



Regional Innovation Hubs Must be Scaled to Drive Economic Innovation

AUTHOR:

Nick Maynard, PhD, CEO

EDITED BY:

Lizzette Arias, Communications Manager
Mari Silbey, Senior Director of Partnerships
and Outreach

February 2025

Table of Contents

3 **Executive Summary**

4 **Investing in Regional Innovation Hubs**

7 **Examples from Abroad**

- China's Belt and Road Initiative (BRI) - Only the Tip of the Iceberg
- European Union - Billions for Large Scale Regional Programs

10 **Recommendations for Sustaining Momentum**

12 **Conclusion**

Executive Summary

The United States faces increasing global competition in fostering regional economic innovation. While other nations have dedicated substantial resources to developing large-scale regional innovation ecosystems, the US has only recently begun to implement comparable initiatives through programs like the CHIPS and Science Act and the Inflation Reduction Act. To maintain its competitive edge, the US must scale investment in regional innovation hubs, which serve as critical engines for economic growth, job creation, and technological advancement—especially in small and mid-sized communities.

International Insights and Strategic Opportunities

Comparisons with global competitors, like China and the European Union, highlight the scale of investment needed. China's Belt and Road Initiative (BRI) and broader industrial support programs have demonstrated the importance of sustained, long-term investment in economic resilience. Meanwhile, the EU's Structural Funds Program and Digital Innovation Hubs have successfully channeled billions into regional development, helping communities transition into Industry 4.0. By learning from these models and tailoring them to the unique needs of American communities, the US can implement policies that ensure long-term economic success.

The Path Forward

The evidence is clear: regional innovation hubs drive economic transformation, but sustained investment and strategic policy interventions are required to maximize their impact. Federal and state governments must work alongside industry, universities, and nonprofit organizations to develop a comprehensive regional innovation strategy that prioritizes inclusivity, long-term viability, and cross-sector collaboration. The US can build a resilient economy that supports widespread technological advancement and global competitiveness by scaling these efforts.

Investing in Regional Innovation Hubs

Investing in regional innovation hubs can spur economic growth, job creation, and resilience in the US, particularly in small and mid-sized communities. These investments can uplift local economies and enable regions to develop sustainable economic growth when coupled with strong support programs.

HIGH-GROWTH INDUSTRIES

When high-growth industries emerge, several subsectors and suppliers are needed to support them. This creates ample opportunities for regions made up of small and mid-sized communities to expand and these high-growth industries with their localized strengths. With strategic investment in regional innovation, communities in states like Arizona, New York, and Texas can lead the way in developing sustainable, American-made semiconductor industries and other thriving sectors, demonstrating that economic growth is not limited to Silicon Valley.

US Ignite's playbook on [Building Trust-Centric Innovation Districts](#) provides a deep look at five communities that leveraged the capabilities and assets of their region to establish and build a thriving local industry cluster (or multiple clusters). Two particularly telling examples emerge from Chattanooga, TN, and St. Louis, MO.

Chattanooga Innovation District

- The city's public electric company installed fiber infrastructure in 2011, making Chattanooga home to the fiber network known as "The Gig." Using the fastest municipal Internet service worldwide, local startups built an industry cluster around the tech hotspot. Local leaders and the mayor recognized the unique opportunity to support an innovation economy and worked to designate the Chattanooga Innovation District. An estimated \$2.6B has been generated in this zone, earning international recognition for midsize cities driving innovation.¹

Cortex Innovation Community

- St. Louis, MO wanted to retain talented graduates, entrepreneurs, and businesses that had been leaving the area for decades to pursue better opportunities in the coasts. Five anchor institutions joined to establish Cortex, a nonprofit organization that aims to develop a life sciences hub. After two decades, Cortex successfully generated billions in economic value for the local community. Specializing in the life sciences cluster helped St. Louis build a competitive advantage that attracted commercial interest and funding.

