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FACT SHEET: CHIPS and Science Act Will Lower Costs, Create Jobs, Strengthen Supply Chains, and Counter China

In President Biden's first year in office, the Biden-Harris Administration has implemented an industrial strategy to revitalize domestic manufacturing, create good-paying American jobs, strengthen American supply chains, and accelerate the industries of the future. These policies have spurred an historic recovery in manufacturing, adding 642,000 manufacturing jobs since 2021. Companies are investing in America again, bringing good-paying manufacturing jobs back home. The construction of new manufacturing facilities has increased 116 percent over last year.

Today, President Biden will sign into law the bipartisan CHIPS and Science Act of 2022, which will build on this progress, making historic investments that will poise U.S. workers, communities, and businesses to win the race for the 21st century. It will strengthen American manufacturing, supply chains, and national security, and invest in research and development, science and technology, and the workforce of the future to keep the United States the leader in the industries of tomorrow, including nanotechnology, clean energy, quantum computing, and artificial intelligence. The CHIPs and Science Act makes the smart investments so that American to compete in and win the future.

Spurred by the passage of the CHIPS and Science Act of 2022, this week, companies have announced nearly $50 billion in additional investments in American semiconductor manufacturing, bringing total business investment to nearly $150 billion since President Biden took office:

- Micron is announcing a **$40 billion** investment in memory chip manufacturing, critical for computers and electronic devices, which will create up to 40,000 new jobs in construction and manufacturing. This investment alone will bring the U.S. market share of memory chip production from less than 2 percent to up to 10 percent over the next decade.
- Qualcomm and GlobalFoundries are announcing a new partnership that includes **$4.2 billion** to manufacture chips in an expansion of GlobalFoundries' upstate New York

facility. Qualcomm, the leading fabless semiconductor company in the world, announced plans to increase semiconductor production in the U.S. by up to 50 percent over the next five years.

The CHIPS and Science Act will boost American semiconductor research, development, and production, ensuring U.S. leadership in the technology that forms the foundation of everything from automobiles to household appliances to defense systems. America invented the semiconductor, but today produces about 10 percent of the world's supply—and none of the most advanced chips. Instead, we rely on East Asia for 75 percent of global production. The CHIPS and Science Act will unlock hundreds of billions more in private sector semiconductor investment across the country, including production essential to national defense and critical sectors.

The law will also ensure the United States maintains and advances its scientific and technological edge. In the mid-1960s, at the peak of the race to the moon, the federal government invested 2 percent of GDP in research and development. By 2020, that number had fallen to less than 1 percent. Economic growth and prosperity over the last 40 years has clustered in a few regions on the coasts, leaving far too many communities behind. The CHIPS and Science Act will ensure the future is made in ALL of America, and unlock opportunities in science and technology for those who have been historically left out.

The Biden-Harris Administration has already taken action to ensure expedient, responsible deployment of CHIPS and Science Act funding:

- **Coordinated permitting for high-tech manufacturing.** Today, the Administration is announcing the launch of a sector-specific interagency expert working group on permitting and permitting-related project delivery issues for high-tech manufacturing, consistent with the President's Permitting Action Plan announced in May. This interagency working group will build on the interagency CHIPS and Science Act planning to date between the Council on Environmental Quality, Environmental Protection Agency, and the Department of Commerce. It will help to ensure collaboration and coordination across federal agencies, the private sector, and with state and local governments to facilitate timely and effective reviews of all federally-funded projects. The working group will also serve as a clearinghouse for best practices with respect to permitting and other project delivery issues to support implementation of projects funded by the bill.

- **President's Council of Advisors on Science and Technology (PCAST) releases new recommendations on semiconductors R&D.** Today, PCAST sent a letter to the President

with their recommendations for implementing the CHIPS and Science Act, including: forming a national microelectronics training network for semiconductor workforce development across academic institutions, including minority-serving institutions and community colleges; fostering innovation by reducing the barriers of entry to startups; recommending the development of a "chiplet platform" to enable startups and researchers to more rapidly innovate at lower cost; and setting a national semiconductor research agenda with fundamental research and grand challenges to, for example, build the first "zettascale supercomputer" which would be 1,000 times faster than the fastest supercomputer available today. The full PCAST semiconductors report will be released this fall.

