Trends in Tech-based Economic Development: Local, State and Federal Action in 2013

Expanding Research Capacity and Commercializing Research • Increasing Access to Capital
Tax Incentives • Accelerators and Tech Hubs • Higher Education Policy
University Reorganization • Investing in a Skilled Workforce • Federal Activity • Transparency

Investing in activities that support the creation and expansion of high-growth companies and jobs is at the forefront of technology-based economic development (TBED). TBED fosters a climate where new and existing companies that develop technology and continuously innovate will thrive. Understanding the trends that are affecting and influencing TBED can help guide investment priorities for practitioners and policymakers across the nation.

A slow yet stable national economic recovery gave rise to many new initiatives across states and regions with a shift toward targeted and refined investments in the high-tech economy for quicker returns – a continued trend from 2012.

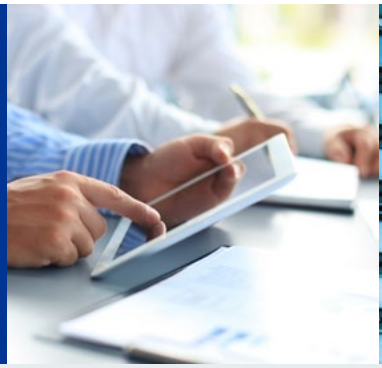
Enacted budget cuts and budget gaps have substantially decreased and overall revenue collections have outpaced projections, all of which points to a more stabilized state budget environment.

While median income has risen slightly over the last two years, it is still 6 percent below pace from the start of the recession in 2007[1]. Stagnant wages and income disparity characterize some of the hurdles to recovery. For low- and middle-income families, the data indicates wage growth is continuing to slow and is likely to decelerate long after the unemployment rate has returned to more normal levels.[2] While unemployment continues to fall, job losses are disproportionately concentrated in rural areas. Although metro counties are nearly back to pre-recession levels in terms of job creation, non-metro counties have 5.9 million fewer jobs today than before the recession[3].

Bureau of Labor Statistics data, Daily Yonder interactive map[3]

The outlook for state budgets has improved with a recent report indicating 14 consecutive quarters of growth in tax revenues after five quarters of decline in 2008-2009[4]. Enacted budget cuts and budget gaps have substantially decreased and overall revenue collections have outpaced projections, all of which points to a more stabilized state budget environment. Analysts warn a slowdown is on the horizon, however. Legislative fiscal officers are projecting a growth rate in general revenue funds of only 0.8 percent in FY14, much slower than the 5.7 percent growth seen in FY13[5].

Despite this volatility, some states made significant investments in research and capital initiatives to spur job creation and support entrepreneurial endeavors.



Examples include Connecticut's 10-year, $2 billion Next Generation Connecticut Plan to expand funding for science and technology education on the campuses of the University of Connecticut and a $200 million fund to spur biosciences R&D. Pennsylvania's General Assembly approved a plan to auction $100 million in tax credits to generate state revenue that will be invested in the funding of tech and biotech startups. Lawmakers in Indiana dedicated $25 million to establish a biosciences institute with the expectation of building an endowment up to $400 million over the next five to seven years drawn from corporate and philanthropic sources.

At the same time, New York and Wisconsin legislators appropriated significant funds for capital-based initiatives. Included in New York's FY14 budget is $50 million for a venture capital fund to provide seed and early stage funding for new company formation and to help commercialize new technologies and products. In Wisconsin, lawmakers passed legislation to create a $75 million early stage seed capital fund-of-funds to support high-growth sectors with $25 million from the state and the remaining funds coming from private sources.

Other thematic areas to see considerable activity in 2013 included efforts to expand research capacity and commercialize research, promote crowdfunding, invest in knowledge-based industries, support specialized workforce training, and strengthen industry clusters. In Hawaii, the legislature dedicated $6 million for an initiative that crosses several of the categories, including entrepreneurial development, research commercialization and helping companies access capital. Tax credits to spur job creation also were enacted in several states.

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Regional economic development and local activity, including new approaches or tactics, continued with the rapid growth of accelerators, tech hubs and the rise of co-working spaces in places as varied as San Antonio, TX, Iowa City, IA, Toronto, and Washington, D.C.

With tight budgets also comes increased scrutiny. As the national debate over fiscal austerity and taxpayer spending continues, TBED organizations can anticipate higher expectations for accountability of their investments. Several states passed bills in 2013 aimed at addressing transparency, including Indiana, Rhode Island and Texas. Shifting state economic development efforts around regions has been an ongoing trend over the past several years. This year, lawmakers in California, Michigan and North Carolina incorporated a regional economic development approach to encourage community collaboration and increase efficiency.

Higher education policy witnessed many disruptive trends over the past year, specifically regarding funding. As of September, 22 states have some form of performance-based funding in place and seven are in transition[6]. Several governors

Federal activity related to TBED remained fairly strong with announcements of single- and multi-agency competitions for funding innovation-based activities.

also worked with institutions of higher education to establish plans for lower-cost degrees. STEM curriculum dominated education policy for several states and massive online open courses, or MOOCs, continued to grow in numbers and enrollment. University officials also announced plans to reorganize activities and programs in a way that better supports startup companies and economic development by centralizing resources.

States dedicated funds and implemented new programs in 2013 to address the skills mismatch and compete for talent. Inclusion garnered a great deal of attention, as policymakers and practitioners seek to capitalize on the shifting demographics in America's population. Education and training aimed at recruiting more women, girls and minorities to STEM fields were common approaches.

Federal activity related to TBED remained fairly strong with announcements of single- and multi-agency competitions for funding innovation-based activities. The Obama administration continues to propose large amounts of spending for these efforts; however, congressional support continues to be a challenge with increased gridlock between both parties on Capitol Hill.

ABOUT THE REPORT

Each year, SSTI takes a look back at the past year's activities in TBED and examines the environment to illustrate trends and put it all into perspective. This report is not intended to be exhaustive; rather a compilation of examples in thematic areas from across the country.

Prepared by Rhiannon Skipper, Associate Editor, SSTI.
Please send suggestions, comments or feedback to: skipper@ssti.org.

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[2] Daly, M. C., Hobijn, B. and Ni, T. 2013. *The Path of Wage Growth and Unemployment*. FRBSF Economic Letter July 15, 2013. [report] San Francisco: Federal Reserve Bank of San Francisco, p. 1.

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Trends in Tech-based Economic Development: Local, State and Federal Action in 2013

SSTI is a national nonprofit organization that leads, supports and strengthens efforts to improve state and regional economies through science, technology and innovation.

Expanding Research Capacity and Commercializing Research

Initiatives that promote economic growth in targeted sectors through expanding research capacity and commercializing research often are seen as visionary, long-term investments that generate returns over time. Governors and policymakers prioritized funding toward these types of initiatives in 2013, setting the stage for revenue growth and new job creation in high-tech fields. Private sector partners also are helping to accelerate commercialization activity as seen in the New York example.

OTHER EXAMPLES INCLUDE:

Colorado

Lawmakers approved the launch of an advanced industries acceleration program to provide grants for proof-of-concept, early stage capital and retention, and infrastructure. HB 13-1001 creates the program, which makes available $150,000 to $500,000 awards to support commercialization in key industries. The initiative was funded at $5 million for the fiscal year. A separate bill, HB 1193, will launch a new five-year, $300,000 export program within the state's international trade office to help export products developed under the acceleration program.

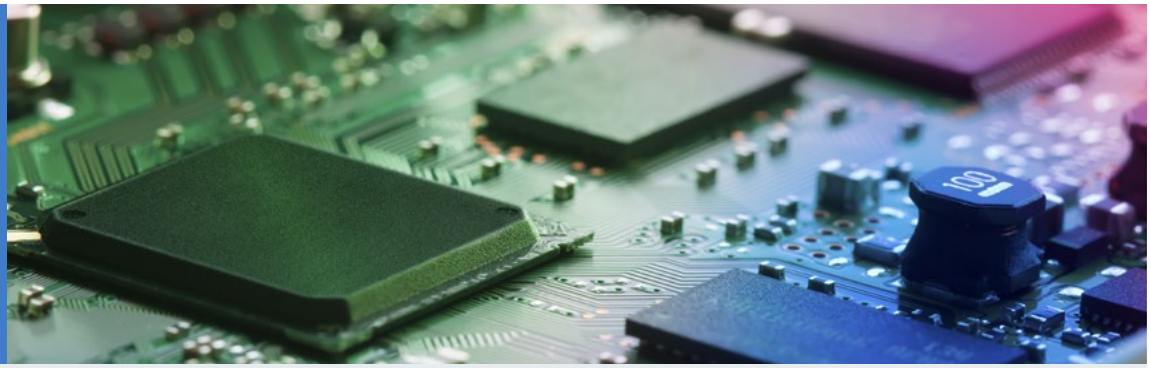
Connecticut

Connecticut's General Assembly approved a biennial budget that includes major increases for science and technology research and education at the University of Connecticut (UConn) and a boost in funding for the state's other higher education institutions.

