

**U.S. HOUSE OF REPRESENTATIVES  
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
HEARING CHARTER**

*Building Regional Innovation Economies Part II*

**Wednesday, Dec 14, 2022  
10:00 am – 12:00 pm ET  
2318 Rayburn HOB**

**PURPOSE**

The purpose of this hearing is to explore the role of the Department of Commerce’s Economic Development Administration to promote regional innovation through support for community-led economic development strategies that increase geographic diversity and expand participation in the innovation economy, bolster domestic supply chains, grow manufacturing capacity, and strengthen community resilience across the United States.

**WITNESSES**

- **The Honorable Alejandra Castillo**, Assistant Secretary of Commerce for Economic Development, U.S. Department of Commerce
- **Ms. Maureen Donohue Krauss**, President and CEO, Detroit Regional Partnership
- **Mr. David Spalding**, Raisbeck Endowed Dean of the Debbie and Jerry Ivy College of Business and Interim Vice President of Economic Development and Industry Relations, Iowa State University
- **Ms. Linda Olson**, President/CEO, Tampa Bay Wave

**KEY QUESTIONS**

- What is the role of the Economic Development Administration (EDA) and, in particular, the Office of Innovation and Entrepreneurship (OIE), in supporting the development of local and regional innovation economies?
- How does EDA integrate equity and shared prosperity as priorities in the solicitation and review of proposals to develop and expand regional innovation economies? What are the benefits and challenges for awardees in seeking to integrate equity and shared prosperity as priorities in regional innovation strategies and initiatives?
- What is the relationship between a region’s innovation economy and the region’s research capacity, workforce, housing, transportation systems, and other regional factors? How can EDA leverage interagency collaborations to support its investments in regional innovation economies, including to address opportunities to integrate strategies across such factors? Are there policy updates that could enhance interagency efforts?

- What do data show about the outcomes of EDA’s programs and whether objectives are met? What additional data could enable a fuller understanding of the benefits of the programs and challenges to meeting its objectives?

## **BACKGROUND**

The U.S. led the world into a new era of entrepreneurship and innovation through the late 20<sup>th</sup> and early 21<sup>st</sup> century. San Francisco, New York City, and Boston became beacons of entrepreneurial success. These regions are home to several well-funded research universities, extensive business and investor networks, and a robust workforce that have all been conducive to startup success. However, these successes have also led to a clustering of many of the social and economic benefits. Policymakers realize that supporting successful innovative entrepreneurship across the country has many benefits.<sup>1</sup> It creates jobs across the country, contributes to a healthy U.S. economy, provides new or improved goods and services, and adds stability and resilience to domestic supply chains.

Entrepreneurs must navigate difficult business, technical, and financial challenges with varying experience and support. Failure in any of these areas can lead to business closure. Founders located in the leading tech hubs have access to the longstanding business and investor networks to surpass these challenges. Business support infrastructure, including incubators and accelerators, has developed around the country to replicate some of these assets and support new businesses through known challenges. Incubators assist newly founded businesses to refine business ideas and develop structure, and often are operated as a non-profit. Accelerators serve more mature startups, typically with a prototype, preparing to scale up and provide access to resources and networks to attract investors. Often, both provide education and training, cohort networks, mentoring, and tailored business guidance.<sup>2</sup>

While each company takes a unique path, most nascent hard tech businesses will require several stages of investment funding from different investors. A typical first stage investment is a round of seed funding. This is a high-risk investment of a smaller value which allows companies to fund the development of a prototype or pursue further business development. The median deal size for seed funding in Q2 2022 was \$2.7M. This is followed by early-stage rounds of investments for larger values to begin operations (named Series A, Series B, etc.); in Q2 2022 the median deal size was \$10.7M.<sup>3</sup> Companies may also require further investment to scale up operations to a profitable level, which entails one or more rounds of late-stage funding; in Q2 of 2022 the median deal size was \$14M. Funding can come from a variety of sources. Seed funding can come from Federal funds (such as the SBIR program), corporate financing, angel investors, venture capital (VC), or family and friend financing. Early- and late-stage funding may also come from these sources but is typically raised through VC.<sup>4</sup> Each round of funding is a pivotal step for the company and often hard to obtain. Some businesses may choose to navigate these stages with loans, referred to as debt financing. However, this may stymie follow-on funding from potential investors for otherwise scalable innovative businesses.

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<sup>1</sup> As demonstrated by legislation such as *The American COMPETES Act of 2007*, *The America COMPETES Reauthorization Act of 2010* and *The CHIPS and Science Act of 2022*.

