

# Closing Critical Gaps from Lab to Market

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January 23, 2020



## Summary

The pathway from invention to product commercialization involves an interconnected ecosystem that fosters discoveries in science and technology (S&T), develops those discoveries into useful products, and commercializes those products into thriving businesses. But in the United States, this ecosystem is plagued by gaps. The next administration should make it a top priority to strengthen the innovation ecosystem, dedicating resources to discovery and commercialization of inventions in order to ensure that the United States maintains and expands its economic vitality, its global scientific leadership, and its strategic entrepreneurial advantages.

This paper presents a rationale and vision for the launch and deployment of a national initiative designed to achieve these goals. The initiative includes comprehensive support and acceleration paths for postdoctoral researchers, early-stage entrepreneurs, and S&T investors; reduction and elimination of barriers that block the progress of individuals and enterprises; and emphasis on building a pipeline of entrepreneurial talent while simultaneously providing key support in venture development.

Successful implementation will result in:

- More researchers translating S&T ideas into early-stage innovations.
- A broader, deeper pipeline of viable S&T-based ventures.
- More new investors trained with a sophisticated understanding of the S&T ecosystem.
- Greater amounts of capital invested into S&T ventures.

Initiative activities should be carried out with a clear equity agenda, focused on geographic areas and populations that have been historically subordinated and/or disenfranchised within the American S&T ecosystem. For years, investment and talent development for early-stage entrepreneurs and early-stage investors primarily focused on the coasts and in known tech hubs such as Austin, Boston, and Silicon Valley. While recent years have seen wider recognition of talent in other parts of the country, achieving full equity requires accelerated investments in underserved regions.<sup>1</sup> Additional resources and capacities are particularly needed in the midwestern and southeastern United States, as well as in communities that are largely underrepresented in S&T.<sup>2</sup>

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<sup>1</sup> Jonathan Shieber, "Midwest rising: Midwestern success stories show that innovation ecosystems are taking root in the heartland", TechCrunch, July 18, 2018, <https://techcrunch.com/2018/07/18/midwest-rising/>.

<sup>2</sup> National Center for Science and Engineering Statistics, "Field of degree: Women, men and racial and ethnic groups", Directorate for Social, Behavioral, and Economic Sciences, National Science Foundation, NSF 19-304, March 8, 2019, <https://nces.nsf.gov/pubs/nsf19304/digest/field-of-degree-women-men-and-racial-and-ethnic-groups>.

## 1. Challenge

Advances in scientific and technological innovations—and, critically, the ability to efficiently transform breakthroughs into scalable businesses—have contributed enormously to American economic leadership over the past century. Large, science-based firms such as Johnson & Johnson, General Electric, and Boeing rely on new innovations to continue to drive market growth and U.S. competitiveness internationally. Translating insights from basic research into useful products delivers enormous benefits for society—delivering cures for diseases, enabling ubiquitous communication and information sharing, and making food safer and more affordable. In the past decade, however, the economic “edge” in S&T long held by the United States has become threatened by growing global competition and a dramatic increase in S&T investment by international rivals. After receiving the highest ranking on the Global Innovation Index (GII) in 2008 and 2009, the United States has since placed as low as 11<sup>th</sup> and no higher than third, consistently being outranked by Switzerland and Sweden.<sup>3</sup> According to the 2019 GI Report, these countries “simply achieve more with less...effectively translat[ing] their innovation inputs into a higher level of outputs.”<sup>4</sup> Erosion of U.S. competitiveness in S&T undermines both national security and global economic leadership.