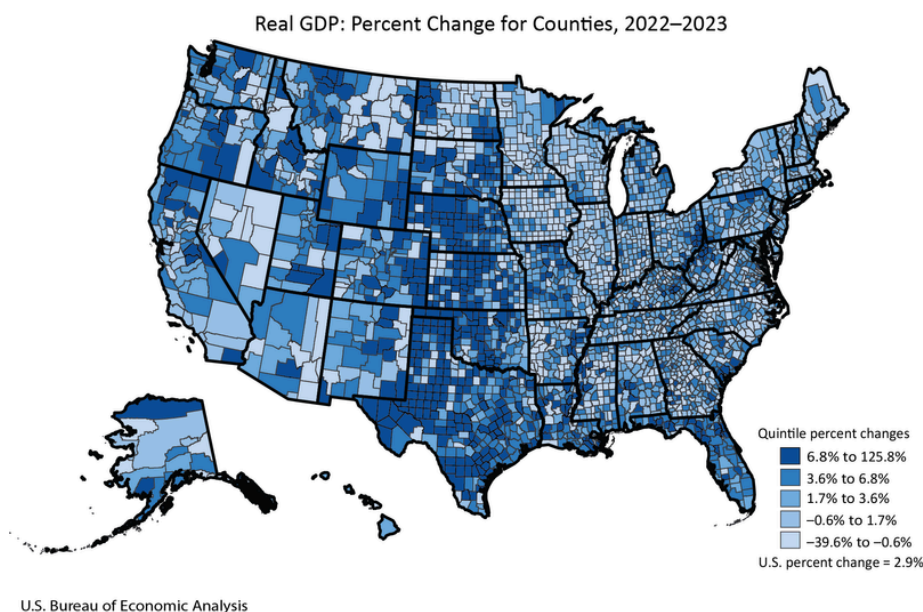
Both of these examples show how prioritizing regional innovation helps small and mid-sized communities foster sustainable economic growth.

¹ "Building Trust-Centric Innovation Districts," *US Ignite*, <https://www.us-ignite.org/wp-content/uploads/2023/07/Building-Trust-Centric-Innovation-Districts-Playbook.pdf> (accessed February 5, 2025).

RIPPLES OF SUPPORT

The non-financial support provided to regional stakeholders is as critical to seeding successful regional economic innovation as the financial support. Large-scale federal investments without a plan to build in-region capacity can overwhelm local systems, stretching institutions that are not yet equipped to handle the scale of funding. In 2022, the first round of the \$50 million Department of Transportation (DOT) Strengthening Mobility and Revolutionizing Transportation (SMART) Grant was awarded to multiple communities. However, each awardee faced significant challenges in implementing the projects due to a lack of technical expertise and operational capacity.²

Funding must be paired with robust programmatic support to ensure that communities can manage and fulfill the vision of federally funded regional innovation. An example is the National Science Foundation's (NSF) Regional Innovation Engines (RIE) program, which provides vital community technical assistance and capacity-building support to communities as they grow their operations.



This support offers local leaders the tools to operationalize technology to address long-standing regional challenges with disadvantaged communities long after initial grants have expired.

Continuing Recovery and Job Creation

The US has launched some federal funding programs, such as pandemic recovery efforts, that have positively impacted regional innovation, boosting local sustainable economic growth.

Critical Recovery

Recent federal and third-party reports show that rural and disadvantaged regions are experiencing strong recovery after the pandemic years. Such a recovery comes after several years of slow economic, workforce, business, and income growth for these regions.

Specifically, a US Bureau of Economic Analysis report showed that almost 72% of small counties (with populations less than 100,000) showed an economic increase in 2023 over the prior year. Moreover, nearly 90% of medium counties (with populations between 100,000 and 500,000) showed an economic increase in the same period.³

² Nick Maynard, "Smart City Technologies: Driving Economic Growth and Community Resilience", *US Ignite*, January 23, 2020, https://www.us-ignite.org/wp-content/uploads/2020/01/Smart-City-Technologies-Driving-Economi_1-27-2020.pdf (accessed February 5, 2025).

³ "Gross Domestic Product US County and Metropolitan Area, 2023," *U.S. Bureau of Economic Analysis*, December 5, 2024, <https://www.bea.gov/news/2024/gross-domestic-product-county-and-metropolitan-area-2023> (accessed February 5, 2025).

