

**Testimony of Scott N. Paul
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Before the United States House of Representatives
Select Committee on the Chinese Communist Party
June 26, 2024, Hearing Entitled
“From High Tech to Heavy Steel:
Combatting the PRC's Strategy to Dominate Semiconductors, Shipbuilding, and Drones”**

Chairman Moolenaar, Ranking Member Krishnamoorthi, and members of the Select Committee, on behalf of the Alliance for American Manufacturing (AAM), I appreciate the opportunity to testify at today's hearing entitled, “*From High Tech to Heavy Steel: Combatting the PRC's Strategy to Dominate Semiconductors, Shipbuilding, and Drones.*”

AAM is a non-profit, non-partisan partnership formed in 2007 by some of America's leading manufacturers and the United Steelworkers. Our mission is to strengthen American manufacturing and create new private-sector jobs through smart public policies. We believe that an innovative and growing manufacturing base is vital to America's economic and national security, as well as to providing good jobs for future generations. AAM achieves its mission through research, public education, advocacy, strategic communications, and coalition building around the issues that matter most to America's manufacturers and workers.

Introduction

I want to thank the Select Committee for its critical work in identifying key issues in the U.S.-China bilateral relationship and working to develop concrete policy solutions to those challenges. The members of this Committee have worked tirelessly to educate the American people to the true scale and scope of our strategic competition with the Chinese Communist Party (CCP). U.S. companies and America's workers have been on the frontlines of that competition, watching as our jobs and industrial base have rapidly shifted to China as their state-owned and state-controlled companies operate without free and fair market considerations and often benefit from illegally gained intellectual property and trade secrets.

As I stated at the Select Committee's inaugural hearing on February 28, 2023, the economic policies of the CCP represent a clear and present danger to the American worker, our innovation base, and our national security. To help illustrate these dangers, AAM's June 2024 report, entitled, “[SHOCKWAVES: The Ripple Effect of China's Industrial Overcapacity on American Manufacturing and Factory Workers](#),”¹ reminds us that great American industries like glass, paper, and tires have been largely decimated because of China's massive industrial overcapacity. Relevant to today's hearing, we are now clearly seeing that other critical sectors – ranging from shipbuilding to semiconductors to drones – are at risk of a China Shock 2.0; a deluge of low-cost import competition that could again close tens of thousands of U.S. factories and lay off millions of U.S. manufacturing workers.

Existing policy measures are not enough to address the CCP's predatory market distortions. We urge your attention to the report's comprehensive set of policy recommendations to ensure American industry can compete and win in the 21st century. We must work together, and do so

¹ <https://www.americanmanufacturing.org/wp-content/uploads/2024/06/Shockwaves-Chinese-Overcapacity-Report.pdf>

proactively, to confront this challenge before we experience a repeat of the massive deindustrialization already experienced by critical sectors and millions of workers.

Shipbuilding

Today I am here to focus primarily on China's maritime, logistics and shipbuilding policies. Our nation has fallen frighteningly behind China as the result of decades of CCP policies aimed at dominating sectors, like shipbuilding, with clear economic and military applications.

From our earliest days as a nation, the United States has sought to develop and maintain a robust shipbuilding capability to keep our nation safe, project our strength, and grow our trade. The maritime strength of the United States helped to boost prosperity across the globe and support well-paying jobs here at home.

More than 80% of global trade occurs via oceangoing shipping. Just as critically, shipyard and shipbuilding capacity translate directly to a nation's maritime fleet, naval production, maintenance, and operational capacity, holding the key to supply chain resiliency and sustained power projection throughout the world.

In the 21st century, China's approach to bolstering its own domestic shipbuilding capabilities threatens this prosperity, as well as the remaining direct and indirect shipbuilding jobs in the United States.