In order to restore the United States as the world leader in S&T, the federal government must address key gaps in the pipeline for developing and commercializing technological innovations and entrepreneurial ventures. Recent trends highlight these pipeline gaps. While the number of U.S. postdoctoral researchers (postdocs) in science, engineering, and health (SEH) remained relatively steady from 2010–2015, a declining number of postdocs are focusing on biological sciences and clinical medicine—a key area of research and development linked to entrepreneurial activity. Representational disparities persist across ethnic and gender lines.<sup>5</sup> Only a small fraction of the 60,000+ postdocs in the United States have access to support pathways for commercializing research or lab-based innovations, and other countries outpace the United States in earlier stages of the science, technology, engineering, and math (STEM) pipeline. In 2013, 40% of Chinese

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<sup>3</sup> The Global Innovation Index (GII) aims to capture multi-dimensional facets of innovation based on promotion of growth, productivity, and jobs. As of 2019, the GI was in its 12<sup>th</sup> year of producing annual reports that measures and rank the innovation capabilities and results of world economies. For more on the reports, see <https://www.globalinnovationindex.org/about-gii#keyfindings>.

<sup>4</sup> Cornell University, INSEAD, and WIPO (2019), *Global Innovation Index 2019: Creating Healthy Lives—The Future of Medical Innovation*. Soumitra Dutta, Bruno Lanvin, and Sasha Wusch-Vincent [Eds.], Ithaca, Fontainebleau, and Geneva (2019).

<sup>5</sup> Caren A. Arbeit and Kelly H. Kang, “Field Composition of Postdocs Shifts as Numbers Decline in Biological Sciences and in Clinical Medicine,” National Center for Science and Engineering Statistics, Directorate for Social, Behavioral, and Economic Sciences, National Science Foundation, National Science Foundation, NSF 17-309, February 2017 (revised November 2017), <https://www.nsf.gov/statistics/2017/nsf17309/>.

graduates finished a degree in STEM - over twice the level at American colleges and universities.<sup>6</sup>

A shift in focus towards consistently high-quality STEM education that includes curricula on entrepreneurship and skill-building as well as research-oriented content has also has the potential to broaden career opportunities for STEM graduates and enhance the broader S&T workforce. Indeed, one of the key justifications for increased investment in S&T support is its established multiplier of job creation, which far outpaces any other sector. For each job created in the technology sector—the group of industries with very high shares of workers in the STEM fields—an estimated 4.3 jobs in support arenas are created as a result. In traditional trade and manufacturing sectors, the job multiplier falls to 1.4 or less.<sup>7</sup>

## 2. Opportunity

### 2.1 *Developing the pipeline of entrepreneurial S&T talent*

Every year, talented STEM students and researchers at U.S. colleges and universities generate thousands of promising ideas for new and improved technologies. But the vast majority of ideas are “left on the shelf”. Ideas often show viability but are never pursued as businesses, despite some researchers going as far as initiating disclosures and provisional patent filings. The problem stems from a fundamental misalignment of educational, research, and commercial goals. Innovation and entrepreneurial training commonly is left out of core curricula, limiting scientists’ preparation to apply their acumen beyond academia following the completion of their degrees. Including discussion of commercialization potential as a standard component of coursework for traditional STEM degrees would enable the United States to better leverage the talents of its S&T experts and the commercial potential of their innovations.

One way to develop the pipeline of entrepreneurial S&T talent is to increase access to federally backed entrepreneurship programs—such as the National Science Foundation (NSF)’s Innovation Corps (I-Corps). I-Corps, launched in 2011, engages participants to move ideas out of the lab and towards the marketplace through a rigorous customer discovery process, which involves engaging with 100 potential customers, partners, and competitors in just 10 weeks. This process allows participants to gather input on potential applications and viable market paths for their innovations, which in turn enables participants to clearly assess whether or not commercialization appears viable. To date,

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<sup>6</sup> Niall McCarthy, “The Countries With The Most STEM Graduates”, *Forbes*, February 2, 2017, <https://www.forbes.com/sites/niallmccarthy/2017/02/02/the-countries-with-the-most-stem-graduates-infographic/#6343dd6f268a>.

<sup>7</sup> “New Study: For Every New High-Tech Job, Four More Created,” Bay Area Council, December 10, 2012, [https://www.bayareacouncil.org/community\\_engagement/new-study-for-every-new-high-tech-job-four-more-created/](https://www.bayareacouncil.org/community_engagement/new-study-for-every-new-high-tech-job-four-more-created/).

