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Reshoring Chipmaking Capacity Requires High-Skilled Foreign Talent

Estimating the Labor Demand Generated by CHIPS Act Incentives

CSET Policy Brief

CSET
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Executive Summary

The CHIPS for America Act, which became law at the start of 2021, includes funding to incentivize chipmakers to build new capacity in the United States, reversing the decline in the U.S. share of semiconductor manufacturing capacity. This policy brief estimates the workforce demands that CHIPS Act manufacturing incentives will generate. It also estimates the degree to which the required talent is latent within the existing U.S. workforce, or whether it must be sourced from abroad.

Findings suggest that there may be insufficient semiconductor manufacturing talent latent in the U.S. workforce to meet the labor demand generated by CHIPS Act-funded semiconductor fabrication plants ("fabs") in the short term. CHIPS Act manufacturing incentives will likely generate tens of thousands of new jobs, thousands of which will likely need to be filled by immigrants. Experienced, high-skilled foreign talent will be especially needed for engineering roles, where this policy brief estimates that employment could grow by 19 percent over the next decade. Lower-skilled roles will see roughly 11 percent employment growth over the same period.

Given the immediate need for experienced foreign talent that will be generated by CHIPS Act incentives, the United States should explore creating specialized visas for high-skilled workers with significant experience in semiconductor manufacturing and engineering. It would be especially valuable to facilitate the immigration of employees of leading-edge chip manufacturers such as TSMC in Taiwan. These workers possess highly valuable tacit engineering know-how that is best transmitted by providing on-the-job training and mentorship to their American coworkers. As a result, companies such as TSMC will likely seek to transfer many of their employees to any new fabs they build in the United States. The success or failure of CHIPS Act incentives may depend in part on these firms' ability to gain visas for these employees. Allowing Taiwanese semiconductor workers to immigrate to the United States has the added advantage of attracting foreign chipmakers to work in the United States over other countries.

The creation of immigration pathways should be complemented by long-term investments in workforce development to increase the supply of American-born talent in the U.S. semiconductor workforce. Over the long term, investments in workforce development will reduce U.S. dependence on foreign talent and ensure that the demand for engineering jobs generated by CHIPS Act incentives can be met. Options for investment include K-12 STEM education, funded 4+1 programs in semiconductor-related fields, and on-the-job training programs to help graduates acquire the tacit engineering know-how required for many semiconductor manufacturing-related careers.

Assessing sources of semiconductor manufacturing talent

The U.S. semiconductor workforce is strong overall, but its strengths lie in areas like chip design and producing the tools required for chip manufacturing—not in chip manufacturing itself. The following analysis assesses whether the United States has sufficient manufacturing talent latent within the current workforce to meet the new demand generated by incentives authorized by the CHIPS for America Act, which became law at the start of 2021. Results show that a significant increase in high-skilled immigration may be necessary to meet this immediate demand and give manufacturing incentives the best chance of success.

The targeted manufacturing incentives recommended in CSET's report on *Sustaining U.S. Competitiveness in Semiconductor Manufacturing*—a companion to this policy brief—would result in the construction of four advanced logic fabs, zero to five legacy logic fabs, and one advanced DRAM fab over the next decade. Logic fabs generally require 3,000 workers each, while the DRAM fab would require 6,000 workers.[1] Collectively, this report estimates that the fabs incentivized by CHIPS Act incentives may employ roughly 27,000 workers.[2]

Assuming these developments materialize, this analysis suggests that employment in the U.S. semiconductor manufacturing industry will grow by approximately 13 percent over the next decade. Employment growth will vary across different semiconductor manufacturing occupations: the highest-growth occupations will be skilled engineering and software development roles, for which employment will rise by an estimated 19 percent. This would reverse the 0.8% job loss that the U.S. Bureau of Labor Statistics (BLS) currently projects for the industry over the same period (Table 1).

Table 1. Estimated job growth generated by eight new fabs

Occupation	Estimated employment in semiconductor manufacturing industry	Estimated total growth (BLS projections + 27,000 jobs at eight new fabs)	Estimated growth as a percentage of current employment
Engineers and software developers	67,355	12,797	19%
Low-skilled technical workers	41,289	4,428	11%
Managers	6,622	524	8%
Other	69,734	6,607	9%
Total	185,000	24,356	13%

Source: CSET analysis of American Community Survey (ACS) Public Use Microdata Sample (PUMS), 2015-2019, and BLS data, 2019. See Appendix for detailed occupation breakdown. Note that this breakdown likely understates the proportion of skilled engineers required by semiconductor fabs, as it is based on ACS data which includes workers in semiconductor-related industries that require less skilled workers.