- The U.S. now produces 10 oceanic commercial vessels per year, while China produces over 1,000. China has more than 5,500 flagged merchant vessels in oceangoing service; the U.S. has fewer than 80.
- Today, China controls over half the world's shipbuilding and began construction on nearly 1,800 large oceangoing vessels in 2022. During the same year, the United States began construction on just five such vessels. A briefing slide by the U.S. Navy reveals that China's shipbuilding capacity is 232 times greater than our own.²
- According to U.S. Navy Secretary Del Toro, "they (China) have 13 shipyards, one shipyard has more capacity than all of our (U.S.) shipyards combined."
- According to Tom Shugart, a former Navy submarine officer and Adjunct Senior Fellow at the Center for a New American Security (CNAS), at the height of U.S. shipbuilding production during the Second World War U.S. shipyards built over 18 million tons; and, at the end of the war U.S. shipyards had produced a merchant fleet of roughly 39 million tons. In contrast, China's shipyards built over 26 million tons in 2022 alone during peacetime. Altogether, the CCP maintains a 400-million-ton merchant fleet.
- In 1975, the United States was a leader in global shipbuilding, employing over 180,000 workers and securing more than 70 commercial ships orders annually. Over the past

² <https://www.hellenicshippingnews.com/china-dominates-global-shipbuilding-industry-in-h1-2023/>

several decades the U.S. lost over 70,000 shipyard jobs.³ Today, the number of major commercial U.S. shipyards has fallen from 28 to 7.

This has significant implications for our national security.

- The U.S. Merchant Marine currently consists of about 175 vessels that are 30 years old on average. This ageing fleet, coupled with our dependence on foreign shipbuilders, puts our broader supply chain at risk.
- Things are so bad that our own Navy must rely on Chinese-made dry docks in certain circumstances to repair and maintain U.S. naval vessels. The last three dry docks purchased by the Navy were from Chinese sources.
- The U.S. Government is purchasing Chinese-made ships to meet the operational demands of the U.S. Maritime Administration's Tanker Security Program. Ships acquired for this program will be used to supply the U.S. military with fuels during times of conflict or national emergency.
- China has surpassed the United States and now operates the world's largest maritime fighting force, operating 234 warships to the U.S. Navy's 219, according to June 2024 research by the Center for Strategic & International Studies (CSIS).⁴

Investing in our domestic commercial fleet and in manufacturing more broadly would help to shore up our economic and national security. To do this, we must first respond to China's policies. The largest obstacles to shipbuilding in the United States are the unfair trade practices of China. While no nation should be faulted for seeking to develop maritime capabilities, Beijing's ambitions go well beyond that.

The CCP has for decades carried out a comprehensive strategy to dominate global transportation and logistics networks as part of its Transportation Great Power Strategy. China's shipbuilding capacity has been turbocharged through a series of efforts aligned with Five-Year Plans dating back more than two decades.

- In 2001, the CCP's 10th Five-Year-Plan announced to the world that China would "develop its shipbuilding industry into a major world-leading industry." Armed with Beijing's buy-in, Chinese state-owned shipbuilders set out to meet the Party's goal.
- China's 2015-2020 Boosting Capabilities of Marine Equipment Plan stated that by 2020, "80 percent of the equipment used in newly built Chinese ships – and 60 percent of the marine equipment – should be produced by Chinese manufacturers."

³ According to a publication of Princeton University, "Total private shipyard employment increased from about 120,000 in 1960 to almost 180,000 in 1980..." Link: <https://www.princeton.edu/~ota/disk3/1983/8302/830206.PDF>. And, according to a March 2021 publication of MARAD, "In 2019, the U.S. private shipbuilding and repairing industry directly provided 107,180 jobs..." Link: <https://www.maritime.dot.gov/sites/marad.dot.gov/files/2021-06/Economic%20Contributions%20of%20U.S.%20Shipbuilding%20and%20Repairing%20Industry.pdf>.

⁴ [Unpacking China's Naval Buildup](#) – CSIS, June 5, 2024

- Most recently, shipbuilding was identified as a pillar industry in the Made in China 2025 scheme.

For all these reasons, AAM strongly supports the ongoing United States Trade Representatives' Section 301 investigation into China's maritime, logistics, and shipbuilding sector. This investigation is rooted in a March 2024, [petition](#) filed by the United Steelworkers (USW) and a coalition of labor organizations.⁵ Some of the support for Chinese industry identified in the nearly 5,000-page Section 301 petition include policy loans from state-owned banks, equity infusions and debt-for-equity swaps, the provision of steel plate from state-owned steel producers at below market prices, tax preferences, grants, and financing from China's state-owned export credit agencies. For instance, CCP support for shipbuilding provided over \$130 billion in funding just between 2010 and 2018. This may only touch the surface of Beijing's support for its shipbuilding and maritime sector.

