outreach, Connecting Business to Government, Venture Capital Outreach, Cross Border Collaboration, and Supporting Innovation.⁴¹

Scripps Research Institute Florida: A private nonprofit founded in 2004, Scripps was ranked as the top nonprofit scientific institute in 2017. The Jupiter (Fla) Campus, over 350,000 square feet on 30 acres, was completed in 2009. Scripps has produced nearly 1,000 U.S. patents and 70+ spinoff companies.⁴²

WISCONSIN

2017 POP: 5,795,483
2017 GDP (\$M): \$282,043
of IE Jobs: 862,779
% of IE Jobs: 30.3%

KEY SECTORS

- Advanced Materials
- Business Services
- Defense Manufacturing & Instrumentation
- Diversified Industrial Manufacturing
- Financial Services

EXAMPLE UNIVERSITIES & RESEARCH INSTITUTIONS

- Marquette University
- Milwaukee School of Engineering
- University of Wisconsin System

EXAMPLE COMPANIES

- Caterpillar
- Epic Systems
- Fiserv
- Harley Davidson
- John Deere
- Johnson Controls
- Kohler
- Oshkosh
- Rockwell Automation

EXAMPLE INITIATIVES

Qualified New Business Venture Program (QNBV): A program intended to incentivize investments in early stage businesses developing innovative products, processes, or services by angel investors, angel investment networks, and qualified venture capital funds. Investors are provided a Wisconsin income tax credit, equal to 25 percent of the value of investment made in certified companies.⁴³

The Water Council: A non-profit organization led by a group of Milwaukee-area businesses, universities, and government agencies with the aim of turning the region into the global hub for the Water Industry. The Water Council pursues this goal through economic, technology, and talent development as well as convening industry leaders in Milwaukee, which is now home to over 200 water technology businesses. The Water Council also operates the Global Water Center, a 98,000 square-foot hub for industry-university collaboration and the development of new companies in Milwaukee. The Council currently consists of 191 members.⁴⁴

UW Milwaukee Innovation Campus: A "third generation" research park that offers technology transfer and business incubation services. The campus incorporates the academic and research enterprise of the university directly into the development of the private sector park that will leverage the research and intellectual property generated by the university.⁴⁵