To staff 27,000 new positions, the new fabs would likely need to recruit workers from a combination of the following three talent sources:

1. *Other U.S. industries.*[*] This will require retraining and could create worker shortages that reduce the competitiveness of these other industries, among them the federal government, engineering services, and aerospace product and parts

[*] The federal government is referred to as an industry in this paper consistent with the classification system used by the U.S. Census Bureau and the Bureau of Labor Statistics.

manufacturing—all of which are important to national security.

2. *American academic institutions.* The majority of students do not have sufficient work experience for the most in-demand engineering roles at semiconductor fabs, but could acquire some work experience in the two to four years required to build new fabs. Note that much of the talent studying semiconductor-relevant subjects in U.S. universities—particularly at the master's and doctoral levels—is foreign born.

3. *Experienced overseas talent.* Overall, CSET estimates suggest that at least 3,500 foreign-born workers will be required to staff eight new fabs. Some of these workers could be sourced from other industries and U.S. universities, but many experienced workers will need to be sourced from other places such as Taiwan and South Korea. Higher-skilled occupations will likely require higher proportions of experienced foreign talent, while certain lower-skilled occupations may require none.

This policy brief expands on each of these three sources in greater detail below.

Sourcing from other U.S. industries

For certain lower-skilled roles, new fabs may be able to recruit all the talent they require from the existing workforces currently employed in other U.S. industries, without relying on foreign workers. Table 2 shows the industries that employ the largest numbers of workers in semiconductor manufacturing-relevant occupations. Lower-skilled occupations, such as inspectors, testers, sorters, samplers, and weighers, generally have a somewhat smaller percentage of workers within the semiconductor industry, and thus a larger population of workers in other industries from which to source new fab employees. Lower-skilled occupations are also more often associated with industries that have limited relevance to national security, such as temporary help services. Furthermore, as noted above, these lower-skilled occupations will generally see lower job growth over the coming decade (see the Appendix for a breakdown of occupation-by-occupation projections of employment growth).

Sourcing higher-skilled roles from within the United States will likely be more difficult, as well as potentially detrimental to other U.S. industries important to national security. As shown in Table 2, higher-skilled occupations generally have larger concentrations of workers in the semiconductor industry. Workers in these occupations will also require more time to retrain for semiconductor manufacturing jobs, which are often highly specialized. In addition, the industries with large pools of high-skilled semiconductor-relevant talent are important to national security. With sufficiently high salaries, semiconductor firms could likely lure engineers from these industries, which include the federal government, engineering services, and aerospace product and parts manufacturing—but only at the cost of reducing labor availability in these other important parts of the economy.

Table 2. New semiconductor fabs could source workers from other U.S. industries

Broad occupation category	Narrow occupation category	Employment in current semiconductor industry as a percentage of employment across all industries	Industry employing the most workers in this occupation (excluding the semiconductor industry)
Engineers and software developers	Other Engineers	1.5%	Federal government (excluding the U.S. Postal Service)
	Electrical and Electronics Engineers	8.6%	Engineering services
	Mechanical Engineers	1.8%	Engineering services
	Software Developers	1%	Computer systems design and related services

	Materials Engineers	3.5%	Engineering services
	Industrial Engineers, Including Health and Safety	10.4%	Aerospace product and parts manufacturing
Low-skilled technical workers	Other Engineering Technologists and Technicians, Except Drafters	2.2%	Engineering services
	Electrical, Electronics, and Electromechanical Assemblers	16.4%	Navigational, measuring, electromedical, and control instruments manufacturing
	Inspectors, Testers, Sorters, Samplers, and Weighers	2.6%	Temporary help services
	First-Line Supervisors of Production and Operating Workers	1.5%	Plastics product manufacturing
	Other Metal Workers and Plastic Workers	1%	Plastics product manufacturing
	Miscellaneous Production Workers, Incl. Equipment Operators and Tenders	0.5%	Temporary help services
	Other Assemblers and Fabricators	1.1%	Temporary help services
	Electrical And Electronic Engineering Technologists and Technicians	10.6%	Engineering services
	Industrial and Refractory Machinery Mechanics	0.9%	Commercial and industrial machinery and equipment (exc. auto and electronic) repair and maintenance