There are also valid concerns about foreign capital and technology flowing into Chinese dual-use shipyards, which contribute to both civilian and military shipbuilding capabilities. China sought this transfer of technology to help bolster its naval buildup, a goal laid out in the Thirteenth National Five-Year Plan of 2016; and it has done so through means that are unfair or illegal, such as intellectual property theft.

Because of these practices, China accounted for [76%](#) of global shipbuilding orders in April 2024 alone, according to data from Clarkson Research. To be clear, Beijing seeks nothing short of dominating global commerce. This dominance in the market has a detrimental effect on shipbuilders in all other countries, including the United States. The economic impacts of these unfair trade practices and shrinking share of global shipbuilding in America include the stunning exit of 20,500 domestic shipbuilding suppliers over the past several decades.⁶

As we assess the damage, we must be mindful of the domestic supply chain serving both commercial and military shipbuilding needs. For decades, America's workers have been trusted with building some of the nation's most sensitive, advanced, capable, and strategically critical Naval vessels. But in addition to building Naval vessels, they make the steel that goes into both naval and commercial ships, the specialized paint that stands up to the rigors of the sea, the cabling that connects all these systems, the engines and propellers that power the vessels and a myriad of other critical products. A single commercial ship can require approximately 13,000 tons of structural steel, 60,000 gallons of paint, 130 miles of electrical cable, and many other products.

As shipyards close, demand drops for U.S.-produced steel, aluminum, cables, glass, forged products, maritime engines, springs, anti-skid grating material, paint and other items needed to construct modern container ships and tankers. The loss of that supply chain further undermines

⁵ The United Steelworkers joined with the International Brotherhood of Electrical Workers (IBEW), International Association of Machinist and Aerospace Workers (IAM), the Maritime Trades Department, and the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers (Boilermakers) in filing a Section 301 petition with the United States Trade Representative (USTR) to investigate the People's Republic of China's (PRC) maritime, logistics, and shipbuilding sector.

⁶ According to a September 2018 Department of Defense publication, "Since 2000, these industries experienced a combined decline of over 20,500 establishments in the U.S." Link: <https://s3.documentcloud.org/documents/4956533/ASSESSING-and-STRENGTHENING-the-MANUFACTURING.pdf>

a commercial sector vital to maintaining healthy and stable national security suppliers. This delays production and forces American security to be reliant on sole source suppliers for critical inputs.⁷

Ports and port equipment are the physical points of entry and exit and facilitating equipment for maritime transfers. This is critical U.S. infrastructure essential to our economic and national security. The CCP wants to dominate all facets of transportation and maritime logistics systems, including the technology that tracks, coordinates, and arranges shipments.

- Goods are shipped around the world in containers that are almost exclusively manufactured in China. Those containers are loaded onto container ships using ship-to-shore cranes, 70-80% of which are manufactured by a single CCP-controlled company. The risks posed by these cranes are outlined in a February 2024 Executive Order, which notes that \$20 billion will be invested in U.S. port infrastructure. Much like the long-delayed response to Huawei, the United States is essentially conducting a costly, but entirely necessary, “rip-and-replace” approach to address a threat that has been known for years but left unchecked.
- As outlined in this testimony, the container ship itself is likely built in China and, all-too-often operated by a state-owned shipping firm. The PRC is now the global leader by tonnage and second largest fleet owning country by cargo capacity.⁸ The data shows that its expansion is ongoing.
- Commercial ships may very well communicate with the port of disembarkation via the Chinese Ministry of Transportation’s LOGINK data platform, which collects shipping and port data. Critically, LOGINK is already installed in the critical infrastructure of over 20 ports outside of China, including 14 of the world’s largest, and has been identified by the U.S.-China Economic and Security Review Commission (USCC) as posing commercial and strategic risks to the United States. Rotterdam, Antwerp, and Hamberg are three notable ports in Europe utilizing the platform. That the CCP deploys the LOGINK system free-of-charge tells you everything you need to know. The risks from LOGINK prompted the Department of Transportation’s Maritime Administration to issue an advisory in 2023 of the potential vulnerabilities associated with LOGINK along with other Chinese-supported technologies.

It is time for action, and we appreciate the broad support for the Section 301 investigation from both industry and workers.