I-Corps has supported ~1,500 teams from ~230 universities, resulting in ~600 startups formed and more than \$210 million secured in private investment.<sup>8</sup> The I-Corps model has also begun to spread to other agencies, including the National Institutes of Health (NIH), Department of Agriculture (USDA), and Department of Energy (DOE).

A number of other existing, government-supported programs—such as the Small Business Innovation Research Commercialization Assistance Program (SBIR CAP), the Economic Development Association (EDA)'s i6 grant challenge to support regional acceleration activities, and NSF's Industry-University Cooperative Research Centers (IUCRC) that enables pre-competitive research through sustained, cross-sectoral and multi-member partnerships<sup>9</sup>—support and accelerate early-stage S&T startups towards commercialization. Yet program capacity and access is limited. Just 2–3% of the more than 60,000 U.S. postdoctoral researchers focused on SEH, for instance, have accessed training through I-Corps.

A national lab-to-market initiative should expand such federally backed entrepreneurship programs. This includes:

- **Expanding capacity**, so that all interested participants can be accommodated.
- **Expanding access**, so that programs reach diverse students and researchers (essential given the domestic culture of entrepreneurship that remains insufficiently inclusive of women, people of color, and those from low-income backgrounds) as well as international students and researchers (who often face barriers such as visa issues or a lack of institutional support needed to remain in the U.S. to develop their innovations).
- **Expanding scope**, so that programs provide follow-on support, funding, and access to mentor and investor networks even beyond the conclusion of initial entrepreneurial training.

## 2.2 *Supporting venture development*

Maximizing economic potential within the American S&T ecosystem requires federal agencies, working with public and private partners, to support emerging entrepreneurs as they develop business models and begin to form companies. This is especially important for S&T entrepreneurship, given the fact that many S&T-based startups have high potential but relatively longer development timelines—and hence need greater levels of support during the period leading up to commercialization. Even for ventures that secure funding through federally supported grant programs such as SBIR Phases 1

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<sup>8</sup> "i-corps™", VentureWell, n.d., <https://venturewell.org/i-corps/>.

<sup>9</sup> "IUCRC: Industry-University Cooperative Research Centers Program", Division of Industrial Innovation and Partnerships, Directorate for Engineering, National Science Foundation, n.d., <https://www.nsf.gov/eng/iip/iucrc/home.jsp>.

and 2, or through regionally funded or non-government S&T innovator programs, funding gaps at key venture development stages can delay or halt the momentum needed for innovators to successfully bring their ideas to market. Moreover, many S&T entrepreneurs lack key knowledge about how to validate, manage, pitch, and fund their businesses, as well as knowledge on critical topics such as intellectual property (IP) or transitioning from a research entity to a corporate structure.

As such, federal entities should institute policies and programs that increase awareness about and access to sequenced venture support opportunities for S&T innovators. All such opportunities should include intentional “de-risking” strategies through training, advising, and mentoring. Federal agencies should also work with external partners to deliver venture support—such as through VentureWell’s multi-stage Entrepreneurial Team (E-Team) program,<sup>10</sup> fellowships like the two-year program for S&T innovators based at the DOE’s Lawrence Berkeley National Laboratory and UC Berkeley,<sup>11</sup> and other regional and national accelerator efforts.

There is also a need to increase S&T knowledge among investors. Investors play an important role as validators and supporters of S&T entrepreneurs, especially at the early stages of venture development. There is a particular need and opportunity to engage high-net-worth individuals who have interest but lack experience in early-stage S&T investments. This is especially true for investors outside of technology-dense areas on the coasts—investors with limited access to networks through which they can partner with others who have experience and comfort in navigating the complex, nuanced S&T ecosystem. Federal entities can help meet this need by (1) providing investors with structures and programming to de-risk perceived barriers to early-stage investment in S&T startups, and (2) connecting potential S&T investors to networks of experienced S&T investors and other experts.