	Occupational Health and Safety Specialists and Technicians	0.3%	Federal government excl. postal service
Managers	Other Managers	0.2%	Self-employed workers
	Architectural and Engineering Managers	3.9%	Engineering services
	Chief Executives and Legislators	0.2%	Self-employed workers
Other	Sales Representatives, Wholesale and Manufacturing	0.4%	Merchant wholesalers, durable goods

Source: CSET analysis based on BLS data. Note: Red = more sensitive industry. See Appendix for detailed occupation breakdown.

Sourcing from U.S. academic institutions

In the future, higher-skilled semiconductor talent could be recruited from the U.S. university talent pipeline. Recent graduates require years of training from more experienced semiconductor manufacturing engineers to develop the tacit engineering knowledge required for chipmaking. Government support for on-the-job training opportunities at existing fabs could help ease talent shortages as newly constructed fabs begin to ramp up hiring.

However, policymakers should note that many students drawn from U.S. academic institutions will be foreign born. Higher-skilled semiconductor manufacturing jobs frequently require graduate training—for example, in 2018, almost half of all employees of leading semiconductor foundry TSMC had at least a master's degree.[3] And, as shown in Table 3, foreign-born students predominate at the graduate level in semiconductor-relevant programs at U.S. universities. These foreign-born students typically remain in the United States at high rates in the years following graduation,[4] but they will need visas and ultimately permanent residency status in order to secure long-term employment within the semiconductor industry.

Table 3. Many students in the U.S. university talent pipeline are foreign born[5]

Discipline	Bachelor's degrees		Master's degrees		Doctoral degrees	
	Total recipients	Percent foreign	Total recipients	Percent foreign	Total recipients	Percent foreign
Computer and Information Sciences/ Programming/ Computer Systems Analysis	56,090	8%	33,437	73%	1,752	59%
Electrical, Electronics, and Communications Engineering/ Computer Engineering	28,645	12%	18,787	74%	2,686	48%
Mechanical Engineering/ Mechatronics	35,780	9%	8,542	53%	1,507	56%
Physics/Engineering Physics	8,508	8%	2,006	38%	1,909	45%
Chemistry/ Chemical Engineering/ Materials Science/ Materials Engineering	28,903	8%	5,650	44%	4,761	42%
Total	**157,926**	**9%**	**68,422**	**67%**	**12,615**	**48%**

Source: CSET analysis of 2016–17 Integrated Postsecondary Education Data System (IPEDS).

Sourcing from experienced foreign talent

A third option available to the semiconductor industry is recruiting experienced talent currently employed abroad. Table 4 presents CSET's overall estimate of the number of foreign-born workers required to staff eight new fabs, which totals roughly 3,500 workers. Some of these workers can be sourced from U.S. academic institutions; but these students must be trained by more experienced talent, much of which will likely come from fabs overseas. Note that for low-skilled technical occupations such as other metal workers and plastic workers, where job growth will likely be negative over the next decade even accounting for the construction of seven new fabs, CSET estimates that no foreign workers will be required. But for higher-skilled occupations, CSET projects significant demand for foreign workers, particularly among engineers and software developers. (See the Appendix for CSET's estimates of demand for foreign-born workers across specific occupations.)

Estimates in Table 4 likely underestimate the number of foreign workers required to staff eight new fabs, for at least two reasons. First, this brief has likely underestimated the percentage of high-skilled workers, a higher proportion of whom will likely need to be sourced from abroad.[6] Second, a surge in demand may result in a higher proportion of foreign-born workers at new fabs relative to the baseline proportion of foreign talent across the entire industry. This could be especially true in engineering occupations which (1) require substantial academic and on-the-job training; (2) will likely experience especially high job growth over the next decade; and (3) already comprise disproportionate shares of permanent residency applicants sponsored by top semiconductor manufacturing firms.[7] Taken together, it is possible that most job openings at new fabs for these occupations would need to be filled by foreign workers.[8]

Table 4. Estimated foreign workers required to staff eight new fabs

Broad occupation	Percentage of non-U.S. citizens in semiconductor industry	Estimated foreign workers needed to staff eight fabs
Engineers and software developers	22%	2,356
Low-skilled technical workers	11%	384
Managers	9%	67
Other	11%	745
Total	14%	3,552

Source: CSET analysis based on ACS PUMS data and BLS data. See Appendix for detailed occupation breakdown.