<sup>2</sup> [annarborusa.org/news/what-is-the-difference-between-startup-incubators-and-business-accelerators/](https://annarborusa.org/news/what-is-the-difference-between-startup-incubators-and-business-accelerators/)

<sup>3</sup> Q2 2022, PitchBook-NVCA Venture Monitor, [pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor](https://pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor)

<sup>4</sup> [pitchbook.com/news/articles/understanding-the-stages-of-vc](https://pitchbook.com/news/articles/understanding-the-stages-of-vc) , [pitchbook.com/blog/what-is-venture-capital](https://pitchbook.com/blog/what-is-venture-capital)

In many regions across the United States, start-up companies struggle to get access to capital. Four markets receive over two thirds of all VC within the U.S.<sup>5</sup> and less than 1% of all VC goes to rural startups.<sup>6</sup> Thus there is a significant funding disadvantage to business ecosystems outside the top hubs.

Startup financing also varies significantly across demographics. Only 17% of venture capital went to companies with at least one female founder and 2% went to all female-founded companies.<sup>7</sup> In mid-2021, Black female startup founders had received just 0.34% of the total venture capital spent in the U.S.<sup>8</sup> Between 2015 and 2020, Black and Hispanic founders in the U.S. raised 2.4% of total U.S. VC funding despite comprising over 30% of the U.S. population.<sup>9</sup> The origin of VC disparity is intertwined with disparities in the STEM research workforce and patent data;<sup>10</sup> however, the disparity in access to financing is more severe.<sup>11</sup>

Of U.S.-based venture capital partners, fewer than 5% are women; moreover just 0.2% are Latina, and 0.2% are Black women. Women investors are significantly more likely to fund women-owned and women-run businesses.<sup>12</sup> Increasing diversity within the investor sector will have ripple effects in the demographic diversity of startups. Recently, VC firms have been created specifically to address this disparity and focus on financing underrepresented founders; a recent high-profile example is Serena Williams' Serena Ventures.

Venture capital is also not equally accessible to all business sectors. Most venture capitalists seek investments with significant rapid growth potential for a relatively quick and large return on their investment. This favors technologies with a fast entrance to the market. Technologies with long development timelines, market uncertainties, or substantial manufacturing costs or challenges can be less desirable. This accounts, in part, for the significant share of investments made in software over hardware technologies despite the many benefits to fostering domestic hardware companies. Moreover, social entrepreneurship addressing societal challenges such as climate innovation, economic mobility, and access to essential services represent only a small portion of the VC investments.<sup>13</sup> Women and people from historically excluded groups are more likely to found startups with a social impact goal, which may contribute to the disparity in VC financing.<sup>14</sup>

To unleash the benefits of geographically distributed innovation ecosystems, entrepreneurs around the country need access to business networks and financing. The Federal government has an important role to play in developing policy and infrastructure to address this. The programs below highlight some of the current Federal approaches to foster innovation and entrepreneurship. These programs are beneficial as

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<sup>5</sup> San Francisco Bay Area, New York, Los Angeles, Boston. Q2 2022, PitchBook-NVCA Venture Monitor, [pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor](https://pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor)

<sup>6</sup> The power of capital in rural entrepreneurship, [ruralinnovation.us/blog/access-to-capital/](https://ruralinnovation.us/blog/access-to-capital/)

<sup>7</sup> Q2 2022, PitchBook-NVCA Venture Monitor, [pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor](https://pitchbook.com/news/reports/q2-2022-pitchbook-nvca-venture-monitor)

<sup>8</sup> [news.crunchbase.com/diversity/something-ventured-black-women-founders/](https://news.crunchbase.com/diversity/something-ventured-black-women-founders/)

<sup>9</sup> Crunchbase Diversity Spotlight 2020: Funding to Black & Latinx Founders, [about.crunchbase.com/wp-content/uploads/2020/10/2020\\_crunchbase\\_diversity\\_report.pdf](https://about.crunchbase.com/wp-content/uploads/2020/10/2020_crunchbase_diversity_report.pdf)

<sup>10</sup> CRS Report, Equity in Innovation: Trends in U.S. Patenting and Inventor Diversity, [crsreports.congress.gov/product/pdf/IF/IF12259](https://crsreports.congress.gov/product/pdf/IF/IF12259)

<sup>11</sup> Alliance for Entrepreneurial Equity Report, [www.aeequity.org/product/five-reasons-minority-borrowers-cant-access-capital](https://www.aeequity.org/product/five-reasons-minority-borrowers-cant-access-capital)