### **3. Proposed action**

The next administration should launch a national initiative to fill gaps in the innovation pipeline where the greatest losses in human capital, ideas, and dollars occur. The initiative should comprise activities designed to (1) grow the pipeline of entrepreneurial S&T talent, (2) build and strengthen pathways to the commercialization of S&T innovations, and (3) provide greater access to financing and capital for S&T ventures. The initiative should be rooted in strong leadership and amplification from the executive branch, coordination within and among federal agencies, and partnerships between the

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<sup>10</sup> “e-team grant program”, VentureWell, n.d., <https://venturewell.org/e-team-grant-program/>.

<sup>11</sup> “fellowship for entrepreneurial scientists and engineers”, Cyclotron Road, <https://www.cyclotronroad.org/fellowship>.

federal government and stakeholders in the private sector, academia, and states and localities.

Carrying out these activities would require the next administration to increase spending on early-stage S&T entrepreneurship and support for S&T venture development by an order of magnitude over current spending levels. At a minimum, the initiative would require \$150–200 million annually in its five years. This investment will galvanize the U.S. S&T entrepreneurship ecosystem, creating new opportunities and spurring economic growth nationwide.

### *3.1 Leadership and coordination from the executive branch*

Policymakers still lack nuanced understanding of key S&T issues, which makes it difficult to identify gaps and pursue opportunities related to federal S&T policy and investments. The next administration should assemble a White House-led task force of federal experts to provide leadership and coordination on this front. Federal entities that should be represented on the task force include NSF, NIH, the Office of Science and Technology Policy (OSTP), the Small Business Administration (SBA), the EDA (including the EDA's National Advisory Council on Innovation and Entrepreneurship (NACIE) Board), and the SBI program. However, the task force's purview should go beyond the mission(s) of any subset of these entities—it should focus broadly on strategies for translating emerging S&T research into cross-sector applications and economic opportunities. The task force will also signal federal interest and investment in S&T innovation, thereby attracting the attention of additional policy experts, industry leaders, and investors to this important area. Indeed, the task force should actively seek input from external stakeholders as appropriate, including from early-stage S&T innovators.

Over a period of 12–18 months, the task force should review federal policies and programs related to S&T research, innovation, entrepreneur support, and venture development. The task force should then develop and release an action plan for closing gaps in the American S&T ecosystem and ensuring that every interested member of the S&T community has access to training and resources to help them advance their ideas towards commercialization. Priority topics for the action plan to address include (1) budgetary considerations; (2) implementation guidelines, including reallocation and hiring of agency personnel; (3) a robust equity agenda; (4) a plan for engaging research institutions and other external stakeholders; and (5) a recommended process for measuring and tracking progress on all planned activities and goals over a sustained time period (at least 10 years). Metrics should assess technology development as well as entrepreneur learning and training, and should clearly identify interim measures to ensure ongoing learning and accountability. Finally, the action plan should state where

Congressional action is needed to carry out recommendations: e.g., via budget allocation, establishing guidelines for relevant expansion of agency programs and/or responsibilities, and authorization of or modifications to deployment of relevant policy tools.

### 3.2 *Supplying and preparing talent*

Building a broad, deep pipeline of S&T talent in the United States requires federal agencies to prioritize and fund activities in a way that better aligns educational, research, and commercial goals. The next administration should strive to expand and diversify participation in federally supported entrepreneurship programming, and to provide innovators with the resources, tools, and connections they need to successfully advance inventions from lab to market. Specifically, the next administration should consider:

- **Expanding the I-Corps model to serve at least 2000 teams annually.** This action would double the size of existing I-Corps programs at NSF and NIH, as well as launch new programs at agencies such as USDA, DOE, and DOD. Program expansion will require federal resources to support recruitment and selection, program delivery, interagency coordination, and evaluation.
- **Implementing new federal requirements to increase access to entrepreneurship training.** The next administration could direct agencies that fund research projects or fellowships for S&T postdoctoral researchers and junior faculty to develop a suite of courses, online tools, and other resources that provide standardized, basic training in topics related to entrepreneurship and business development. These resources would be readily available to all recipients of federal research support. The next administration could also mandate that research-funding agencies:
  - Institute ongoing processes to assess entrepreneurship readiness and support needs among funding recipients.
  - Require or strongly encourage funding recipients to participate in certain entrepreneurship-training activities—including in-person activities at grantee convenings as well as activities conducted online.
  - Actively communicate with funding recipients about opportunities for follow-on entrepreneurship programming and funding opportunities for venture development.
  - Ensure that funding recipients have access to peer and mentor support networks both during and after their funding-award periods.