Additionally, a report from the Economic Innovation Group (EIG) identified a set of 972 counties that have persistently lagged behind the rest of the country in economic and employment growth, especially since 2000. In a remarkable turnaround over the past three years, almost half of these “Left-Behind” Counties have recovered to their pre-pandemic employment and small business growth levels, while nearly 20% (or 195 counties) have seen their populations recovering and overtaking the national average. This subset of nearly 200 counties is experiencing a critical recovery for the first time in decades.⁴

The evidence provided by these reports (among others) indicates that the US investment in regional innovation has begun to seed solid economic and workforce growth. However, these disadvantaged communities, or Left-Behind counties, need many consistent years of support to ensure the long-term viability of economic recovery.

What is desperately needed is to build a regional innovation strategy on top of this existing economic foundation to ensure long-term economic growth and workforce success.

Small Businesses and Startups are Rebounding Nationwide

While most of the attention is focused on high-growth startups in the top ten urban centers, there is another more critical small business and startup trend that the country is seeing across the country, as highlighted in a recent paper from the NBER.⁵ Beyond the vital economic and workforce growth mentioned above, the US has experienced a sustained surge in new small business registrations, leading to new job creation in local communities. Many of these new businesses are in the technology-related sectors, while construction and transportation saw more variability.

⁴ August Benzow, “Left Behind Places Report Economic Renaissance or Fleeting Recovery? Left-Behind Counties See Boom in Jobs and Businesses Amid Widening Divides,” *Economic Innovation Group*, July 8, 2024, <https://eig.org/left-behind-places/#:~:text=Left%2Dbehind%20communities%20have%20enjoyed,than%20they%20have%20in%20years>. (accessed February 5, 2025).

⁵ Ryan A. Decker and John Haltiwanger, “Surging Business Formation in the Pandemic: A Brief Update” *Brookings*, September 2023, https://www.brookings.edu/wp-content/uploads/2023/09/Decker-Haltiwanger_16820-BPEA-FA23_WEB.pdf (accessed February 5, 2025).

“LEFT-BEHIND” COUNTIES

- 972 counties identified by EIG that consistently lag behind the rest
- Predominantly rural - but 1% in large urban areas, 9% in small urban/suburban areas
- Over past 3 years, almost 50% have recovered to pre-pandemic employment and small business growth, with job growth reaching its highest rate in 25 years
- 80% have a smaller workforce compared to 25 years ago
- Rural counties have seen some of the most robust recoveries post-pandemic, adding more jobs than any other component of the left-behind counties.
- Many urban and suburban counties have struggled to recover their workforce and economic growth.

Source: [Economic Innovation Group](#)

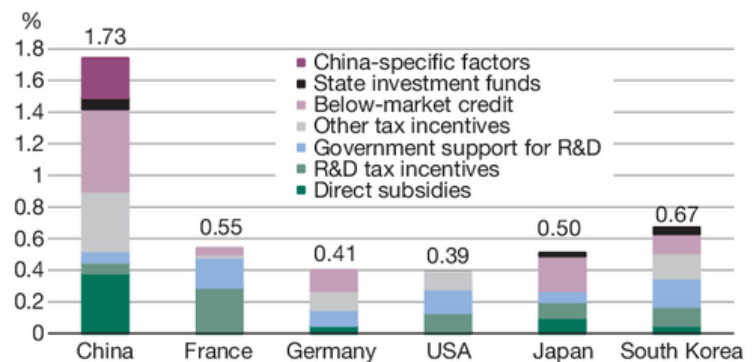
Starting with the pandemic and continuing through 2024, the surge in business formation applications included “likely employer firms” with one or more new employees within the new small businesses. There has always been a share of new companies that do not lead to new employee hires, either because the business is used for “gig economy” activities or by existing firms to obtain a new tax identification number for tax purposes. The NBER study included genuine entrepreneurial activities leading to new job creation across these states and counties. Over 95% of counties saw an increase in new business formations during the pandemic, but counties in almost 20 states saw significantly higher rates. Counties in traditional hotbeds like California and Texas and counties across the American South (Georgia, Tennessee, South Carolina) and Midwest (Ohio, Michigan) were highlighted.