<sup>12</sup> The Untapped Potential of Women-led Funds by Women in VC, October 2020, The Financial Alliance for Women

<sup>13</sup> Social impact companies received ~2% of all VC funds worldwide in 2020, according to [International Finance Corporation](https://www.international-finance.com/)

<sup>14</sup> Bosma, N. S., Schøtt, T., Terjesen, S., & Kew, P. 2016. [Global Entrepreneurship Monitor: Social Entrepreneurship Report](https://www.gem.gov.uk/global-entrepreneurship-monitor-social-entrepreneurship-report)

financial and symbolic investments in business and regional economies and can help attract additional private and state support.

### **Economic Development Administration (EDA)**

EDA is the only federal government agency focused exclusively on economic development and was created with the passage of the *Public Works and Economic Development Act (PWEDA) of 1965*. Housed within the Department of Commerce, the mission of the agency is “to lead the federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy.”<sup>15</sup> EDA supports communities around the country through a suite of programs, from coordinating economic recovery after disasters to assistance with local economic planning. EDA’s Office of Innovation and Entrepreneurship (OIE) was conceived during the Great Recession as a home for programs aimed to revive local economies across the Nation through innovation.<sup>16</sup> The office manages the Build to Scale, STEM Talent Challenge<sup>17</sup>, and the National Advisory Council on Innovation & Entrepreneurship among other programs.

#### *Build to Scale (B2S)*

The goal of the Build to Scale<sup>18</sup> program, funded at \$45 million in FY22, is to encourage and support the development of regional and local innovation support systems. B2S has evolved over its existence to meet the changing needs of innovation ecosystems and is currently comprised of two national grant competitions. The Venture Challenge provides support for entrepreneurship and the Capital Challenge develops investment infrastructure. Through these programs, OIE can spur investment capital, accelerate company growth, and empower the next generation of entrepreneurs in communities across the country.

The Venture Challenge<sup>19</sup> awards grants to intermediary organizations like accelerators, universities, community colleges, and non-profits supporting new high-growth business ventures. Awardees connect new companies with resources such as business support, mentoring, and cohort programming.

The second challenge, the Capital Challenge<sup>20</sup>, seeks to increase access to capital in communities where risk capital is in short supply. Awards provide operational support for the formation, launch, or scale of investment funds that seek to create sustaining investment vehicles to invest in scalable startups within a community, region, or regional industry.

#### *National Advisory Council on Innovation & Entrepreneurship*

The National Advisory Council on Innovation & Entrepreneurship (NACIE) is a Federal advisory council managed by OIE.<sup>21</sup> It is comprised of 30 leaders from business, non-profit, labor, and economic

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<sup>15</sup> [eda.gov/about/](https://eda.gov/about/)

<sup>16</sup> OIE was authorized in the *America COMPETES Reauthorization of 2010*, and falls within the House Science, Space, and Technology Committee jurisdiction.

<sup>17</sup> The STEM Talent Challenge serves to develop or expand regional workforce capacity to support entrepreneurial ventures, industries of the future, and other businesses that have a high likelihood of accelerating economic competitiveness and job creation within a region. It was funded at \$2M in FY22. FY 2021 STEM Challenge awardees [eda.gov/oie/stem/2021/](https://eda.gov/oie/stem/2021/)

<sup>18</sup> Previously called the Regional Innovation Program

<sup>19</sup> In FY 2022, Venture Challenge awards ranged from \$375k to \$2 million. EDA award press release [eda.gov/news/press-releases/2022/10/05/build-to-scale.htm](https://eda.gov/news/press-releases/2022/10/05/build-to-scale.htm)

<sup>20</sup> In FY 2022, Capital Challenge awards ranged from \$263k to \$750k, [www.eda.gov/oie/buildtoscale/capital/2022/](https://www.eda.gov/oie/buildtoscale/capital/2022/)

<sup>21</sup> Authorized by the America COMPETES Act of 2010 (Pub. L. 111–358)

development backgrounds and leaders from EDA, NSF, and USPTO.<sup>22</sup> NACIE is charged to develop a National Entrepreneurship Strategy to strengthen America’s competitiveness and start-up success. The council was largely inactive throughout the Trump Administration but has re-formed and held two meetings in 2022 with enthusiastic support from Secretary Raimondo. The Council is well suited to inform broad Federal innovation strategy, yet it is not clear how widely the Council’s recommendations have been implemented within and beyond EDA. This may be due in part to limited resources of staff and low awareness and buy-in from other Federal agencies.