### 3.3 *Building commercialization pathways*

Increasing the number of S&T researchers considering the market potential of their ideas at early stages is important, but support must continue throughout the business



development and commercialization process as well. The next administration should allocate resources to help innovators develop viable business models and form companies. Specifically, the next administration should consider:

- **Training 300–400 additional innovator teams in company formation and investment readiness annually.** Training participants should be sourced from I-Corps and/or SBIR grantee pools. NSF, SBA, and other S&T-funding agencies should partner with external organizations to both expand existing, successful venture-acceleration programs and replicate such programs in additional agencies. Federal funding would support scaling and replication of existing programs; design and delivery of train-the-trainer programming for regional facilitators; and evaluation, learning, and dissemination activities. Funding for these activities could come from increasing the extramural research set aside under SBIR authorization from the existing 3.2% set-aside Extramural Research budgets of federal agencies (for SBIR set-aside activities). An increase of 1% of these budgets would result in roughly \$1 billion annually to invest in later-stage entrepreneurship training across agencies.
- **Creating and launching a new regional, two-year S&T investor training program/fellowship in 10 sites across the country.** This effort would be carried out in coordination with the EDA and/or SBA and would require allocation of new budget resources. Funding would support identification and selection of regions, program design, hosting convenings and trainings delivered by expert S&T investors, developing and scaling new investor networks, and allocation of initial seed funding for local, donor-advised funds.
- **Reimagining existing federal programming to improve later-stage entrepreneurship training.** The next administration should task an agency or an interagency task force with redesigning the content of federally backed entrepreneurship training from the ground up, with a goal of placing greater emphasis on building skills in the latter stages of venture development. This includes but is not limited to training offered by the Small Business Investment Company (SBIC), the Small Business Development Center (SBDC), the Established Program to Stimulate Competitive Research (EPSCoR), the Regional Innovation Strategies (RIS) i6 grant program, and SBIR. Updated content should address commercialization, company readiness, developing investment capability, developing dealmaking structures, and related topics.

#### 3.4 *Increasing access to financing and capital*

Promising innovations cannot be developed, commercialized, or scaled without access to financing and capital. The next administration should use policy levers and its convening power to help raise awareness of S&T investment opportunities and to help

connect S&T entrepreneurs to increasingly robust financial resources and capital networks. Specifically, the next administration should consider:

- **Expanding current SBIR financial and accountability requirements to support innovation, entrepreneurship, and commercialization.** This includes building enhanced financial bridge mechanisms between Phase 1 and Phase 2 of SBIR, establishing new incentives for additional states to set up EPSCoR matching programs for Phase 1 and 2 awardees (as 15 states have already done),<sup>12</sup> and within phase 2b, offering expanded, two-to-one opportunities for federal funds to match private investment in companies.
- **Launching a regionally focused initiative to educate policymakers and other regional stakeholders about angel investment networks and relevant local opportunities for S&T investment.** This initiative would be designed to attract attention towards and interest in regions and populations currently underrepresented in the S&T entrepreneurship ecosystem, build stronger syndication networks between national investment groups, and incentivize coinvestment and multi-stakeholder dealmaking. Initiative activities could be coupled with advocacy campaigns and/or delivered alongside other previously mentioned entrepreneur- or investor-training programs. This effort should be carried out by federal entities such as the U.S. Department of Commerce’s Minority Business Development Agency (MBDA) in partnership with investor groups such as the Angel Capital Association (ACA)

