



## How China and the CHIPS and Science Act Create a New and Urgent Opportunity for High-Skilled Immigration Reform

For eighty years, research and scientific advancement funded by the U.S. government has been a critical source of America's global leadership in technology and innovation. Federal R&D investment has supported large-scale national achievements like winning World War II, splitting the atom, landing men on the moon, and fueled the development of advanced technologies that spawned new industries like digital computing, telecommunications, and, most recently, genome-based pharmaceuticals. Such innovations helped drive post-war economic growth and job creation, and the expansion of a prosperous American middle class.

In recent decades, however, the federal government's commitment to research and development has waned dramatically. After peaking in 1964, federal R&D investment as a percentage of GDP and federal outlays steadily declined, falling to the [lowest level](#) in 60 years in 2019, undermining America's technological edge and raising alarming strategic challenges, particularly from China.



That changed on August 9th of last year when President Biden signed the [CHIPS and Science Act](#). The Act – the most significant innovation-focused legislation in decades – augments American innovation and competitiveness in a number of important ways, including:

- Investing \$52.7 billion over five years to fund grants, loans, loan guarantees, and other programs to incentivize domestic manufacturing of the advanced semiconductors that power everything from smartphones to fighter jets;
- Creating a new 25 percent tax credit for companies that invest in semiconductor manufacturing equipment or the construction of manufacturing facilities;
- Authorizing \$10 billion over five years for the Commerce Department to create 20 “regional technology and innovation hubs” – comprised of universities, businesses, economic development organizations, labor unions, and state and local governments – focused on technology development, job creation, and expanding U.S. innovation capacity; and,
- Authorizing nearly \$170 billion over five years for research and development initiatives across multiple federal agencies – an \$82.5 billion increase in the government’s baseline authorization – including \$20 billion to establish a new technology directorate within the National Science Foundation, which will award grants to accelerate the development of critical technologies like artificial intelligence, quantum computing, robotics, advanced communication technology, energy, and material science.

The Act marks a sharp reversal of 60 years of waning American commitment to government-funded research and scientific inquiry. Just as notable, the Act passed with significant [bipartisan](#) support. The legislation passed the Senate by a vote of 64-33, with 17 Republicans voting in favor, including Roy Blunt (R-MO), John Cornyn (R-TX), Lindsey Graham (R-SC), Mitch McConnell (R-KY), Thom Tillis (R-NC), and Roger Wicker (R-MS).

Republican support for the CHIPS and Science Act is remarkable, given that the Act amounts to “industrial policy” – government investment and other support for particular fields, technologies, or industrial sectors identified by the government as economically or strategically significant. For decades, Republicans have rejected such policy, arguing that the government is poorly positioned to make economic and technological predictions, and that such determinations should be left to the free market.

So, what changed? What brought many Republicans around to supporting policy once regarded as conservative heresy?

China.

For decades, China has been working relentlessly to wrest the mantle of global innovation leadership from the United States. The [Belt and Road](#) global infrastructure initiative, the



[Made in China 2025](#) plan to dominate global manufacturing, and the [China Standards 2035](#) blueprint are critical aspects of China's ambition to be the 21st century's unrivaled economic superpower – all supported by research and development spending growing at double-digits year after year.

In March of 2021, China [released](#) its 14th Five-Year Plan, which accelerated development of advanced technologies in seven strategic areas – artificial intelligence, quantum computing, integrated circuits, genetic and biotechnology research, neuroscience, and aerospace. China also increased R&D spending by more than 7 percent annually through the end of 2025, began work on a network of national laboratories, revised regulations to facilitate the flow of venture capital into Chinese startups, and increased bank lending and extended tax incentives to encourage more research and development.

If there were any lingering doubts about China's ambitions, President Xi Jinping was crystal clear at China's 20th Communist Party Congress last Fall. In a two-hour speech to open the Congress on October 16th, Xi [declared](#) that China will “accelerate efforts to achieve greater self-reliance and strength in science and technology...will be guided by national strategic needs...and resolutely win the battle of key and core technologies.”

China intends to win the technological and innovation future.

America's response by way of the CHIPS and Science Act: “Game on.”

Indeed, on October 4th, Idaho-based Micron Technology, one of the world's largest semiconductor companies, [announced](#) it will invest \$20 billion to build the largest semiconductor fabrication facility in U.S. history outside Syracuse, NY. Micron's investment follows a September 9th [groundbreaking](#) ceremony by Intel on a \$20 billion project to build two factories near Columbus, OH. Intel is also investing \$20 billion in two new factories in [Arizona](#), and \$3.5 billion to expand its facility in [New Mexico](#). Meanwhile, Samsung and Texas Instruments have [announced](#) new chip factory projects in Texas.