- The Shipbuilders Council of America (SCA) wrote that “[t]he time is now for the U.S. to put in place appropriate measures to lessen the impacts of China’s undue influence over this manufacturing sector and promote trade policies and incentives to grow the overall domestic shipyard industrial base.”⁹

⁷ https://www.businessdefense.gov/docs/resources/USA002573-20_ICR_2020_Web.pdf

⁸ <https://maritime-executive.com/article/greece-and-china-compete-as-dominate-ship-owning-nations>

⁹ [March 11, 2024, Letter from the Shipbuilders Council of America \(SCA\)](#)

- The deterioration of U.S. shipbuilding and our reliance on China for critical capabilities concerns Americans of all political backgrounds, with 76% of adults agreeing that our shipbuilding should not be dependent on foreign manufacturers.¹⁰

The petition – filed under Section 301 of the Trade Act of 1974 – identifies a range of specific actions that should be considered to address the injury caused by the alleged unfair practices and to ensure the viability of the domestic producers and workers that have been harmed.

- The petition recommends that a dockage fee be assessed on Chinese-built ships entering a U.S. port. Basing the fee on tonnage and the age of the ship ensures that it addresses the scope of China’s overall policies while also minimizing the impact on U.S. commerce. It is logical that the fee be higher for new vessels coming into operation to act as a deterrent to the CCP’s policies. We must serve clear notice to those seeking to acquire China’s vessels.
- Proceeds of the fee would be used for the creation of a U.S. Commercial Shipbuilding Revitalization Fund. The petition recommends that funds be utilized to support the expansion of U.S. shipbuilding including through differential funding provisions. For instance, small shipyard grants, which exist under current law, should be expanded. Funds would also be used for training and workforce support measures to ensure that U.S. workers have the skills needed to meet our needs. This would include measures to support the training and retention of mariners.
- The petition also identifies measures to stimulate demand for the utilization of U.S.-built vessels. For example, energy exports (LNG, oil, and petroleum products) shipped pursuant to a trade agreement or deal should be transported on U.S. bottoms that are U.S. flagged and U.S. manned. For instance, the Phase One trade deal with China required that they procure billions of dollars of U.S. energy products. Those shipments should not be delivered on Chinese-produced vessels. Rather, our companies and workers, from extraction to delivery, should be the beneficiaries.
- Logistics platforms, such as LOGINK, and physical equipment produced by Chinese firms must be carefully assessed and, where needed, ripped and replaced. Funds should be provided, and measures imposed, to protect U.S. security and to enhance capacity to rebuild our own production capabilities for this equipment and advance the technology platforms to ensure safe and secure logistics support.
- Critically, the United States must continue working with its allies to address global concerns about China’s practices. After all, China’s policies have spurred other nations to support their own producers. Japan and South Korea also subsidize their shipbuilders and, while the scope of their approaches does not match that of China’s, our capabilities and national interests are put under further pressure. The petition calls for consultations with Japan and South Korea as we chart a path forward.

When push comes to shove, on a level playing field, America’s workers can out-compete any workforce on the planet. America’s working men and women have stepped up time and time

¹⁰ AAM/Morning Consult polling conducted December 26-28, 2023

again to meet the challenges facing our country. But we cannot expect our companies or our workers to compete against countries. And we cannot allow our national defense to be undermined and attacked by non-market policies and practices. U.S. shipbuilding production has declined as artificially low prices of ships flood the market. China's unfair production practices have made it impossible for American shipbuilders to compete on an even playing field.

As U.S. shipyards have shuttered, workforce capabilities and skills have been undermined. The Avondale shipyard in Louisiana at one time employed over 26,000 workers and was one of the top employers in the state. With its 2014 closure our nation lost not only the physical capacity to build, repair, and maintain large commercial and specialty vessels, but also the accompanying workforce.

The loss of commercial shipbuilding has direct ramifications for U.S. military shipbuilding. At the end of 2022, the U.S. Navy was short roughly 1,200 workers at our nation's four public shipyards. Chief of Naval Operations Michael Gilday testified to the Senate Armed Services Committee in April 2023 that the Department's budget has a "focus on increasing capacity and retaining highly skilled labor."