The budget, in conjunction with the Next Generation Connecticut legislation (Public Act 13-233), significantly expands funding for science and technology education on the campuses of UConn. Under the Next Generation Connecticut plan, the university's campuses will receive $2 billion over the next ten years to expand science and technology facilities and enrollment. Funds will be used to support the construction of new STEM facilities, for building teaching and research labs, upgrading of information technology, and additional housing and parking. With the approval of this spending, state leaders intend to greatly expand UConn's reputation as a leader in research and STEM education in order to improve the quality of its workforce and to attract and create high-tech businesses.

Connecticut lawmakers also approved and Gov. Dan Malloy signed into law a bill creating a $200 million fund to spur biosciences R&D as part of a broader economic development agenda announced in the governor's State of the State address. With the passage of SB 842, over 10 years, Connecticut Innovations (CI), a quasi-public organization, will provide capital to early stage companies with the goal of driving efforts toward commercialization of new businesses and products. CI also plans to focus funds toward translational research and riskier investments for helping university faculty and students to commercialize bioscience research and ideas.

Expanding Research Capacity and Commercializing Research



Florida

Funding for biomedical research was increased by $14.6 million in the FY14 budget compared to last year. A total $50 million was approved for several initiatives, including $10 million each for the King Biomedical Research program and Bankhead/Coley Cancer Research program, up from $7.15 million and $5 million, respectively. A new $10 million Cancer Center of Excellence program approved by lawmakers provides an endowment to establish a funded research chair. The accompanying legislation is SB 1660.

Lawmakers also passed a measure to expand the state's reach in working with innovative businesses to develop more startups focused on life sciences. Under current law, the Institute for the Commercialization of Public Research, a nonprofit organization that works with technology licensing officers across the state to create new companies, is permitted only to assist universities and public research institutes with technology commercialization. The new law broadens the reach to include businesses and allows the institute to create corporate subsidies and develop or accrue ownership, royalty, patent or other rights in the companies. The measure also creates a seed fund to foster greater private sector investment funding and encourage seed-stage investments in startup companies. Lawmakers provided $5.5 million for the effort in the budget.

Indiana

With a commitment of $25 million over the next two years to establish a biosciences institute, Indiana lawmakers gave their stamp of approval to a major policy goal advocated by Gov. Mike Pence during his election campaign. The governor and lawmakers hope to build an endowment of $300 million to $400 million over the next five to seven years drawn from corporate and philanthropic sources that would fund annual operations of the institute and help recruit world-class scientists with an emphasis on technology commercialization. Funding for the initiative is part of the Indiana Economic Development Corporation's (IEDC) budget. The institute announced in November it had reached its first $50 million funding milestone, having raised $25 million from corporate and philanthropic funders to match the funds appropriated by the legislature.

Kansas

Lawmakers established a Midwest Stem Cell Therapy Center at the University of Kansas Medical Center with a state appropriation of approximately $1.1 million for startup costs (SB 199). The legislation directs the center to focus on activities to advance adult, cord blood and related stem cell research and therapies for patient treatment. Embryonic stem cell research is strictly prohibited.

Nevada

The 2013-15 biennial budget approved by lawmakers includes $10 million over two years for the Knowledge Fund, a technology development and commercialization support program established in 2011. Although university funds were directed to the program in the previous biennial budget, no money was appropriated. Knowledge Fund dollars may be used to support research teams at Nevada state universities and the Desert Research Institute to launch a technology outreach program to connect researchers with entrepreneurs, to build new research facilities, and to fund technology commercialization activities.

Expanding Research Capacity and Commercializing Research

New Jersey

The FY14 budget includes $20 million in new funding for cancer research and support for two cancer facilities – the Cancer Institute of New Jersey and the South Jersey Cancer program.

New Mexico

Lawmakers passed a bill establishing the Technology Research Collaborative, but no funding was appropriated. The collaborative, which consists of national laboratories, major research institutions and higher education, seeks to establish advanced technology centers and develop and commercialize intellectual property. Another goal is to create a workforce in support of enterprises based on the creation of intellectual property. Gov. Susana Martinez urged lawmakers to approve $2 million during the 2014 legislative session to activate the initiative.

New York

NY-BEST, The New York Battery and Energy Storage Technology, and DNV KEMA Energy & Sustainability announced a partnership agreement where the company will provide up to $16 million, including re-location of its existing energy storage testing operations from its Pennsylvania-based lab to a new center in Rochester, NY. The center will provide the elements necessary for commercialization in the energy storage business, such as a suite of test, validation and independent certification capabilities, all of which are difficult for individual companies to procure. The remaining funding is provided by the New York State Energy Research and Development Authority (NYSERDA) and the Empire State Development Corporation.

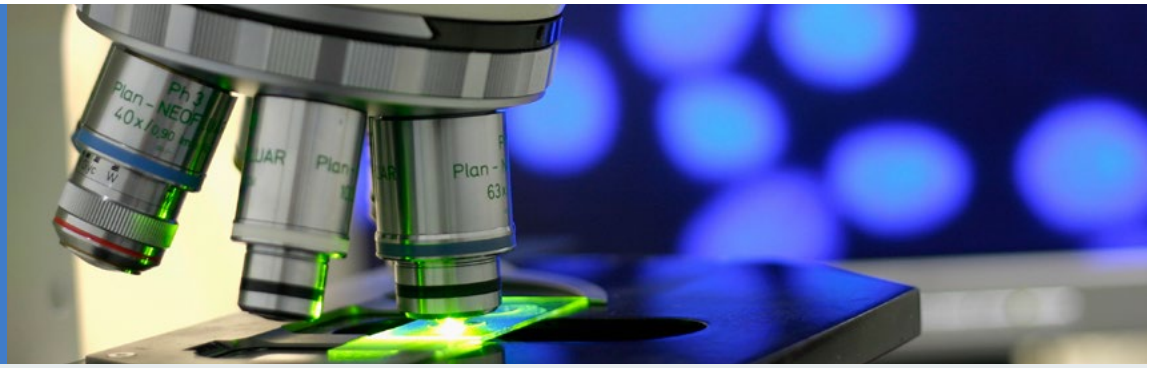
North Dakota

A new program that builds upon the successes of North Dakota's Centers of Excellence and Research Excellence programs will fund up to half of the cost of R&D and commercialization projects conducted by the state's research universities. Under Research North Dakota (RND), the development and commercialization of new products will be achieved on a project-by-project basis and state funds will be matched with private sector cash investment.

Under the RND program, no new centers will be created. RND grants will be used to fund the research university's work in assisting private companies with R&D and commercialization projects. Through this new model, the development and commercialization of new products will be achieved on a project-by-project basis, with the assistance of state research and expertise. Lawmakers included $12 million in the enacted 2013-15 biennial budget, the same amount approved for the centers program last biennium. Unlike its predecessor, the state funds will be matched only with private sector cash investment, where prior matches could also include in-kind match.

The Department of Commerce will establish and administer the RND grant program with input from the Centers of Excellence Commission on grant award determinations. Commerce may use up to $6 million for RND grants, $4 million for RND grants focused on biotechnology, and $2 million for venture grants focused on commercializing university technologies. This is a new component of the program modeled after the Georgia Research Alliance VentureLab program.

Expanding Research Capacity and Commercializing Research



South Dakota

As part of the mid-year adjustments to the FY13 budget, lawmakers approved $500,000 requested by Gov. Dennis Daugaard to initiate a proof-of-concept program administered by the Board of Regents and the Governor's Office of Economic Development. Through the program, grants of $50,000 will be available for investments in research coming out of the universities thought to be commercially viable.

Washington

Gov. Jay Inslee's Working Washington Agenda received bipartisan support to strengthen the state's economic foundations on a wide range of fronts. The final bills provide funding for STEM education, improving workforce training programs, and assisting with the growth of key industries. One highlight of legislation supporting cluster development is the creation of a Joint Center for Aerospace Technology Innovation, backed by $1.5 million in state funding, which is being used to fund 18 research projects across the state. Each grant connects an in-state aerospace company with public university partners to support the commercialization of new technologies. Currently, the University of Washington, Washington State, and Western Washington are participating. The program is designed to assist aerospace companies of all sizes, and includes $300,000 in grants for 12 high schools to adopt aerospace assembly programs.