### 3.5 *Mobilizing non-federal actors*

Non-federal actors—including higher-education institutions, nonprofits, philanthropies, industry partners, and state and local governments—are critical to the success of the federal efforts described above. The next administration should engage non-federal actors in activities such as:

- **Revising accreditation requirements for S&T higher education programs,** such that basic topics in innovation, entrepreneurship, and commercialization are more broadly integrated into S&T curricula.
- **Identifying and engaging internal leaders**—e.g., deans of graduate studies, heads of research, program directors, CEOs, HR leads, heads of corporate social responsibility (CSR) initiatives—to create accountability with regard to both the supply (education) and demand (workforce) components of bolstering the U.S. S&T ecosystem.

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<sup>12</sup> National Center for Advancing Translational Sciences, “Federal and State Support for Awardees”, National Institutes of Health, U.S. Department of Health and Human Services, August 19, 2019, <https://ncats.nih.gov/smallbusiness/resources/federal-state>.

- Disseminating key messages and talking points via events, media, and publications.
- Advocating for the use of novel forms of capital and financing to support very early-stage investment (*i.e.*, enabling broader use of donor-advised funds to support non-dilutive financing<sup>13</sup> for socially impactful ventures).
- Developing and launching a new federally supported, mission-aligned, multi-year impact investment fund to increase investment in S&T companies nationwide.
- Incorporating incentives and reporting requirements for Opportunity Zones<sup>14</sup> designed to increase localized, place-based support and resource availability for very early-stage startup teams and companies.

#### 4. Precedents and complementary efforts

There exist multiple commercialization mechanisms internal to federal agencies (*e.g.*, scientist exchange, cooperative research and development agreements (CRADAs)). These mechanisms do not focus explicitly on the gaps in entrepreneurial mindset and venture development within the greater scientific community or federal research entities at large. Nevertheless, the initiative described above does build on some past and current efforts that have already yielded best practices and positive impacts. As mentioned previously, NSF's I-Corps has supported ~1,500 teams from ~230 universities, resulting in ~600 startups formed and more than \$210 million secured in private investment. Similarly, VentureWell's multi-stage E-Team program for student innovators has provided tiered funding and training to more than a thousand S&T innovators since 1995. Within ASPIRE, the final stage of E-Team training, VentureWell has seen approximately half of participants close equity rounds or secure SBIR awards within 12 months of program completion.<sup>15</sup>

The successes of I-Corps, E-Team, and similar programs scattered throughout the U.S. S&T ecosystem are encouraging. But access to training and resources varies dramatically based on geography, and there remain persistent, glaring gaps in the S&T lab-to-market pathway. There is an outstanding need for a comprehensive, coordinated national initiative to prepare S&T innovators, clear the pathways to commercialization, and provide access to financing and capital. The policies and programs included in such an initiative should reflect precedents and lessons learned from vetted, successful models such as those cited above.

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<sup>13</sup> Non-dilutive financing is financing in which a business does not give up any of its equity in exchange for financial support.

<sup>14</sup> Zones created by the 2017 Tax Cuts and Jobs Act that "are designed to spur economic development and job creation in distressed communities throughout the country and U.S. possessions by providing tax benefits to investors who invest eligible capital into these communities." Source: Internal Revenue Service, "Opportunity Zones Frequently Asked Questions", U.S. Department of the Treasury, October 22, 2019, <https://www.irs.gov/newsroom/opportunity-zones-frequently-asked-questions>.

<sup>15</sup> Calculated based on VentureWell follow-up surveys and other available data from participating startups.