The incredible progress made over the last four years in counties enjoying economic and workforce growth and increased small business firm creation provides a great example of the benefits of investing in regional innovation hubs. Still, sustained and expanded growth will require more support from accelerators, workforce training programs, and other local community support programs.

Examples from Abroad

China’s Belt and Road Initiative (BRI) - Only the Tip of the Iceberg

China has taken initiatives to build resilient, long-term innovation ecosystems that benefit multiple regions. The Belt and Road Initiative (BRI) program is a prime example of such an initiative. China has already devoted \$1 trillion through BRI to support global infrastructure and economic development projects. The grand total investment could reach \$8 trillion over the program's lifetime.



Source: Intereconomics

BRI-backed projects span cities of various sizes across Asia, Africa, and Latin America,⁶ and tend to come with Chinese government-backed financing that can undercut competitors on price. This is in addition to \$239 billion in programs offering below-market financing for priority industries like energy, transportation, communications, and semiconductors. China also provides four times the R&D tax incentives, direct subsidies, and other support relative to its GDP.

⁶ “China’s Massive Belt and Road Initiative,” *Council on Foreign Relations*, February 2, 2023, <https://www.cfr.org/background/chinas-massive-belt-and-road-initiative> (accessed February 5, 2025).

Amidst the collapse of the Chinese venture capital market, government financing is filling funding gaps to achieve regional and startup support. Recent studies indicate that both intra-regional and inter-regional collaborative innovations (IRCI) enhance the efficiency of China's regional innovation support programs.⁷ The studies suggest that strong regional infrastructure and economic vitality significantly affect innovation efficiency, boosting local and neighboring regions' innovation performance. However, internal factors within regions remain the primary drivers of innovation efficiency. There is a significant spatial spillover effect where a region's innovation success influences the adjacent areas, a trend also seen in the US and other countries.

Additionally, the impact of collaborative innovation on innovation efficiency is not immediate. The benefits of collaborative innovation become apparent only after a certain period of cooperation and interaction among innovation elements and stakeholders. Therefore, results from regional innovation programs may take several years to appear in reported data.

European Union - Billions for Large Scale Regional Programs

For decades, the European Union (EU) has supported its member nations with billions for large-scale regional innovation development through tax incentives and research and development (R&D) funding.⁸

Structural Funds Program

The €63 billion EU Structural Funds program supports EU countries with incomes at or below 90% of the EU average, primarily in Eastern Europe, to help align their economic growth and income levels with the EU average. This is in addition to industrial support programs, with countries like France providing over 40% more total support than the US, mainly through R&D tax incentives (see "Industrial Support Spending in China and Key OECD Countries in Relation to GDP, 2019" chart on page 5).⁹

The Structural Funds have had a documented positive impact on people, companies, and regional authorities. According to the 2023 Summary Report on the Implementation of the European Structural and Investment Funds (ESI Funds), the financial support has

⁷ Fei Fan, Huan Lian, and Song Wang, "Can Regional Collaborative Innovation Improve Innovation Efficiency? An Empirical Study of Chinese Cities," *Growth and Change*, 51 no. 1 (2019): 1–24, <https://onlinelibrary.wiley.com/doi/abs/10.1111/grow.12346> (accessed February 5, 2025).

⁸ Chris Baraniuk, "Chip Shortage: Has Europe's Plan Arrived Too Late?" BBC, March 31, 2022, <https://www.bbc.com/news/business-60554228> (accessed February 5, 2025).

⁹ Frank Bickenbach, Dirk Dohse, Rolf J. Langhammer, Wan-Hsin. "EU Concerns About Chinese Subsidies: What the Evidence Suggests," *Intereconomics*, 59, no. 4 (2024): 214–221, <https://www.intereconomics.eu/contents/year/2024/number/4/article/eu-concerns-about-chinese-subsidies-what-the-evidence-suggests.html> (accessed February 5, 2025).

already supported more than 5 million businesses, assisted 64.5 million people in finding employment or gaining new skills and helped to maintain over 48,000 jobs.¹⁰ Behind these impressive figures are exemplary projects that demonstrate the critical role that the program plays in supporting regions across the EU through diverse challenges, like the pandemic and the green and digital transitions.