The 2013-15 operating budget also provides $6 million for the University of Washington to create a clean energy institute that will focus on next-generation technology for energy storage and solar energy.

Wyoming

The University of Wyoming submitted a plan to Gov. Matt Meade outlining a multi-year effort to transform the College of Engineering and Applied Science into a top echelon engineering school with "Tier 1" status. The report calls for significant changes in the way the college operates. In addition to new facilities, the school would add 100 new graduate fellowships, 25-30 new faculty positions, and scholarships for 500 undergraduates. The plan was created in collaboration with the governor's Energy, Engineering, and STEM Integration Task Force as part of a directive for "Tier 1" status tasked by the governor and lawmakers during the 2012 legislative session. The FY12 budget and FY13 supplemental budget provide $95 million for the effort, with some funding from Abandoned Mine Land (AML) funds. Another $15 million is expected from private donations.

Increasing Access to Capital

Some organizations receiving public funds to promote TBED have seen their budgets reduced over the past several years amid tight state tax revenues. As a result, creative alternatives for financing programs have emerged at the local, state and regional level. Similarly, universities have developed new methods for funding commercialization activity.

EXAMPLES OF STATE APPROACHES INCLUDE:

Colorado

The Rocky Mountain Innosphere and the Colorado Enterprise Fund launched the Colorado Catalyst Fund, a $20 million community development venture capital fund. The model for the fund was drawn from existing community development venture funds established predominately on the East and West Coast, and will be the first of its kind in the state. The fund will be managed by the Community Development Venture Capital Alliance.

Georgia

Gov. Nathan Deal signed a bill to set up a public-backed venture capital fund, the Invest Georgia Fund for investment in innovative companies. No funding was included in the final bill, although the intent is to phase in funding over the next five years.

Kentucky

With a goal of providing investors access to early stage deal flow on a statewide basis, Gov. Steve Beshear announced the creation of the Kentucky Angel Investors Network (Kentucky Angels), a virtual network that links companies pursuing funding with investors from across the state. The initiative brings together new ventures and accredited investors together via monthly online meetings.

Michigan

Lawmakers passed a bill (HB 4996) creating a crowdfunding exemption allowing non-accredited investors to invest up to $10,000 in business ventures in exchange for equity stake. Similar laws were passed in Georgia, Kansas and Wisconsin in recent years.

New York

Two major statewide capital initiatives were implemented in New York. Lawmakers approved a $50 million innovation venture capital fund to provide seed and early stage funding for new company formation and to help commercialize new technologies and products. The funding is sourced from the New York Power Authority and complements the Innovation Hot Spots program that will designate 10 high-tech incubators at areas affiliated with institutes of higher education. The FY14 budget provides $1.25 million in initial funding to launch the program.

The New York Green Bank also was established as a $1 billion initiative to attract private sector financing for energy efficiency and clean energy projects. The NY Green Bank is a division of NYSERDA and is funded by an initial $165 million investment from idle, clean energy ratepayer funds and $45 million allocated from emission allowances under the Regional Greenhouse Gas Initiative.

Increasing Access to Capital

Pennsylvania

A new program, InnovatePA, will auction off $100 million in tax credits to generate revenue that will be invested in funding tech and biotech startups. The state auction will sell off deferred insurance-premium tax credits to insurance companies that pay Pennsylvania's insurance-premium tax. The sale is expected to generate at least $75 million in funds, with credits not being sold below 70 percent of their face value.

Insurance companies that purchase the credits will be able to claim up to $20 million annually beginning in 2017, with unused credits expiring in 2026. The annual cap will limit state spending while making up-front investments in high-tech businesses that create jobs and boost regional economic development.

Of these auction proceeds, $37.5 million, or roughly 50 percent, will go toward funding Ben Franklin Technology Partners, which provides funding and support for tech and biotech companies across the state. Another $33.75 million, or roughly 45 percent, will support the Ben Franklin Technology Development Authority's Venture Investment Program, which provides loans to in-state venture capital and angel firms. The remaining $3.75 million, or 5 percent, will be split between Pennsylvania's regional biotech centers, the Life Sciences Greenhouses.

The legislation (HB 465) is modeled after a similar program in Maryland that raised $84 million for $100 million in deferred tax credits to be serviced between 2014 and 2022.

Rhode Island

A three-year effort to implement an SBIR state matching funds program gained enough traction during the 2013 legislative session to win support from Rhode Island lawmakers. The measure was spearheaded by a group of leaders from 24 life sciences companies who advocated for a statewide program to encourage small business R&D and commercialization.

The FY14 budget signed into law by Gov. Lincoln Chafee appropriates $500,000 for the new Innovate Rhode Island Small Business Incentive Program and internship program and calls for the Rhode Island Science and Technology Advisory Council (STAC) to administer the program. Qualifying businesses can receive grant and loan funding for the costs associated with applying for Phase 0, Phase I and Phase II SBIR/STTR proposals. Companies can receive up to $3,000 for Phase 0; up to $100,000 for Phase I; and up to $300,000 for Phase II. Budget language notes that Phase I funding is for matching grants and funding for Phase II is in the form of a matching loan.

Wisconsin

Gov. Scott Walker signed legislation (Act 41) to create a $75 million early stage seed capital fund-of-funds to support high-growth sectors, including agriculture, information technology, engineered products, advanced manufacturing, and medical devices and imaging. The state will contribute $25 million to the fund, with an additional $50 million derived from private sources.

Increasing Access to Capital

Wisconsin continued

A measure to amend the state securities laws in order to permit equity crowdfunding also won approval in the Wisconsin Legislature. The bill, Wisconsin Crowdfunding and Securities Exemptions (CASE) for Jobs Act, is aimed at providing better access to small business capital by connecting Wisconsin-based investors with startups through crowdfunding websites. Wisconsin now joins three other states, Georgia, Kansas and North Carolina, that have similar securities exemptions. Lawmakers across several states, including New Jersey, have cited frustrations regarding the delay in full implementation of the federal JOBS Act as a reason for creating the state-level exemptions.

Under The CASE for Jobs Act, a new category of certified investor is established to include individuals with an income of $100,000 or a joint income of $150,000 in each of the most recent two years. The original bill would have reduced the threshold for accredited investors in the state from $200,000 in annual income to $100,000. Instead, the amendment adopted by the legislature creates the new certified investor status, and also mandates an individual or joint net worth of at least $750,000. Further, the bill allows unaccredited investors to invest up to $5,000 per offering and requires investors to certify in writing or electronically their acknowledgment of investing in a high-risk, speculative business venture.

The Wisconsin Economic Development Corp., a public-private corporation that replaced the Wisconsin Department of Commerce in 2011, pledged $300,000 in operating funds to help jump-start the new BrightStar Wisconsin Foundation. BrightStar's approach is to raise donations to make venture investments in startup companies statewide. Established with a $6 million pledge, the group expects to raise an additional $60 million during the next three years.

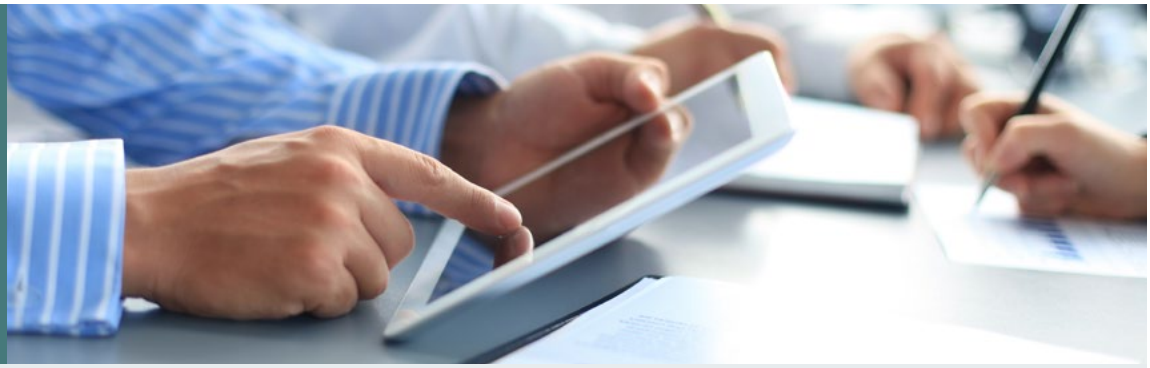
NEW LOCAL AND REGIONAL FUNDS LAUNCHED:

Detroit Innovate is a seed stage investment fund that makes initial investments of $50,000 to $500,000 in high-growth companies across the region. Operating under the umbrella of Invest Detroit, a nonprofit created by Business Leaders for Michigan, the fund will target companies in life sciences, digital clean tech, advanced manufacturing and transportation, and business-to-business software.