### Build Back Better Regional Challenge

EDA’s \$1 billion Build Back Better Regional Challenge (BBBRC), signed into law in the *American Rescue Plan Act of 2021*, was established to boost economic recovery from the pandemic and rebuild American communities, including those grappling with decades of disinvestment. The awards focused on supporting regional coalitions dedicated to long-term strategy for economic transformation driven by local partnerships of public, private, and social sector entities. Although the BBBRC is housed outside of OIE, the leadership and staff of OIE were instrumental in sharing experience and expertise to standing up the Build Back Better Regional Challenge.<sup>23</sup> Of note, the *CARES Act* and ARPA funding increased EDA’s budget from \$300 million per year to over \$3 billion.

- **Phase 1-** EDA selected 60 finalists out of 529 initial applicants in December 2021.<sup>24</sup> Each finalist coalition received \$500,000 to begin execution of their concept proposals along with a three-month facilitated “Good to Great” process in which coalitions received cohort-based technical assistance to strengthen their clusters and proposals leading up to Phase 2 submission.
- **Phase 2-** On September 2, EDA announced that 21 awardees spanning 24 states have been selected and will receive between \$25 million and \$65 million to execute transformational projects and revitalize local industries.<sup>25, 26</sup>

EDA is continuing to support the Phase I finalists, even those that did not receive Phase 2 support. For example, EDA is funding a Community of Practice (CoP) dedicated to long-term support for the Build Back Better Regional Challenge’s 60 finalist coalitions.<sup>27</sup>

### **Other Relevant Federal Programs**

While no programs cover the same mission of Build to Scale, many programs at other Federal agencies provide complementary support for innovation and entrepreneurship efforts around the country.

### Small Business Administration (SBA)

Programs at the SBA serve small business owners and entrepreneurs across the country.

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<sup>22</sup> [eda.gov/oie/nacie/members/2022-24/](https://eda.gov/oie/nacie/members/2022-24/)

<sup>23</sup> Meeting with EDA

<sup>24</sup> [eda.gov/arpa/build-back-better/faq/](https://eda.gov/arpa/build-back-better/faq/)

<sup>25</sup> [eda.gov/arpa/build-back-better/finalists/](https://eda.gov/arpa/build-back-better/finalists/)

<sup>26</sup> This federal funding is matched by more than \$300 million of local investment and will leverage support from over 450 private sector and 27 labor unions or workers organizations.

<sup>27</sup> \$4 million to Research Triangle Institute (RTI) International RTI International in partnership the State Science & Technology Institute (SSTI)

**SBIC** - Small Business Investment Company (SBIC) Program is an investment program that increases access to capital for growth-stage businesses. An SBIC is a privately owned investment fund that's licensed and regulated by SBA. An SBIC uses its own capital, plus funds borrowed with an SBA guarantee, to make equity and debt investments in qualifying small businesses.

**SBIR/STTR** - The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are competitive programs that encourage domestic small businesses to engage in Federal Research/Research and Development (R/R&D) with the potential for commercialization.<sup>28</sup> SBIR programs are operated through Federal agencies that fund extramural R&D. The program provides funding for research and business development.

**SBDC** - Small Business Development Centers (SBDC) Programs deliver professional, high quality, individualized business advising and technical assistance to existing small businesses and pre-venture entrepreneurs.<sup>29</sup>

#### Minority Business Development Agency (MBDA)

MBDA, housed within the U.S. Department of Commerce, is dedicated to the growth and global competitiveness of minority business enterprises.<sup>30</sup> MBDA offers customized business development and industry-focused services to provide greater access to capital, contracts, and markets. Although MBDA serves a much-needed role, the agency's primary focus has not been on high growth potential businesses.

#### National Science Foundation (NSF)

NSF has typically supported fundamental R&D projects driving innovation from within the lab. While this continues to be an essential part of the country's innovation strategy, NSF has also piloted new and successful approaches to advancing discoveries beyond the lab.

**I-Corps** – NSF launched the Innovation Corps (I-Corps) program in 2011 to support would-be entrepreneurs with NSF support through the customer discovery process to enable a quick assessment of market potential. I-Corps prepares scientists and engineers to extend their focus beyond the laboratory. NSF runs a National Innovation Network I-Corps, which enables broader geographic access to the programs.<sup>31</sup> The success of I-Corps has led other agencies to run similar programs.