DIGITAL and Digital Innovation Hubs

In addition to Structural Funds, the European Commission has launched an almost €8 billion Digital Europe Programme (DIGITAL) program, focusing on bringing digital technology to industry, government, and residents. Within the DIGITAL program, the Digital Innovation Hub (DIH) program¹¹ will provide over €330 million per year to the program.

Commissioner Oettinger at Hannover Messe explains the goal of the program:

“Our challenge is to ensure that all industrial sectors make the best use of new technologies and manage their transition towards higher value digitised products and processes, commonly known as ‘Industry 4.0’”

Similar to the US Tech Hubs and Engines Programs, the expanded European DIH program aims to facilitate the transition into Industry 4.0 in European regions. The Digital Innovation Hubs (DIHs) are designed to operate large-scale funding to support local and regional Industry 4.0 regional development goals. The goal is to accelerate technological adoption by subject matter experts (SMEs) across the EU.

Led by various entities, including public universities, research organizations, startup accelerators, and local governments, the DIHs act as one-stop shops to help companies become more competitive using digital technologies.¹² DIHs offer many uses and activities, including developing new digital technologies, training, technology transfer, promoting local stakeholder engagement, awareness campaigns, and supporting public-private partnerships.

Recent research studies from Spain and other countries across the EU show empirical evidence that these DIHs have created diverse organizational structures, goals, and programmatic activities. However, like US programs, these DIH studies identify several challenges the program faces, such as the complexity, risk of introducing new technologies in SMEs, and the need for better coordination with other EU or national-level regional initiatives. The studies recommend that the DIH program improve its adoption to local needs while considering a detailed assessment of the different types of supported regional innovation ecosystems.

¹⁰ “2023 Summary Report on the Implementation of the European Structural and Investment Funds,” *European Commission*, January 16, 2025, <https://european-social-fund-plus.ec.europa.eu/en/news/european-structural-and-investment-funds-support-employment-millions-people#:~:text=Key%20achievements%201%20More%20than%205%20million%20businesses,fishing%20and%20aquaculture%20sector%3B%205%20QAnd%20much%20more> (accessed February 5, 2025).

¹¹ “Commission Implementing Decision on the Financing of the Digital Europe Programme and Adoption of the Multiannual Work Programme – European Digital Innovation Hubs for 2021 - 2023,” *European Commission*, November 11, 2021, <https://digital-strategy.ec.europa.eu/en/library/digital-europe-programmes-multiannual-work-programme-european-digital-innovation-hubs-2021-2023> (accessed February 5, 2025).

¹² Jose-Luis Hervás-Oliver, Gregorio Gonzalez-Alcaide, Ronald Rojas-Alvarado, Silvia Monto-Mompo, “Emerging Regional Innovation Policies for Industry 4.0: Analyzing the Digital Innovation Hub Program in European Regions,” *Competitiveness Review*, 31, no. 1 (2021):106-129.

Recommendations for Sustaining Momentum

Compared to the substantial investments that global competitors like China and the EU have made in their regional innovation ecosystems, the United States has not invested at a level needed to maintain competitiveness. While the power of the investments in regional innovation hubs in the US and abroad has demonstrated significant successes, challenges remain that must be addressed. To close these gaps, it is crucial to identify barriers that underserved communities face—such as limited local capacity and uneven access to resources—and provide tailored policy solutions that strengthen federal programs. Moreover, community-building efforts, including technical assistance and capacity-building initiatives, must complement financial investments to ensure that regions can effectively implement and sustain their innovation-driven initiatives.

Challenges & Mitigation Steps

A review of the regional innovation support efforts of China and the EU reveals several common challenges and potential mitigation steps that US federal agencies should consider.