A new $50 million investment fund managed by the Maryland Technology Development Corporation (TEDCO) will provide seed capital for startups in Maryland, Virginia, Delaware and the District of Columbia with a focus on life sciences, energy and security. The goal of the Chesapeake Regional Innovation Fund is to help launch businesses that use technologies from government and university research labs.

In New York City, a public-private co-investment partnership plans to deploy at least $100 million and launch 15-20 life sciences companies by 2020. The City of New York Life Sciences Funding Initiative will couple funding with access to the city's world-class academic medical centers and research foundations. The New York City Economic Development

Increasing Access to Capital



NEW LOCAL AND REGIONAL FUNDS LAUNCHED CONTINUED:

Corporation and its industry partners Celgene, Lilly, and GE Ventures, will co-invest a minimum $50 million in seed and Series A funding alongside matching funds from venture capital partners. Funds will be invested directly in early stage companies. The first investments are expected to take place in mid-2014.

The GrowOKC Fund is a $2 million partnership between nonprofit i2E Inc. and the Oklahoma City municipal government to provide venture growth capital. The fund will focus on existing small businesses in Oklahoma City that need capital ranging from $100,000 to $250,000 for expansion projects. The money is available through low-interest loans and equity and convertible debt investments. A 1:1 match is required.

UNIVERSITY-BASED CAPITAL ACTIVITY

Universities increasingly turned to crowdfunding platforms or launched funds to finance commercialization and the development of startups based on university research. Many of the crowdfunding programs share similar attributes – eligibility is limited to those associated with the university, whether students, faculty, or alumni; and entrepreneurs using the platform typically pay a fee to the service provider or the school. Some examples include:

- Georgia Tech Starter is a university-based, peer-reviewed, crowdfunding platform for science and engineering projects, and is designed for generating seed funding (typically up to $5,000) or helping gather data for larger projects.
- Arizona State University, Cornell University, University of Delaware, and the University of Virginia have partnered with USEED to create crowdfunding portals for researchers. The USEED system connects with the universities' existing alumni management systems to help students, faculty and staff raise funds for experiential learning projects.
- Launcht is another crowdfunding platform for universities and colleges. The company partnered with the University of Vermont to create UVMStart, geared toward funding student startup ideas, and set up a crowdvoting platform for Southern Illinois University's business idea competition.
- Missouri University of Science and Technology announced in November the selection of crowdfunding platform EquityNet to help entrepreneurs typically located in more rural areas raise money for business ventures.

Increasing Access to Capital

UNIVERSITY-BASED CAPITAL ACTIVITY CONTINUED

Universities also launched their own funds to support ideas from faculty, staff and alumni.

- The University of Illinois at Chicago launched a $10 million Chancellor's Innovation Fund aimed at moving technologies developed by faculty, students or staff from research to commercial use. The fund will make grants totaling $2 million a year for five years, and about half of the funding is expected to finance proof-of-concept grants for projects emerging from basic research.

- Colorado State University created a $1.5 million venture capital fund to support projects with up to $500,000 in funding. The goal is to promote collaboration in higher education with a focus on supporting academic programs, expanding the system's statewide presence, creating financial sustainability or improving Colorado's future.

- Drexel University created "Drexel Ventures," a seed funding, incubation and technology transfer enterprise. The Drexel Innovation Fund supports proof-of-concept projects that move faculty and student inventions closer to market, and provides seed capital to advance startups to the next stages of commercialization.

- A fund to support companies established from technologies licensed by the University of South Florida (USF) was established by the USF Research Foundation. Companies affiliated with the Tampa Bay Technology Incubator at USF Connect can apply for up to $50,000 in startup funds. Awards are expected to last up to a year.

- The Portland Development Commission launched the University Startup Commercialization Grant program providing grants of up to $30,000 to help commercialize new ventures based on technologies from Oregon Health and Science University and Portland State University.

- In Ohio, TechColumbus and The Ohio State University announced a $1 million evergreen fund to commercialize university-based technologies – specifically in the areas of advanced materials, alternative energy, information technology, and life sciences.

Tax Incentives

Measures to encourage the creation or expansion of high-growth companies through the use of tax incentives were enacted in several states. Examples include legislation to expand R&D tax credits, create incentives for angel investment, and other legislation to support innovation, commercialization and manufacturing.

Arizona

A measure aimed at incentivizing companies to conduct R&D was signed into law by Gov. Janet Brewer. HB 2342 expands the state's R&D tax credit, which is administered by the Arizona Commerce Authority. The reform is intended to help small, innovative companies with little to no cash flow by providing a refund for R&D activities. To be eligible for the R&D credit, the company must have 150 or less employees and perform R&D in one of several target industries. In exchange for the refund, the state gets to discount its R&D obligation by 25 percent.

California

Gov. Jerry Brown signed into law AB 93, effectively ending more than $700 million annually in state tax breaks for enterprise zones, and replacing the program with three new tax incentive programs to be administered by the Governor's Office of Business and Economic Development (GO-Biz). They include:

- A statewide sales tax exemption on manufacturing equipment or R&D equipment purchases by firms engaged in manufacturing or biotech R&D;
- A hiring credit for businesses in areas with the highest unemployment rate and poverty. The credit would be available to hire long-term, unemployed veterans and people receiving the federal earned income tax credit; and,
- A California Competes tax credit program based on specific criteria, including the numbers of jobs to be created or retained during a certain time frame.

Florida

Gov. Rick Scott won approval for his proposal to eliminate sales tax on manufacturing equipment. The measure was touted as a way to attract more companies and remain globally competitive.

Hawaii

Lawmakers passed SB 1349, which extends through 2019 an income tax credit for qualified research activities.

Tax Incentives

Maine

Lawmakers passed LD 743, which extends the Maine Seed Capital Tax Credit. The original tax credit program was created in 1989 with a $30 million cap. This extension will provide an annual cap of $5 million in tax credits to qualifying investors, beginning in 2014. Gov. Paul LePage allowed the bill to become law without his signature, saying he believed it was not adequately funded.

Maryland

Hoping to attract private funding for early stage companies focused on cybersecurity technology, lawmakers passed HB 803, which establishes the Maryland Cybersecurity Investment Tax Credit Reserve Fund and provides a 33 percent refundable tax credit for qualified investors in seed and early stage cybersecurity companies. The approved FY14 budget includes $3 million for the tax credit program.

Lawmakers also agreed to expand the state's allowable R&D tax credit from $3 million to $8 million annually and increase the Biotechnology Tax credit by $2 million ($10 million total) to encourage investment in the biotechnology industry.

New Hampshire

Gov. Maggie Hassan won approval for her proposal to increase funding for the state's R&D tax credit from $1 million per fiscal year to $2 million per fiscal year (SB 1). The tax credit is applied to the business profit tax.

New Jersey

Gov. Chris Christie signed into law the Angel Tax Credit Program (S. 581) providing tax credits for up to 10 percent of a qualified investment in businesses that conduct research, manufacturing or technology commercialization and have fewer than 225 employees. Administered by the New Jersey Economic Development Authority, in consultation with the New Jersey Department of the Treasury, the fund will have an annual cap of $25 million with each qualified investment capped at $500,000 per tax year.

Texas

To improve the state's competitiveness, encourage new investments, promote high-wage jobs, and encourage innovation and efficiency in manufacturing, lawmakers passed HB 800, establishing an R&D tax credit for franchise or sales tax. The state's previous incentive for R&D activities was first implemented in 2001 and later repealed in 2006.

Accelerators and Tech Hubs

Just as the name suggests, accelerators aim to grow companies quickly. Some TBED organizations have created accelerator programs as part of their portfolio of services, and the number of new accelerators in the U.S. has grown significantly over the past five years. Worldwide, there are approximately 359 accelerators from 46 different countries – more than 250 of which are based in the U.S[7]. States and regions also are investing in tech hubs through entrepreneurship programs, high-tech R&D centers, and sector-specific facilities to attract investment and spur startup activity. Many of the announcements for new tech hubs came from areas where a large concentration of such companies already exists. However, some of the examples are from regions not considered tech hot spots that are trying to gain traction.