Any hope of rebuilding these strategically significant sectors requires decisive action. I implore you to read the Section 301 petition carefully, amplify its findings, and support the proposed relief measures. This effort merits your support because there are direct and indirect connections to shipbuilding in every state. We must not allow our shipbuilding capabilities to continue to be victimized by the CCP's predatory domination of a sector critical to U.S. economic and national security.

Drones + Semiconductors

AAM appreciates that the committee is similarly focused on drones and semiconductors.

Much like the shipbuilding sector, the CCP aggressively fuses together commercial interests with its military ambitions to such a degree that an extraordinary number of businesses operating in China have direct ties to its military. The Military-Civil Fusion (MCF) strategy, elevated by Xi Jinping in 2014,¹¹ was designed to close the technology gap with other military powers, utilizing subsidies, predatory practices, and closer collaboration between commercial firms and the People's Liberation Army (PLA). This fusion presents multiple challenges to the United States, among them technology transfer contributing to the strengthening of its military, and the fact that our consumption of Chinese imports helps fuel this program.

Drones

The issue of drones has received significant attention not only by this Select Committee, but by military and law enforcement authorities. Drones are increasingly used across the commercial sector to observe the operations of factories, pipelines, and other industrial operations. Many of the most capable drones, facilitated by China's industrial policies and support, are in widescale

¹¹ "Commercialized Militarization: China's Military-Civil Fusion Strategy," The National Bureau of Asian Research. June 30, 2021. Link: <https://www.nbr.org/publication/commercialized-militarization-chinas-military-civil-fusion-strategy/>

use across our country. These drones' ability to be used as a surveillance tool by the CCP is widely understood.

In national security applications, China's production of drones and inputs has dominated many areas. Drones have proven to be an effective instrument of war, as is all too evident with the conflict in Ukraine as well as the recent use in the Mideast by Iran, Houthi rebels, and others. We must acknowledge the dangers of the commercial and military use of Chinese-built drones and inputs. Critically, we must address this threat and ensure that our own ecosystem is prepared to meet our needs and those of allies as we seek to protect our economic and national security interests.

AAM agrees with the June 13, 2024, letter by committee leaders requesting that the Department of Commerce expand its proposed definition of "connected vehicle" to include unmanned aerial vehicles (UAV) as part of its recent Advanced Notice of Proposed Rulemaking relative to Information and Communications Technology (ICTS).¹² AAM, too, provided comments on this matter and urged Commerce to expand the proposed definition so that it is not solely limited to passenger autos and light trucks. There are a host of CVs – such as buses, railcars, and other transit applications – which merit inclusion and are under pressure of China's attempts to dominate global markets.¹³ We agree that this rulemaking should address drones.

The urgency to address these threats was recently underscored by FBI Director Christopher Wray, who on April 18, 2024, at the Vanderbilt Summit on Modern Conflict and Emerging Threats in Nashville, warned that risks the government of China poses to U.S. national and economic security are "upon us now" – and that U.S. critical infrastructure is a prime target. Director Wray noted that "the PRC has made it clear that it considers every sector that makes our society run as fair game in its bid to dominate on the world stage, and that its plan is to land low blows against civilian infrastructure to try to induce panic and break America's will to resist... The fact is, the PRC's targeting of our critical infrastructure is both broad and unrelenting... It's using that mass, those numbers, to give itself the ability to physically wreak havoc on our critical infrastructure at a time of its choosing."¹⁴

Policymakers should strengthen, fully implement, and strictly enforce restrictions on the use of tax dollars – including government procurement and the use of grants and other forms of federal assistance – for the purchase of drones from China's state-owned and state-supported entities. Enactment of the *American Security Drone Act* in 2023 was a good first step. As part of the National Defense Authorization Act for Fiscal Year 2024 (NDAA), there are limited prohibitions in place on using the GSA SmartPay purchase card to buy any covered unmanned aircraft systems from covered foreign entities, including the PRC. Congress has already successfully followed this playbook of restricting the use of tax dollars for purchases of critical equipment from Chinese entities across other sectors, including rolling stock buses and railcars deployed in the transit systems of major U.S. cities and at major U.S. airports.