## 5. Potential champions and advocates

S&T innovation is a bipartisan issue that aligns with national priorities such as job creation, U.S. competitiveness in the global marketplace, improved health and healthcare, and overall quality of life. As a result, ongoing support for the initiative described above is expected from the research community, industry partners, mission-aligned nonprofit organizations, individual and institutional investors, philanthropic entities, minority-serving institutions, academic societies, and student groups. Focusing additional resources on the lab-to-market pathway will also require and foster partnerships between federal labs and other public and private entities. U.S. academic and research institutions will play a significant role in implementation of the initiative described above, in ways that go beyond current federally funded activities (e.g., education and basic research). Specifically, academic and research institutions can do much to create broadly accessible, seamless pathways from discovery and ideation through subsequent stages of S&T venture development, leading ultimately to private-sector investment and large-scale commercialization. A final important stakeholder class comprises highly credible local programs that provide relevant support and training and operate with well-defined, tested, and measurable approaches.

## 6. Goals and metrics

The long-term goal of the initiative described above is to strengthen the S&T ecosystem in the United States by creating gap-free pathways for innovations to move from lab to market—pathways that are clear, effective, well-supported, and accessible to all Americans. Progress towards this goal can be assessed by tracking multiple types of indicators in the short, medium and long term. Potential indicators include:

- The number of accredited S&T graduate programs that include topics related to entrepreneurship and innovation in their required curricula.
- The number of S&T postdoctoral researchers who (1) enter innovator training programs and (2) advance through subsequent stages of venture development toward commercialization.
- The number of regional investors trained and mobilized towards involvement in early-stage S&T ventures.
- The amount of available capital for very early-stage investment into S&T startups, from both public and private sources.

Additional measures for tracking longitudinal progress should be defined and clarified as part of recommendations released by a White House-led task force, as described in Section 3.1.

## 7. Conclusion

In order to maintain American economic strength and advance the United States towards global leadership in S&T innovation and entrepreneurship, significant attention and investments are needed in the areas of leadership and coordination from the executive branch, supplying and preparing talent, building commercialization pathways, increasing access to financing and capital, and mobilizing non-federal actors. The next administration should advocate for new and enhanced programming and policies, better interagency coordination, and a transparent national agenda related to S&T innovation, entrepreneurship, and commercialization. By closing critical gaps in the lab-to-market pipeline, the next administration can ensure that the United States retains and fosters promising talent, ideas, and capital across the S&T entrepreneurial ecosystem—and enjoys the ensuing benefits at home

**About the authors**

Phil Weilerstein is chief executive of VentureWell. From the beginning, Phil's focus for VentureWell has been to help bring socially beneficial applications of STEM inventions to market. He has accomplished this goal by designing and overseeing programs that encourage curricular innovation and student venture creation, provide resources for faculty and student entrepreneurs, and develop community through conferences and workshops for faculty and students. Phil attended the University of Massachusetts, where he was a co-founder of a biotechnology company developing naturally occurring pest-control products. He is a Founder and Past Chair of the ASEE Entrepreneurship Division, and a recipient of the 2008 Price Foundation Innovative Entrepreneurship Educators Award, the 2014 Engineering Entrepreneurship Pioneers Award from ASEE, and the 2016 Deshpande Symposium Award for Outstanding Contributions to Advancing Innovation and Entrepreneurship in Higher Education.

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Heath Naquin is the senior global and government liaison officer at VentureWell. He works on the identification and development of new opportunities and initiatives to support our strategic program goals, with a particular focus on our global and federal funders and partners. As part of this role, he leads the Global Innovation in Science and Technology (GIST) initiative on behalf of the U.S. Department of State and advises the National Science Foundation's Industry & University Cooperative Research Center (IUCRC) program. Prior to joining VentureWell, Heath spent nearly 20 years working in the global startup, innovation, and entrepreneurship field. Most recently, he was Executive Director for the Southwest I-Corps Node at the University of Texas at Austin. Heath holds a BBA from St. Edwards University, an MS in Technology Commercialization from the University of Texas at Austin, is a Certified NSF I-Corps instructor, and maintains a PMP designation.

### About the Day One Project

The Day One Project is dedicated to democratizing the policymaking process by working with new and expert voices across the science and technology community, helping to develop actionable policies that can improve the lives of all Americans, and readying them for Day One of a future presidential term. For more about the Day One Project, visit [dayoneproject.org](https://dayoneproject.org).