EXAMPLES OF PUBLICLY SUPPORTED ACCELERATORS INCLUDE:

Hawaii

The U.S. Department of Defense Office of Naval Research invested $30 million in an accelerator for cleantech companies within the Pacific International Center for High Technology Research (PICHTR). Energy Excelerator originally launched three years ago with $10 million in seed funding from the Department of Energy. The new funding will be used to expand the accelerator's capital and entrepreneurial support programs for clean energy startups in Hawaii and the Asia Pacific region.

New York

NEXUS-NY is a clean energy accelerator supported by a five-year, $5 million grant from NYSERDA, aimed at identifying and validating new clean energy technologies developed in upstate New York. With more than $500,000 annually dedicated to the program, participants are invited to take part in a year-long immersive learning course working with startup techniques modeled after the National Science Foundation iCorps. The program, open to researchers working at university-based laboratories, links clean energy technology teams with mentors and advisors who have experience in technology and business development. Typical awards average $50,000.

Michigan

A 12-week venture accelerator program was launched at TechTown Detroit with the goal of moving select startups to full-time incubation at TechTown upon graduation. The program runs twice a year, and focuses on technologies in advanced automotive, computing, electronic devices, manufacturing and materials. Biotech, clean and alternative energy technologies, engineering, and medical devices technologies also are encouraged.

[7] Data compiled by SSTI

Accelerators and Tech Hubs

Pennsylvania

Pittsburgh-based Innovation Works, an early adopter of the accelerator model, launched its second accelerator program focused on companies working in hardware and robotics. The initiative, AlphaLab Gear, incorporates the same principles and methodologies as AlphaLab, the startup accelerator founded by Innovation Works in 2008. AlphaLab Gear provides expertise, education and mentorship in the areas of industrial and engineering design, advanced manufacturing, mass consumer distribution, and supply chain management. Companies accepted into the program can receive $25,000 in exchange for 5 percent equity or $50,000 for 9 percent equity.

Virginia

Hoping to capture new opportunities for economic growth in an emerging sector, lawmakers approved $2.5 million in the 2012-14 supplemental budget for a cybersecurity accelerator expected to launch up to 10 companies annually. The accelerator, called Mach37, will be managed by the Center for Innovative Technology (CIT), whose job is to recruit companies for the accelerator program regionally and connect them with cybersecurity professionals, investors and technologists. Officials hope to attract private investment to sustain the program in subsequent years.

EXAMPLES OF TECH HUBS INCLUDE:

Arkansas

Following several months of debate, the Little Rock Technology Park Authority Board agreed on downtown Little Rock as the location to create a technology corridor. Funding for the project was approved in 2011 by taxpayers who voted to funnel $22 million from sales tax proceeds for initial infrastructure. Board members are split on a vision for the tech park with some advocating a campus-like center for university research-driven biotech and nanotech commercialization while others want a core building in an urban neighborhood with startup incubators, reports the Arkansas Times.

California

Gov. Brown signed AB 250 to expand the state's Innovation Hub centers, or iHubs. The legislation formally establishes the program and the state's network of 12 iHub centers within the Governor's Office of Business and Economic Development and creates a new account within the state treasury for collecting private funds to spend on the centers. The iHubs leverage assets such as research parks, technology incubators, universities, and federal laboratories to provide an innovation platform for startup companies, economic development organizations, business groups, and venture capitalists.

Massachusetts

Officials involved in the N2 Innovation Initiative hope to transform areas in Newton and Needham, MA, into an innovation hub similar to Boston's Innovation District, reports Boston.com. The project is still in the planning phase, with suggestions including incubator-type space for startups and more places to socialize, such as coffee shops and restaurants. Another goal of the project is to bring back the spirit of Boston's original Route 128. Officials aim to forge connections with local colleges along the 128 beltway, the article states.

Accelerators and Tech Hubs

New Mexico

With a goal of turning downtown Albuquerque into a high-tech R&D hub, officials at the University of New Mexico (UNM) and the city of Albuquerque are trying to raise enough funds to acquire facilities for the Innovate ABQ initiative. The project has secured $6.5 million, including bond funding from the city, a donation from the New Mexico Educators Federal Credit Union, and a grant from the U.S. Economic Development Administration. UNM's Board of Regents was scheduled to vote on a proposal in December to invest $13 million in the project, which is modeled around the Florida Innovation Hub. The vote was postponed until early 2014, however. Under the plans, UNM's Science and Technology Corp. would locate its operations at the new site, create its own single-member liability company to oversee tech transfer through Innovate ABQ, and form a nonprofit organization to administer the downtown site with public- and private sector partners.

New York

Gov. Andrew Cuomo announced plans to build a state-of-the-art campus to house high-tech and advanced manufacturing companies as part of the Buffalo High-Tech Manufacturing Innovation Hub. Two California-based companies will invest $750 million each and the state will contribute $225 million to establish infrastructure at the site. The companies are moving major parts of their operations to the new hub.

The state also will invest $200 million over 10 years to purchase new equipment for the Nano Utica facility, a $1.5 billion hub for nanotechnology R&D located in Mohawk Valley. The public-private effort is mostly financed by private industry and is being led by the SUNY College of Nanoscale Science and Engineering and the SUNY Institute of Technology.

Washington, D.C.

A startup technology hub, 1776, launched in downtown Washington, D.C., as an outgrowth of Startup D.C., a local division of the Startup America Partnership. 1776 serves as a global hub for startups tackling major challenges in education, energy, health care, government, and other critical industries. Although billed as a "hub," 1776 also provides co-working spaces within its campus and officials plan to launch a three-month accelerator program.

Higher Education Policy

Several broad developments in higher education policy emerged during 2013 as officials explored ways to adapt to a new environment that demands a highly skilled workforce with fewer resources for education and training. State appropriations for higher education are on the rise in most states following years of decline. However, traditional funding formulas are becoming obsolete and private sector models, such as massive open online courses (MOOCs), are gaining in popularity, adding a new level of competition for attracting and retaining students. Other developments include lower-cost and online degree options and funding tied more closely to performance.

EXAMPLES INCLUDE:

California

With additional funding directed to higher education as part of the FY14 budget, the California State University (CSU) and University of California (UC) systems announced efforts to boost access to online courses for current full-time students this fall. The goal is to overcome space shortages in classrooms and help graduate more students on time. A bill requiring the state's colleges and universities to grant credit for online courses taken through for-profit groups, including providers of MOOCs, was introduced in the legislature, but failed to garner enough support.

The FY14 budget establishes the first-year investment in a multi-year, stable funding plan for the CSU and UC systems. Each system will receive a 5 percent increase of $125 million – the first stage of a four-year funding schedule that would result in a 20 percent general fund increase for the systems, according to Gov. Jerry Brown's press office. Although no money was earmarked for the initiatives, a portion of the funding increase will be used to "help remove the curricular bottlenecks through online technology," according to CSU officials. CSU plans to launch a system wide concurrent enrollment program offering more than 30 additional online courses across its 23 campuses. UC announced plans to increase the number of online offerings available during the regular academic year without charging additional fees.

Florida

The education bill signed by Gov. Rick Scott has several components with the goal of linking education to jobs and helping universities gain national prominence. The bill identifies metrics for designating a state research university as preeminent. If the universities meet certain standards, they will be provided additional resources and flexibilities with the goal of improving national rankings.

Florida also hopes to gain a competitive edge in online education by offering the research university that meets all 12 of the preeminence metrics (currently the University of Florida) funding to institute fully online baccalaureate degrees at a lower cost than traditional

Higher Education Policy

Florida continued

universities. The other preeminent university (Florida State University) will receive funding to recruit National Academy members, establish a master's degree in cloud virtualization, and institute an entrepreneur-in-residence program.

The bill also puts into place measures to institute bachelor degrees that cost no more than $10,000 at the states' universities.

Georgia

Georgia Tech announced the option of a low-cost, online master's degree in computer science made possible through an agreement with Udacity, a privately owned web-based company offering MOOCs, and AT&T. A competing company, Silicon Valley-based Coursera, announced in May a partnership with university systems in nine states that will use Coursera's platform to experiment with individual pilot projects tailored to their needs.