¹² Link: <https://selectcommitteeontheccp.house.gov/sites/evo-subsites/selectcommitteeontheccp.house.gov/files/evo-media-document/2024-06-13%20ICTS%20UAV%20letter%20clean.pdf>

¹³ Link: <https://www.regulations.gov/comment/BIS-2024-0005-0037>

¹⁴ FBI.gov News: "Chinese Government Poses 'Broad and Unrelenting' Threat to U.S. Critical Infrastructure, FBI Director Says," April 18, 2024. Link: <https://www.fbi.gov/news/stories/chinese-government-poses-broad-and-unrelenting-threat-to-u-s-critical-infrastructure-fbi-director-says>

Semiconductors and the Microelectronics Supply Chain

The United States manufactures only about 12 percent of semiconductors, down from 37 percent in less than a generation.¹⁵

With the passage of the *CHIPS and Science Act*, Congress and the Biden administration took a bold and necessary step to advance America’s global leadership in the technologies of the future. Since CHIPS became law in August 2022, companies have privately invested more than \$450 billion across 25 states and announced 83 new semiconductor ecosystem projects and 56,000 direct jobs in the United States semiconductor ecosystem.¹⁶

However, the United States must continue building on this progress by taking additional steps to strengthen its microelectronics supply chain, including domestic printed circuit board (PCB) production. Though semiconductors are the powerhouses of virtually all advanced technology, from cars to smartphones to medical equipment, computer chips cannot work together or with other components until they are assembled onto a PCB. PCBs serve as both a map and a roadway for semiconductors.

America is alarmingly reliant on foreign suppliers for PCBs. At one time, the U.S. produced [more than 26%](#) of the world’s PCBs, but, over the past two decades, domestic PCB production has shrunk to barely 4%.¹⁷ Meanwhile, 90% of the world’s PCB supply comes from Asia, and 56% comes from China alone. This dominance is no coincidence.

In a joint [2022 supply chain review](#), the Commerce Department and the Department of Homeland Security detailed Beijing’s rapid rise as a PCB producer through massive subsidies. The report noted that American PCB manufacturers are “often older than their Asian counterparts” and face a “catch-22 situation where inefficiencies prevent them from winning significant projects, yet the plants cannot upgrade for efficiency without more capital from significant projects.”

AAM directs your attention to the bipartisan *Protecting Circuit Boards and Substrates Act (H.R. 3249)*, which would establish a \$3 billion program, modeled on the CHIPS and Science Act, to fund U.S. PCB factory construction, workforce development and R&D. Additionally, the legislation would provide a 25% tax credit for the purchase of American-made PCBs.

AAM also recommends rigid enforcement of the restrictions on semiconductor technology exports issued by the administration and bolstered by efforts to enlist allies such as the Netherlands and Japan. This should be the first step, and not the last word, in denying the CCP access to key technologies.

¹⁵ “The chip shortage won’t be fixed without major federal investment,” Muro and Maxim. Brookings. Feb. 1, 2022. Link: <https://www.brookings.edu/blog/the-avenue/2022/02/01/the-chip-shortage-wont-be-fixed-without-major-federal-investment/>

¹⁶ SIA: <https://www.semiconductors.org/the-chips-act-has-already-sparked-200-billion-in-private-investments-for-u-s-semiconductor-production/>

¹⁷The Printed Circuit Board Association of America, Link: https://www.pcbaa.org/uploads/1/3/7/8/137883711/pcbba_one_pager-2.pdf

With respect to artificial intelligence and other future innovations, it is essential that U.S. policymakers focus their attention on the entire supply chain for semiconductors – from inputs to production to packaging to testing. Each step of the process represents opportunity for U.S. leadership, but also potential for consequential bottlenecks. In the absence of domestic activity, we must increase visibility into sourcing and production issues across the global supply chain with an eye on economic and national security. We must be fully aware of supply chain risks in real time.

For instance, AAM supports efforts to strengthen U.S. capabilities relative to semiconductor packaging and testing, a long-overlooked process which deserves greater attention because it is a potentially critical bottleneck in the advanced semiconductor ecosystem. We are pleased that the *CHIPS and Science Act* directs dedicated funding to the National Advanced Packaging Manufacturing Program, which will support domestic growth beyond our current 3% share of packaging capacity. This stands in stark contrast to China's 38% share of the world's semiconductor assembly, testing, and packaging.¹⁸

Thank you for your consideration of AAM's views and the opportunity to testify.

¹⁸ <https://www.nasdaq.com/articles/can-the-u.s.-overtake-china-in-advanced-packaging-of-semiconductors>