Creating the Make it in America Regional Challenge

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Summary

In response to growing supply chain challenges and rising inflation, the Biden Administration should create a national competition — The Make it in America Regional Challenge (MIARC) — that activates demand in underinvested regions with cluster-based techno-economic development efforts. MIARC would be a $10 billion two phase competition that would award 30-50 regions planning grants and then 10-15 ultimate winners up to $1 billion to strengthen regional capacity in economic clusters that align with critical U.S. supply chain priorities.

Challenge and Opportunity

Roughly one in five Americans mention the high costs of living or fuel prices as the most important problem facing the United States. Meanwhile, the COVID-19 pandemic, global competition with China, and the Russian invasion of Ukraine has exposed significant, long-standing weaknesses in U.S. supply chains. For example, more than 40 percent of active pharmacological ingredients, 50 percent of global personal protective equipment supplies, and 90 percent of chemical ingredients for generic drugs are sourced or made in China.

This is just one small cross-section of a range of critical sectors with diffuse but at-risk supply chains globally. Offshored production in critical sectors not only induces economic loss — like the recent chip shortage which resulted in over $210 billion of foregone revenue — but places a drag on America’s ability to innovate. Indeed, America’s innovation ecosystem has lost the art of “learning-by-building”, the substantial, value-add interactions that happen when manufacturers are seated at the table with designers. The past is full of examples, including solar panels in which China-based firms have captured nearly 80 percent of market share by betting early on manufacturing innovations that precipitated a nearly 100 percent drop in PV cells’ module costs over the last 30 years.

One reason for the breakdown in supply chains is the geographic gap between where innovation and production takes place in America. Currently, there are only a handful of cities with the “industries and a solid base of human capital [to] keep attracting good employers and offering high wages … ecosystems form in these hot cities, complete with innovation companies, funding sources, highly educated workers and a strong service economy.” Increasing the capability for non-“superstar” regions to have comprehensive supply chain solutions that couple research, manufacturing, and distribution would improve these regions’ global competitiveness and drastically reduce the nation’s reliance on unstable, global supply chains. Doing so would create new jobs in distressed communities and strengthen U.S. economic independence.

The $1 billion Build Back Better Regional Challenge (BBBRC) launched in 2021 by the Economic Development Administration offers a recent example of how national competitions can spur both local and national economic competitiveness. The competition received 529 applications from all 50 states and will ultimately award between 20 and 30 regions up to $100 million. Representing tribal, coal, and next-
generation hubs of global competitiveness, the 60 finalists each brought unique regional resources to bear including leveraging a total of $30+ billion in federal R&D investments at universities and national labs.

Final awards aside, new and extraordinary local collaborations and clusters have sprouted across these regions due to the convening power of the BBBRC. Congress and the Department of Commerce should take advantage of this nascent, in-real-time progress by creating a new national competition — The Make it in America Regional Challenge (MIARC).

If modeled after BBBRC, MIARC would restore America’s full potential to innovate, with supply chains secured by onshoring innovation and production capacities in both the heartland and coastal regions. But it would also spread bring demand to underinvested “stone cold” markets. In turn, total demand and multi-factor economic growth would skyrocket, while prices would stabilize, from the bottom up and middle out.

This approach should not be attempted in every sector. Given the serious supply chain needs, MIARC should focus on critical innovation industries where manufacturing can play a complementary role: semiconductors, high-capacity batteries, rare earth minerals, and pharmaceuticals. As described in the BBBRC Finalist Proposal Narratives, each region is uniquely positioned to support the growth of different sectors. However, public R&D funding into certain industries often generates spillover patent and citation creation in entirely different fields as well. For example, every patent generated from R&D grant funding for energy technologies yields three more patents in other sectors, suggesting a more holistic economic development strategy from targeted cluster investments.

In fact, extant academic research has described an unparalleled multiplier effect by investing in innovation sectors: “for each new high-tech job in a city, five additional jobs are ultimately created outside of the high-tech sector in that city, both in skilled occupations (lawyers, teachers, nurses) and in unskilled ones (waiters, hairdressers, carpenters).” Exemplifying this effect are America’s top 25 “most dynamic” metros, which over-index on “technology hub” cities that are beginning to spread away from Silicon Valley to previously underutilized regions as “other metros are now more capable than ever of producing the next tech company with a trillion-dollar market value.”

But successful regional innovation is a complex process, dependent on interregional spillovers of private and university knowledge, frequent face-to-face contact and knowledge-sharing between capable workforces, and sufficient resources for startups to commercialize research from labs to the marketplace. To accomplish these effects, MIARC should target investments that support a dual R&D and commercialization effort, similar to BBBRC’s cluster-building approach.

This research-commercialization funding approach would yield dividends, as the Department of Energy, National Science Foundation, and additional Department of Commerce programs are deploying a range of regional economic growth strategies.
Stitching together ongoing federal resources — either through research assets such as FFRDCs and national labs, or federal research funding at universities — would multiply the effects of these collective upfront investments. For example, empirical research found that research funding investments generated two times as many startups in the proximity of a national laboratory and three times the amount of successful startups (i.e., $10+ million IPO).

In addition to BBBRC, both the Senate and House have passed different versions of legislation that calls for up to $10 billion for regional “tech hubs”, which programmatically align with the concept of the Make it in America Regional Challenge.

**Plan of Action**

The Make it in America Regional Challenge would be a $10 billion two phase competition that would award 30-50 regions planning grants and then 10-15 ultimate winners up to $1 billion to strengthen regional capacity in economic clusters that align with critical U.S. supply chain priorities (e.g. semiconductors, lithium batteries, etc.). Drawing from lessons from the BBB Regional Challenge, these investments would be:

- **Split** across multiple projects within an economic region and focused on a targeted industry or technology cluster that is critical to both regional competitiveness and U.S. economic independence.

- **Based** on regional supply chain needs, including investments in tailored workforce strategies, innovation, and entrepreneurship.

- **Include** some percentage of rural counties within the chosen geography, due to the rural-urban nature of supply chains.

In addition, any application design should allow for throughput from BBBRC applications components into MIARC Phase I applications. The existing Phase I BBBRC applicants, regardless of final award, have embarked on a herculean undertaking assembling unique regional coalitions.

In selecting additional regions, the Department of Commerce should identify the industry, the region’s related extent of intersectoral knowledge, its source (e.g., local, neighboring, or external regions), and effect on patenting. For example, recent research describes a serious difference in interregional spillover as “innovation in the chemical and electrical and electronic industries is not affected by long-distance private R&D spillovers while it is in other industries.”
About the Authors

**Ishan Sharma** is a Fellow at the Federation of American Scientists and Policy Analyst at the Day One Project where he oversees the development, curation, technical assistance and implementation of key science and technology policies with a focus on foreign affairs, critical and emerging technologies, and lab-to-market innovation. He directed the FAS Special Project on Emerging Technologies and International Security, which devised cohesive domestic and foreign policy recommendations to counter the emergence of digital authoritarianism. His work has been featured in BBC, the UN Special Rapporteur on Freedom of Religion or Belief, Lawfare's Cyberlaw Podcast, and at TEDx. Ishan sits on the board of two nonprofits that aim to empower youth through mentorship and media literacy, and is one of 24 Senior John Lewis Fellows investigating the future of democracy, oppression, and human rights in the 21st century. He holds a B.S. from Cornell University and has studied jurisprudence and international human rights law at the University of Oxford.

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About the Day One Project

The Federation of American Scientists' 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. For more about the Day One Project, visit dayoneproject.org.

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