Indiana

Lawmakers passed a measure (HB 1348) geared toward improving college completion rates. The measure links financial aid to student progress, provides students with semester-by-semester degree maps to specify courses needed to graduate, and encourages and rewards students to complete the minimum number of courses needed to graduate on time with financial incentives.

Massachusetts

Community colleges were awarded an additional $20 million in the FY14 budget in exchange for meeting certain goals, such as graduating more students on time, strengthening connections between colleges and businesses, and improving workforce training. Under the new performance measures, half of a school's funding will be based on designated metrics with additional credit for degrees awarded in high-demand fields and for graduating more low-income students. The formula is expected to be fully phased in within three years.

Mississippi

With a drive toward speedier degree completion, the state College Board approved new guidelines for the Mississippi university system that includes receiving state funds based on performance outcomes. During 2014, the first year the new model is implemented, no university will receive less than it did the previous year. Allocation is based on several factors including degrees awarded, the number of students graduating in STEM fields, research activity (only applicable to four research universities), and how many at-risk students are served by the university. The legislature included $3 million in additional funds in the FY14 budget to facilitate the transition to a new funding formula. The corresponding bill is SB 2851.

Texas

Funding for Texas technical and community colleges was tied more closely to student outcomes, including graduates' earnings, during the 2013 legislative session. Under the value-added accountability funding formula, schools receive funding based on the difference between graduates income five years after graduating and the minimum wage.

University Reorganization

Universities are increasingly seen as hubs for regional economic development. To create stronger connections with the private sector, eliminate the barriers between universities and the innovation community, and better support industry needs, some higher education institutions reorganized their business engagement efforts. Many of the efforts focused on entrepreneurship and commercialization.

EXAMPLES INCLUDE:

Iowa

With an additional $12 million in FY14 funding, the Iowa State University Research Park will build a new facility to house services and agencies that assist Iowa businesses, which currently are scattered around the campus, according to a press release. The planned expansion will bring together the Small Business Development Center, the Pappajohn Center for Entrepreneurship, the Office of Intellectual Property and Technology Transfer, and the Iowa State University Research Foundation, among others. Funding was appropriated in HF 648, signed by Gov. Terry Branstad in June.

Indiana

Speeding university-based technologies to market is the intended outcome of a partnership formed between Purdue and GE. Under the agreement, GE technology commercialization experts will help identify innovations being developed at Purdue, such as enhanced medical diagnostic imaging, advanced propulsion technologies, solar technologies and others. GE and Purdue leaders also plan to meet periodically to discuss strategies and objectives derived from university-based research. Earlier this year, Purdue opened a space on campus, Purdue Foundry, to act as a central resource for helping entrepreneurs and inventors prepare inventions for market. Officials hope the new space will help Purdue reach its goal of doubling the amount of startups over the next two years.

Michigan

The University of Michigan Medical School (UMMS) introduced the Fast Forward Medical Innovation initiative, which combines the medical school's Office of Research business and commercialization groups, including the Michigan Translational Research and Commercialization program. The new office will combine the school's commercialization services and research partnerships in order to create a "front-door" for businesses and entrepreneurs to access the university's biomedical research assets. Fast Forward will partner with U-M Tech Transfer, the College of Engineering, the Business Engagement Center and other schools and colleges in order to better engage with the regional economy.

New Hampshire

The University of New Hampshire (UNH) announced the launch of UNH Innovation, a new office that will incorporate the former Office of Research Partnerships and Commercialization, laboratory services, equipment and facilities rental, and various other university venture and economic development programs. UNH Innovation intends to combine these functions with a number of new services, including mentoring and internship programs.

University Reorganization

Oregon

To help foster technology-based companies in Oregon, lawmakers want to capitalize on the emerging research and community connections of the state's universities. SB 241 creates the Regional Accelerator and Innovation Network (RAIN) with the goal of accelerating regional business formation by linking and expanding programs and facilities anchored in RAIN Centers around Oregon State University and the University of Oregon. The two centers will combine incubator-type housing, university-community designed accelerator programs, and one-stop shops to access regional assets. As companies grow, the external linkages provided by the program are designed to help supply additional talent management and investment capital beyond the region. The state is providing $3.75 million to jump-start the initiative.

Pennsylvania

Officials at the University of Pittsburgh launched a new institute in hopes of consolidating the university's resources for innovation to advance entrepreneurship, commercialization and economic development. The Innovation Institute will bring together under one umbrella the existing Office of Technology Management, Office of Enterprise Development and the Institute for Entrepreneurial Excellence. Its role is to serve as a primary support center in the areas of education, collaboration, commercialization and communications. This includes establishing research and internship programs related to entrepreneurship and connecting technologies and faculty inventors to companies capable of developing intellectual property, among others.

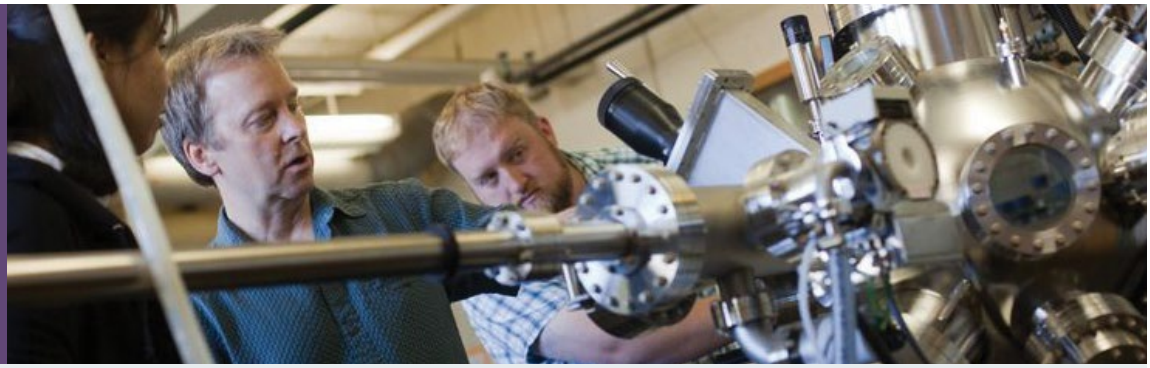
Texas

To better engage with the tech community, the University of Texas (UT) at Arlington is collaborating with TechFW, a local nonprofit organization, to offer training and education programs to UT at Arlington faculty, staff and students and help connect the region's entrepreneurs with university research. The multi-year partnership, TechFW@UTA, will allow university researchers and entrepreneurs to access TechFW's educational programs, angel network and workshops. As part of the agreement, TechFW plans to establish a new program to identify research projects at the university with commercial potential and engage with possible entrepreneurs and stakeholders early in the research process to make sure that these innovations make it to the market.

Wisconsin

The University of Wisconsin-Madison (UW-Madison) credits its creative research faculty and a rich set of entrepreneurial resources for their success in spinning off tech companies. But connecting all of the pieces through one centralized center for entrepreneurial expertise can help expand the number of innovations that reach the market and better support the formation of new companies, officials say. UW-Madison and the Wisconsin Alumni Research Foundation hope to achieve this goal through Discovery to Product or D2P. The initiative will be led by a director and supported by a team of mentors-in-residence, each with specific industry experience. The mentors also will serve as advisors and coaches to faculty and students seeking to commercialize technologies. Initial funding of $1.6 million from the UW-Madison with matching funds from WARF will help get the project up and running. The group also plans to provide investment capital.

Investing in a Skilled Workforce



States dedicated funds and implemented new programs in 2013 to address the skills mismatch and compete for talent. A recent survey evaluating adult skills in 24 countries found that U.S. adults are less proficient in basic reading, math and problem-solving skills than many of their international counterparts[8]. Younger adults entering the workforce generally possessed better skills than older adults leaving the workforce, however. Inclusion garnered a great deal of attention, as policymakers and practitioners seek to capitalize on the shifting demographics in America's population. Education and training aimed at recruiting more girls, women and minorities to STEM fields are common approaches.

California

Lawmakers dedicated $15 million over the next five years for job training as part of the Clean Energy Jobs Act (Proposition 39) approved by voters in November 2012. The voter-approved measure made changes to corporate income taxes and provided for the transfer of $550 million annually over five years to promote energy efficiency and clean energy jobs.

Connecticut

The Next Generation Connecticut bill previously mentioned in the report (see pg. 5) sets a number of goals for the university's science and technology programs, including:

- Increasing enrollment at UConn Storrs and UConn Stamford by 30 percent;
- Expanding School of Engineering enrollment by 70 percent;
- Increasing the total number of STEM graduates by 47 percent;
- Adding 50 STEM doctoral fellowships and introducing a new STEM honors program; and,
- Relocating the Hartford campus to improve collaborations and internships with local businesses.