- **Challenge: Scaling Training Programs.** Scaling training requires adaptable content and robust infrastructure, especially in diverse and underserved areas.
 - ▶ **Mitigation: Hybrid Learning.** Models from China and the EU emphasize digital and hybrid learning to maintain quality at scale, offering potential insights to US efforts. Incorporating similar flexible approaches can help address infrastructure and access issues as programs expand.
- **Challenge: Diverse Mentorship:** Finding diverse mentors to match a growing, varied participant base can be challenging, especially with limited regional expertise.
 - ▶ **Mitigation: Cross-Regional Networks.** The EU's hubs and cross-regional networks provide models for expanding access. US efforts could engage a more inclusive mentor pool nationwide by building similar structures. This could ensure culturally relevant guidance for communities.
- **Challenge: Managing Funding Opportunities:** Scaling brings complexities in matching funds effectively with recipients and ensuring timely resource distribution.
 - ▶ **Mitigation: Modular funding models.** Other countries allocate funds in milestone-based phases, helping to maintain transparency and accountability. This can be replicated to align funding with project goals better.
- **Challenge: Collaboration and Knowledge-Sharing:** Scaling collaboration across regions requires overcoming barriers in communication and information-sharing.
 - ▶ **Mitigation: Regular meetups.** China and the EU use structured networks and regular meetups to facilitate cross-regional collaboration. The US could implement dedicated platforms to enhance knowledge-sharing and engagement among diverse participants.

This is not an exhaustive list. Additional examination of regional innovation support programs across the globe is needed to identify key challenges and mitigation steps. Such insights can prove very valuable as key US regional innovation funding programs enter scaling phases.

As the EU and China studies explained, regions should focus on improved cooperation among industries, universities, and researchers to enhance the effectiveness of regional innovation support policies. Additionally, the US government could consider the potential impact of surrounding areas and formulate cooperative innovation strategies between nearby regions. These steps can strengthen strong innovation ecosystems among underserved communities across the nation.

Community-Building Approach

Sustaining the momentum of regional innovation hubs requires robust community-level support actions. Without meaningful community engagement, innovation hubs risk becoming underutilized, and missing opportunities to foster local job creation and inclusive growth.

To maximize the impact of these hubs, federal agencies can partner with nonprofits or neutral third-party organizations to bridge the gap between residents, local leaders, and the new opportunities available in high-demand technology-based industries. By strengthening community partnerships, regions can expand access to a diverse and qualified talent pool, driving sustained economic success. Drawing from over 12 years of experience working to help federal agencies like the National Science Foundation, US Ignite recommends the following approach to effective community-building:

Establish community-led working groups: Working groups foster expert and peer input, helping regional stakeholders develop a unified vision to advance one or more innovative industries and execute cohesive implementation plans.

- US Ignite facilitates cross-team collaboration and knowledge-sharing, organizing technical workshops, design sprints, and business strategy sessions that encourage peer-to-peer learning.

Coach communities in funding search: External coaching partners help communities identify and pursue private sector and philanthropic partnerships for pilot or scale-up projects, attracting funding.

- US Ignite helps its network of communities identify and apply for relevant funding opportunities, including SBIR (Small Business Innovation Research) and other non-dilutive funding options.

Supplemental project management: Many underserved communities lack the capacity to manage complex, large-scale projects alongside daily operations, which can delay progress. Therefore, it is ideal to have a project management office to support the streamlining of operations, coordination of stakeholders, and monitoring of project plans.

- US Ignite provides its network of communities with detailed project management support and technical assistance to ensure sustainable long-term operation.

Investing in community leadership, technical assistance, and cross-sector collaboration can empower small and mid-sized communities across the US to thrive long-term.

Conclusion

Regional innovation hubs present ample opportunities for the United States to drive economic growth, job creation, and resilience, especially in underserved, small, and mid-sized communities. As global competitors like the European Union and China continue to outpace the US in supporting regional innovation ecosystems, the US must effectively scale its efforts to support innovation regions. By combining federal funding programs with strong programmatic and technical support, these regional innovation hubs can help local economies build sustainable growth and close long-standing economic gaps. Continued momentum depends on consistent, well-structured funding and the integration of community-based partnerships. This approach will ensure that investments in regional innovation development programs achieve sustainable impact and concretely help the US maintain a global competitive edge.

About US Ignite

US Ignite works closely with communities, military bases, startups, and researchers to solve their toughest economic development and technology innovation challenges. Operating like a high-tech startup, our organization delivers customized results through stakeholder engagement, technical expertise, and targeted tools.



Want to learn more about smart communities and broadband connectivity from US Ignite?

Contact our communities team at US Ignite at communities@us-ignite.org, and visit our website, www.us-ignite.org