**The CHIPS and Science Act is America's bipartisan game plan to win the innovation future. There's just one problem – America lacks sufficient numbers of skilled workers to field the team needed to carry out the plan.**

To staff the announced chip factories and research labs alone – not counting the many other skilled talent implications of the CHIPS Act – the United States [needs](#) an estimated 30,000 to 50,000 new semiconductor engineers over the next five years, a number far exceeding current graduation rates. Even if ambitious domestic education and workforce development efforts are launched immediately – and even if those efforts are successful – America's talent needs still outstrip the nation's capacity to produce skilled workers. Securing skilled talent in numbers sufficient to fully implement the CHIPS Act, therefore, requires importing foreign-born talent as well – which means immigration policy reform.

Of course, immigration reform has been one of America's most vexing policy challenges for years. But policy progress is all about timing and circumstances. Given the right timing and sufficiently unique circumstances, anything becomes possible.



That kind of extraordinary alignment of the political planets has occurred with regard to high-skilled immigration reform. Unemployment in the United States is currently 3.5 percent, the [lowest level](#) 50 years. Meanwhile, [10.5 million open jobs](#) remain unfilled, hovering near all-time [highs](#), with nearly 2 open jobs available for every job seeker. And on May 3, 2022, Rep. Kevin Brady (R-TX), the senior Republican on the House Ways and Means Committee, [declared](#) that a severe “worker shortage” is driving America's inflation problem.

To that economic and political backdrop, add the reality that, **without foreign-born talent, the extraordinary promise of the CHIPS and Science Act – unprecedented industrial policy supported by many Republicans to meet the competitive threat posed by China and secure America's innovation future – will not be fulfilled.**

The unique timing and circumstances for bipartisan high-skilled immigration reform have arrived. Given that reality, here are two essential policy steps that Congress and the Administration should immediately pursue:

## Award “Graduation Green Cards”

When it comes to attracting foreign-born talent, the United States has an enormous competitive advantage – our higher education system. Nearly [1 million](#) foreign-born students from 200 nations study at U.S. colleges and universities each year – the [largest](#) foreign student population in the world, nearly twice as large as our closest competitor, the United Kingdom.

Even [more important](#), between 50 and 82 percent of the full-time graduate students in key technical fields at U.S. universities are international students, including 74 percent in electrical engineering, 72 percent in computer and information sciences, 71 percent in industrial and manufacturing engineering, 58 percent in mechanical engineering, 56 percent in mathematics, 54 percent in chemical engineering, and 53 percent in metallurgical and materials engineering.

But current immigration policy requires most international students to return home after graduation, taking their U.S.-acquired education and training with them. That needs to change.

Specifically, a permanent residency card – “green card” – should be awarded to any foreign-born student meeting national security requirements who completes an undergraduate or postgraduate degree from an American college or university and wants to remain in the United States following graduation.

## Create a “Startup Visa”

The United States is one of only a few industrialized nations that do not have a visa category specifically for foreign-born entrepreneurs. In recent years, many other nations including [Canada](#), [Germany](#), [France](#), [New Zealand](#), [Australia](#), [Chile](#), [the UK](#), and [China](#) – have overhauled their immigration laws to attract foreign-born entrepreneurs, including American entrepreneurs.



Congress should immediately create a new visa category – a Startup Visa – specifically designated to attract and retain foreign-born entrepreneurs who want to launch new businesses in the United States.

To qualify, applicants should have to meet national security requirements and should be required to have raised initial funding – perhaps \$100,000 – from private investors to validate themselves as entrepreneurs and authenticate their business idea.

Foreign-born entrepreneurs should be admitted on a temporary basis, say two years. If by the end of that period their business has been successfully launched, is producing verifiable revenue, and has produced jobs for at least two nonfamily members, the temporary visa should be extended – say, for an additional three years. If the new business continues to grow and has created jobs for at least five nonfamily members by the end of the initial five-year period, the foreign-born entrepreneur should be granted permanent residency in order to continue building their business and creating American jobs.

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Passage of the CHIPS and Science Act is a watershed moment for modern U.S. economic policy, a back-to-the-future return to the post-WWII era of stunning technological breakthroughs spurred by government investment in American innovation on a number of critical scientific and industrial fronts. But daunting workforce deficiencies threaten to short-circuit the new era before it begins.

To fulfill the extraordinary promise of the CHIPS and Science Act and secure America's innovation future, policymakers must act now to pass commensurately bold skilled workforce development policies – including bipartisan high-skilled immigration reform.

If they do, the 21st century is America's to win.

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