Georgia

Gov. Nathan Deal signed a measure to lower the GPA requirement for the HOPE Grant for students in the technical college system that he touted as an effort to strengthen the state's workforce development efforts by expanding access to the program. The bill drops the GPA requirement to 2.0 after it was increased to 3.0 two years ago amid budgetary constraints. The program is funded by lottery revenues.

[8] OECD (2013), OECD Skills Outlook 2013: *First Results from the Survey of Adult Skills*, OECD Publishing. http://dx.doi.org/10.1787/9789264204256-en, p. 97, 108.

Investing in a Skilled Workforce

Indiana

A two-year old workforce training program targeting high-demand industries in Indiana received a $5 million infusion of state funds in the enacted 2013-15 biennial budget. The program previously was funded by dwindling federal discretionary funds, according to the Indiana Department of Workforce Development. Under WorkINdiana, participants can earn a career certification along with their high school equivalency. More than 30 programs are offered in high-wage industries such as advanced manufacturing, information technology and health care.

Maryland

To better connect workforce training collaborations between business, government and nonprofit organizations, lawmakers passed a bill establishing the Maryland Employment Advancement Right Now (EARN) program and provided $4.5 million in the FY14 budget for competitive grants to bridge the gap between employer needs and worker skills through education and training.

Massachusetts

The Massachusetts Life Sciences Center, a quasi-public agency charged with implementing the state's 10-year, $1 billion Life Sciences Initiative, will receive $19.5 million in FY14 for the agency's investment fund, a $4.5 million increase over last year. The appropriation, which is contingent upon a consolidated net surplus for FY13, represents the highest level of funding the center has received from the state legislature to date. The original commitment was $25 million a year when the legislation was passed in 2008. Through the investment fund the center provides research grants and accelerator loans to researchers and early stage companies and supports workforce development efforts in the life sciences sectors. The center also is authorized to award up to $25 million per year in tax incentives to Massachusetts-based life sciences companies.

The FY14 budget included a line item of $4.75 million for a new STEM Starter Academy that will work with one or more community colleges in the state to train students interested in STEM career fields. Iin November, Gov. Deval Patrick announced a renewed strategic plan for tying economic development to educational enhancement in the STEM fields. The new version serves as an update to the state's comprehensive plan unveiled in 2010. Version 2.0 includes recommendations to support goals in five areas, including:

- Increase student interest in STEM areas;
- Increase student achievement among all Pre-K-12 students to prepare graduates to be college ready;
- Increase the percentage of skilled educators who teach Pre-K-16 STEM classes;
- Increase the percent of students completing post-secondary degrees or certificates in STEM subjects; and,
- Align STEM degrees and certificates with opportunities in STEM-related fields to match the state's workforce needs.

Investing in a Skilled Workforce

Michigan

Michigan's FY14 budget funds a new $10 million Skilled Trades and Training program to address job-to-talent mismatches. In the governor's proposed budget, the program is described as a new initiative to help employers design training models that align with their specific talent needs while also providing employment opportunity for qualified individuals.

State funding will be leveraged with employer contributions and other sources. Under the program, representatives from the Michigan Strategic Fund, Michigan Works! agencies, local economic developers and community colleges will work together to identify and prioritize eligible employers and participants.

Minnesota

Minnesota lawmakers approved a new tax credit program to support internships for students - particularly in rural areas. As part of the state's Omnibus Tax Bill (HF 677), the program rewards companies for hiring college interns by paying up to 40 percent of the intern's salary, up to $2,000 per person. The internships also must be taken for academic credit and last 12 weeks or longer. Employers also must guarantee the intern would not have been hired without the credit and the intern would not replace existing employees. The state allocated $2 million a year toward the program.

Nebraska

Nebraska Gov. Dave Heineman signed a bill (LB 476) in May that would impact businesses applying to the Intern Nebraska grant program starting in September 2013. The changes include:

- Expanding eligibility to businesses from all industries, including nonprofits.
- Rather than requiring 200 minimum hours in 12 weeks or less, the bill allows businesses and students to develop an individual plan whose duration allows students to gain valuable work experience, but must be completed within 12 months.
- The Nebraska Department of Economic Development (NEDED) will have the discretion to award grants up to 75 percent of the cost of the internship.
- Businesses that hire students receiving Pell Grants will be eligible to receive up to $7,500 reimbursement per internship. All other businesses will be eligible to receive up to $5,000 per internship.
- All full-time students who are enrolled in colleges or universities in Nebraska, Nebraska residents attending colleges or universities outside Nebraska and students who have graduated within six months are eligible. Previously, only full-time students who had completed at least one-half of the required credit hours for an associate's or bachelor's degree were eligible.
- Businesses also may allow students to telecommute to work, if they are more than 30 miles from the Nebraska institution of higher education where the student is enrolled.

NEDED is tasked with developing an action plan, which will set forth selection criteria for awarding of grants to businesses and the other proposed changes.

Investing in a Skilled Workforce

New York

A new workforce initiative, the Next Generation Job Linkage Program, will work with employers to identify jobs, define skills and provide training. The budget provides $5 million in FY14 toward the effort.

North Dakota

The Department of Commerce budget includes $2 million for Innovate North Dakota and $1.5 million to expand the Operation Intern program, which provides internships, cooperative work experiences and apprenticeship positions with employers. Innovate ND is a public-private program that began in 2006 and helps entrepreneurs create new businesses through an education-based competition.

Oregon

The enacted budget includes $8 million over the next two years to establish the STEM Investment Grant Program under HB 2636. The program will provide grants to create and improve in-school programs, regional hubs, and after-school programs.

Rhode Island

Lawmakers created an internship program as part of the Innovate Rhode Island Small Business Incentive Program mentioned previously in the capital section (see pg. 10). The internship program, also to be administered by STAC, will reimburse bioscience and engineering companies for internship stipends of up to $12 per hour with a maximum payout of $3,000 per eligible intern. Participating businesses must offer interns a hands-on learning experience and at least one mentor directly overseeing the internship.

A bill (HB 6062) signed by Gov. Lincoln Chafee will allow high school students (16 years and older) to engage in pre-apprenticeship, apprenticeship and internship experiences during school hours in approved manufacturing career and technical programs. The legislation, administered by the RI Department of Labor, also requires the state to establish manufacturing standards for pre-apprenticeship or training agreements with a joint employer and employee groups.

Utah

Lawmakers dedicated $8.5 million in one-time funds and $1.5 million in ongoing funds in the FY14 budget to establish a STEM Action Center within the Governor's Office of Economic Development. The STEM Center will promote best practices and become a repository of curriculum, programs and activities, according to the governor's office. This includes coordinating grant opportunities, providing resources to assist students and teachers, developing industry-government partnerships, and providing more pathways to STEM-related occupations. Ultimately, the goal is to ensure students are better prepared in these fields before entering college, thus enabling them to excel in higher-level postsecondary education courses and giving the state's workforce a competitive advantage.

Investing in a Skilled Workforce

Virginia

Two major bills were passed in support of the Gov. Bob McDonnell's innovation, entrepreneurship and workforce development agenda. A bill establishing the High School to Work Partnerships program signed by the governor directs the Board of Education to develop guidelines for establishing partnerships between public high schools and local businesses to create apprenticeships, internships and job shadow programs in a variety of trade and skilled labor positions. Another measure expands the role of the Virginia Workforce Council to advise the governor on policies relevant to increasing alignment and resource sharing between education and workforce programs to improve the pipeline in targeted industry sectors.

Washington

A measure to spur greater coordination, innovation and accountability of STEM education efforts across the state was signed into law in July as part of Gov. Jay Inslee's priorities for the legislative session. The bill establishes a multi-sector Governor's STEM Education Innovation Alliance; provides tools to align STEM education efforts; ensures outcomes are embedded in existing state policy and planning efforts; and, creates a pathway for future state investments to accelerate STEM efforts.

Wisconsin

Lawmakers passed several bills promoting skills development through Wisconsin technical colleges as part of Gov. Scott Walker's workforce agenda introduced in September. They include:

- SB 335 - establishes a tuition reimbursement program for apprentices or businesses that employ them, providing 25 percent of the cost of tuition incurred by the person or employer or $1,000, whichever is less.
- SB 336 - increases funding by $500,000 each year of the biennium to expand the Youth Apprenticeship program.
- SB 331 - provides a $1,000 per student incentive payment for school districts to encourage students to earn industry-recognized certificates before graduating high school.