The CHIPS and Science Act will:

- **Bolster U.S. leadership in semiconductors.** The CHIPS and Science Act provides **$52.7 billion** for American semiconductor research, development, manufacturing, and workforce development. This includes **$39 billion** in manufacturing incentives, including **$2 billion** for the legacy chips used in automobiles and defense systems, **$13.2 billion** in R&D and workforce development,and **$500 million** to provide for international information communications technology security and semiconductor supply chain activities. It also provides a 25 percent investment tax credit for capital expenses for manufacturing of semiconductors and related equipment. These incentives will secure domestic supply, create tens of thousands of good-paying, union construction jobs and thousands more high-skilled manufacturing jobs, and catalyze hundreds of billions more in private investment.

The bill requires recipients to demonstrate significant worker and community investments, including opportunities for small businesses and disadvantaged communities, ensuring semiconductor incentives support equitable economic growth and development.

These funds also come with strong guardrails, ensuring that recipients do not build certain facilities in China and other countries of concern, and preventing companies from using taxpayer funds for stock buybacks and shareholder dividends. It will also support good-paying, union construction jobs by requiring Davis-Bacon prevailing wage rates for facilities built with CHIPS funding.

- **Promote U.S. innovation in wireless supply chains**. The CHIPS and Science Act includes **$1.5 billion** for promoting and deploying wireless technologies that use open and interoperable radio access networks. This investment will boost U.S. leadership in wireless technologies and their supply chains.

- **Advance U.S. global leadership in the technologies of the future.** U.S. leadership in new technologies—from artificial intelligence to biotechnology to computing—is critical to both our future economic competitiveness and our national security. Public investments in R&D lay the foundation for the future breakthroughs that over time yield new businesses, new jobs, and more exports.

The CHIPS and Science Act will establish a technology, innovation, and partnerships directorate at the National Science Foundation (NSF) to focus on fields like semiconductors and advanced computing, advanced communications technology, advanced energy technologies, quantum information technologies, and biotechnology. It will strengthen commercialization of research and technology, ensuring that what is invented in America is made in America. The Act will also reauthorize and expand fundamental and use-inspired research at the Department of Energy Office of Science and the National Institute of Standards and Technology to sustain U.S. leadership in the sciences and engineering as the engine for American innovation.

- **Catalyze regional economic growth and development.** The CHIPS and Science Act authorizes $10 billion to invest in regional innovation and technology hubs across the country, bringing together state and local governments, institutes of higher education, labor unions, businesses, and community-based organizations to create regional partnerships to develop technology, innovation, and manufacturing sectors.

  These hubs will create jobs, spur regional economic development, and position communities throughout the country to lead in high-growth, high-wage sectors such as artificial intelligence, advanced manufacturing, and clean energy technology. It also authorizes a $1 billion RECOMPETE pilot program at the Department of Commerce's Economic Development Administration (EDA) to alleviate persistent economic distress and support long-term comprehensive economic development and job creation in the most distressed communities.

- **Provide STEM opportunities to more of America to participate in good-paying skilled jobs.** Science, technology, engineering, and mathematics (STEM) education and workforce development activities are critical to developing skills needed for taking on the highly-skilled jobs of the emerging industries built on technologies of the future. To ensure more people from all backgrounds and all regions and communities around the country, especially people from marginalized, under-served, and under-resourced communities, can benefit from and participate in STEM education and training opportunities, the CHIPS and Science Act authorizes new and expanded investments in STEM education and

training from K-12 to community college, undergraduate and graduate education.

- **Drive opportunity and equity for all of America in STEM and innovation.** The legislation authorizes investments to expand the geographic and institutional diversity of research institutions and the students and researchers they serve, including new initiatives to support Historically Black Colleges and Universities (HBCUs) and other minority-serving institutions, and other academic institutions providing opportunities to historically-underserved students and communities, primarily through the National Science Foundation (NSF). The CHIPS and Science Act also broadens the geographic diversity of research and innovation funding to leverage the talent and ideas found all across America. The legislation also gives agencies and institutions the mission and the tools to combat sexual and gender-based harassment in the sciences, a demonstrated barrier to participation in STEM for too many Americans. Through these investments and initiatives, the bill would support learners, educators, and researchers at minority-serving and emerging research institutions and in rural communities, as well as broaden participation to include people of all backgrounds and experiences, driving the creation of a STEM ecosystem that looks like and benefits all of America.