**RIE**- The Regional Innovation Engines (RIE) program, new this year, aims to fund regional coalitions to catalyze technology and science based regional innovation ecosystems. Each Engine will focus on addressing specific aspects of a societal and/or economic challenge that are of significant interest in a regional area. NSF will fund Engines to carry out an integrated and comprehensive set of activities spanning use-inspired research, translation-to-practice, entrepreneurship, and workforce development to nurture and accelerate regional industries. EDA and NSF have been collaborating on the synergies of this work with EDA's OIE and the BBBRC.

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<sup>28</sup> [www.sbir.gov](http://www.sbir.gov)

<sup>29</sup> [www.sba.gov/local-assistance/resource-partners/small-business-development-centers-sbdc](http://www.sba.gov/local-assistance/resource-partners/small-business-development-centers-sbdc)

<sup>30</sup> Although in existence since 1969, MBDA was Congressionally authorized for the first time the *Bipartisan Infrastructure and Jobs Act* in 2021.

<sup>31</sup> [beta.nsf.gov/funding/initiatives/i-corps/about-national-innovation-network](http://beta.nsf.gov/funding/initiatives/i-corps/about-national-innovation-network)

## National Institute of Standards and Technology (NIST)

The Manufacturing USA program is network of manufacturing innovation institutes coordinated through NIST. These institutes serve as partnerships between companies, academia, and entrepreneurs to develop and deploy advanced manufacturing technologies. Manufacturing USA institutes provide startups with access to manufacturing networks and technology, often for a significantly reduced member fee.

## Other agencies

Mission-based agencies that support R&D including the Department of Energy, the National Institutes of Health, the Department of Defense, the U.S. Department of Agriculture, and the National Aeronautics and Space Administration also house programs to support entrepreneurship. Many agencies run SBIR and STTR programs, some have I-corps or other technology transition programs, and some run specialized entrepreneurship support programs. DOE's National Labs collaborate with business incubators and four labs participate in the Lab-Embedded Entrepreneurship Program<sup>32</sup> to support entrepreneurial training and technology maturation through use of the labs' facilities and resources.

Regional innovation strategies, such as those supported by the BBBRC, aim to develop comprehensive economic planning around the growth of an advanced technology sector. Thoughtful strategies should incorporate planning around future housing, workforce, and transportation needs to accommodate the industry growth. Thus, the Department of Housing and Urban Development, the Department of Labor, and the Department of Transportation have potential roles in supporting these strategies.

## **Additional Challenges**

EDA has helped seed the nation with incubators and accelerators thereby supporting the high-tech industries that will fuel our future economy and provide innovative solutions. The Build to Scale program has run eight national competitions and awarded \$174 million in grants, matched by over \$215 million in community dollars across 326 projects. Collectively, these grants have helped create more than 14,200 jobs and driven more than \$1.6 billion in follow on investment capital into startups and new venture funds.<sup>33</sup>

However, there are several possible limitations to the OIE programs. A 2019 Evaluation of Build to Scale noted the limited number of OIE staff and their significant caseloads.<sup>34</sup> The staff number has not grown proportional to the program funding and responsibilities. This may limit the office's ability for outreach to new communities, project oversight, and strategic planning such as in support of NACIE. While EDA does prioritize geographic diversity in making awards, many rural communities struggle to compete for funding. Although business incubators and accelerators have popped up around the country there is no formal entity that supports knowledge exchange. B2S awardees could benefit from cohort activities designed for best practice sharing and networking. Finally, the programs have limited access to longitudinal data and evaluation to understand long term program outcomes and for use in program updates.

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<sup>32</sup> [www.energy.gov/eere/amo/lab-embedded-entrepreneurship-program](http://www.energy.gov/eere/amo/lab-embedded-entrepreneurship-program)

<sup>33</sup> [www.eda.gov/oie/impacts/](http://www.eda.gov/oie/impacts/)

<sup>34</sup> Evaluation of the EDA Regional Innovation Strategies Program 2014 to 2017: Seed Fund Support and i6 Challenge Program, <https://www.eda.gov/files/oie/ris/EDA-RIS-Full-Program-Evaluation.pdf>

## **Appendix**

### **Relevant EDA Awards to the witnesses and their organizations**

Maureen Donohue Krauss, Detroit Regional Partnership - [Global Epicenter of Mobility \(GEM\)](#)

David Spalding, Iowa State University –[2020 Venture Challenge](#), [2017 i6 Challenge](#)

Linda Olson, Tampa Bay Wave – [2022 Venture Challenge](#), [2018 Seed Fund support](#), [2015 i6 Challenge](#), [2012 i6 Challenge](#)