Federal Activity

Federal investment to spur R&D, promote U.S. manufacturing, and generate job growth in high-tech sectors was especially active in 2013. This includes funding for both new and ongoing single- and multi-agency initiatives.

EXAMPLES OF MULTI-AGENCY INITIATIVES INCLUDE:

Investing in Manufacturing Communities Partnership (IMCP)

The first round of funding totaling $7 million was awarded under the multi-agency IMCP program, an initiative to accelerate the resurgence of manufacturing in the U.S. The first phase of the program provides 44 planning grants and investments to finance – in partnership with industry and localities – substantial economic development investments such as workforce training, business parks or incubators, or infrastructure. The initiative challenges communities around the country to coordinate their resources for strategies on economic development.

Make it in America Challenge

The first 10 winners of the Make It in America Challenge were announced in October. The initiative provides grants to accelerate regional job creation and encourage business investment. Grantees will receive a total of $20.5 million for projects supporting regional economic development, advanced skills training, greater supply chain access and other projects. Funding for this round of awards is provided by the Economic Development Administration, the Labor Department's Employment and Training Administration, and the Delta Regional Authority. In December, the National Institute of Standards and Technology Manufacturing Extension Partnership (MEP) awarded $3.75 million to 10 MEP centers in nine states to support regional Make it in America teams.

Youth CareerConnect

Providing students with industry-relevant education and skills is the idea behind the Youth CareerConnect grant program, which will provide $100 million to implement curriculum for high schools to strengthen the talent pipeline. In partnership with the Department of Education, the Department of Labor will award 25-40 grants for individual or multi-state projects using revenues from the H-1B visa program. The goals are to integrate both career and academic learning, provide work-based learning opportunities, better engage employers, and elevate industry training. Grantees must demonstrate a strong public-private partnership, which includes a local education agency, a workforce investment system entity, an employer, and an institution of higher education.

Federal Activity

SINGLE AGENCY INITIATIVES AND COMPETITIVE PROGRAMS INCLUDE:

DARPA University Semiconductor Initiative

The Defense Advanced Research Projects Agency and Semiconductor Research Corporation announced $194 million in funding over the next five years to six new university microelectronics research centers to support the growth and leadership of the U.S. semiconductor industry.

DOE Clean Energy Manufacturing Initiative (CEMI)

Launched in March, and housed within the Office of Energy Efficiency and Renewable Energy, the Department of Energy initiative funds and facilitates public-private partnerships to drive an open-source, "smart" manufacturing network that will help U.S. clean energy manufacturing firms reduce costs, increase competitiveness, and boost productivity. Some highlights of the program include $23 million for clean energy manufacturing R&D and $15 million to fund public-private partnerships that can demonstrate cost-competitive renewable energy technologies.

Manufacturing Innovation Institutes

The Department of Defense (DOD) released funding announcements to help establish and sustain two new manufacturing innovation institutes in the areas of lightweight and modern metals manufacturing and digital manufacturing and design. DOD intends to commit up to $70 million for each institute, with at least a 1:1 cost share ($70 million over five years) of non-federal funds from the recipient organizations. The competitively selected National Additive Manufacturing Innovation Institute (NAMII), rebranded America Makes in October, was launched in August 2012 with an initial federal investment of $30 million.

Manufacturing Technology Acceleration Centers (MTACs)

The president's FY14 budget request proposed a $25 million increase for the Manufacturing Extension Partnership to launch MTACs, which are described as industry-specific centers that can serve as a coordination point within key supply chains. To get the program up and running, the administration announced plans to use existing resources to pilot two new centers in 2013. The focus of the pilots is on addressing the technical and business challenges encountered by small- and mid-sized U.S. manufacturers as they attempt to integrate, adopt, transition, and commercialize both existing and emerging product and process technologies into their operations.

NIH Big Data Centers of Excellence

The National Institutes of Health (NIH) launched an initiative to fund the exploration of using Big Data to improve national health care outcomes. NIH intends to provide $24 million per year for four years to establish six to eight Big Data Centers of Excellence. The centers will be used by researchers and students for training in data science and testing the use of large and complex datasets to create tools, methods, and software that can improve health care processes.

Federal Activity

SINGLE AGENCY INITIATIVES AND COMPETITIVE PROGRAMS CONTINUED:

Robust Affordable Next Generation Energy Story Systems (RANGE) program

ARPA-E granted a total of $36 million to 22 projects at national laboratories, universities and private companies around the country as part of its new RANGE program. RANGE will harness this network of research to improve electric vehicle energy storage systems, therefore increasing driving range, through new chemistry and design. Recipients include: Arizona State University, Illinois Institute of Technology, Penn State University, Princeton University, Purdue University, Stanford University, UCLA, University of California-San Diego, University of Houston, and University of Maryland.

SBA FAST Grants

The Small Business Administration (SBA) granted 20 awards of $95,000 per award under the Federal and State Technology (FAST) partnership program. FAST provides funding to pay for outreach and technical assistance to science and technology-driven companies applying for federally funded programs like SBIR and STTR.

Small Business Network of the Americas International Sister Center Program

Seeking closer economic cooperation with Latin America to enhance opportunities for startups in the U.S. and across the hemisphere, the Obama administration launched the Small Business Network of the Americas International Sister Center Program. Administered by the State Department in partnership with the U.S. Association of Small Business Development Centers, the program aims to bring together representatives of small business development centers, startup incubators and accelerators, universities, and other organizations that promote entrepreneurship. The goal is to build connections between institutions providing training, financing and other support to small businesses.

White House Tech Inclusion Initiative

To advance the president's goal of producing one million additional STEM graduates over the next decade, the White House issued a call to tech innovators to work together to ensure youth - especially those from underserved areas, including women and girls -- have the opportunity to study STEM subjects and participate in the technology sector. As part of the initiative, the White House hosted an event to honor champions of change who are working to promote an inclusive technology-based economy.

Transparency

Increased scrutiny surrounding public investments prompted the passage of legislation in several states aimed at greater accountability for economic development activities.

EXAMPLES INCLUDE:

Indiana

Gov. Mike Pence signed a bill aimed at increasing transparency in the state's economic development activities. Specifically, the bill requires the Indiana Economic Development Corp. to aggregate information on performance goals, jobs created, expected jobs, recaptured incentives and tax credits claimed each year.

Ohio

The privatized development agency JobsOhio, charged with promoting job creation and economic development, announced plans to release monthly reports detailing companies that receive financial assistance from the entity beginning in 2014 as part of an effort to be more transparent. JobsOhio recommends, but does not approve, state-sponsored tax credits. However, the agency has been criticized for a lack of transparency because of its exemption from public-records laws and its dealings with companies receiving the credits.

Rhode Island

The need for more transparency and accountability in the state's quasi-public agencies, including in the Rhode Island Economic Development Corporation (RIEDC), was cited among lawmakers as a top priority for the 2013 session. A compromise measure (SB 718) that would re-brand RIEDC as the Rhode Island Commerce Corporation led by a governor-appointed Secretary of Commerce passed in the legislature during the final hours of the session. Gov. Chafee allowed the bill to become law without his signature. The new agency will have stricter reporting requirements under the bill and a new chief operating officer to oversee day-to-day operations. Another measure, HB 6069, calling for a written comprehensive economic development policy and strategic plan, also was passed late in the session and signed into law by the governor.

Texas

Funding for the Cancer Prevention and Research Institute of Texas (CPRIT), a research-focused institute established in 2007 through a $3 billion voter-approved bond, was tied to a bill tightening oversight and transparency. The agency came under scrutiny following a statewide audit, which raised ethical questions regarding award applicants.

Transparency involving the Emerging Technology Fund (ETF) also raised concerns for some lawmakers. The House passed a bill (HB 3162) with overwhelming support to amend the eligibility requirements for industry participants and remove the governor, lieutenant governor and speaker from having final say on the commercialization grants. Under the bill, approval

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would be determined by a newly named Texas Research Technology Fund board. The measure was never taken up in the Senate, however, after it was removed from the calendar by Lt. Gov. David Dewhurst, also the Senate president.

Wisconsin

Gov. Scott Walker signed into law AB 179 (Act 43), aimed at bringing more transparency and accountability to the Wisconsin Economic Development Corporation (WEDC). The bill requires WEDC board members and employees to notify its legal counsel if they have a direct or indirect financial interest in a contract being negotiated, bid for, or entered into with the WEDC.