Ideally, many of these more than 3,500 foreign workers would be current employees of leading-edge logic chipmakers such as TSMC and Samsung, simply transferring from fabs overseas to these chipmakers' newly-built fabs in the United States. After years of working in advanced fabs, these firms' employees have accumulated tacit engineering know-how crucial to building leading-edge DRAM and logic chips.[9] Indeed, the accumulated know-how residing in the minds of these firms' more experienced employees is a critical competitive advantage in the chipmaking industry. Allowing these firms to transfer some of their employees from South Korea and Taiwan to the United States could increase the likelihood of successful reshoring.

Implications for immigration and workforce development

The preceding analysis estimated that CHIPS Act incentives would likely generate demand for at least 3,500 foreign nationals. While these workers could ostensibly come from anywhere, there are significant benefits to specifically allowing Taiwanese and South Korean workers with semiconductor manufacturing experience to emigrate to work at newly-constructed semiconductor fabs in the United States, and help train employees at these fabs. The number of such visas should be capped so that foreign chipmakers will be incentivized to carefully choose their most critical employees. If sourced primarily from leading-edge chipmakers like TSMC, these workers could bring the specialized tacit knowledge required to successfully operate advanced logic and DRAM fabs, and would considerably increase the likelihood that the CHIPS Act-funded fabs are ultimately successful.

One example of this type of legislation has already been introduced. The Partner with Korea Act would create an allotment of 15,000 E-4 highly-skilled work visas for South Koreans whose prospective employers can demonstrate that U.S. workers are not available to fill their positions.[10] Passing this bill, or perhaps amending it to also include Taiwanese workers, would be one way to achieve the goals of this recommendation.

There is precedent for country-specific visa pathways for workers with specialized skills. The United States already has more than 10 country-specific visas; these are typically arranged as part of trade agreements and can accelerate the immigration process for foreign nationals from a given country. In some cases, visas are only made available for workers from certain educational or work backgrounds. For example, the E-3 visa for Australians is available to "nationals of the Commonwealth of Australia who wish to enter the United States to perform services in a 'specialty occupation'" (as defined for the standard H-1B visa).

Immigration pathways for semiconductor workers should be complemented by long-term investments in developing the pipeline of U.S.-born graduate students in semiconductor-related fields. Careers in microelectronics research and development often require graduate training, whereas careers in software engineering generally require a bachelor's degree or less and offer high starting salaries. Accelerating STEM students' paths toward graduate degrees in engineering, for example through funded 4+1 programs in semiconductor-related fields, could help make other engineering pathways more appealing to STEM-inclined students. Meanwhile, at the K-12 level, investments in STEM education can help grow the number of American students entering undergraduate engineering programs. Finally, on-the-job training programs run by experienced foreign talent could help recent American graduates acquire the tacit engineering knowledge required for semiconductor manufacturing that is not taught in schools.

Conclusion

CHIPS Act manufacturing incentives would generate roughly 13 percent growth in jobs within the semiconductor manufacturing industry over the next decade, with demand concentrated in high-skilled engineering roles. This demand can be met in a combination of ways. First, workers from adjacent industries with relevant skills will move into the semiconductor industry. This will likely help meet demand for certain lower-skilled jobs, but higher-skilled engineering roles generally require semiconductor-specific experience. Moreover, high-skilled engineers are also in demand in adjacent industries such as the federal government or the aerospace products and parts manufacturing industries, which are themselves important to national security.

Second, graduates from U.S. academic institutions will need to be trained to fill new roles opened up by additional fabs built in the United States. But training requires time; and moreover, the majority of graduate students at U.S. universities in relevant fields are foreign born. The United States can and should invest in growing the pipeline of American students in these graduate programs.

Third and finally, experienced semiconductor manufacturing talent will need to be recruited from abroad. This brief assesses that CHIPS Act incentives may require the immigration of more than 3,500 additional foreign-born workers over the next decade, on top of those already expected to immigrate in a status quo scenario. Policymakers should therefore consider establishing an accelerated immigration pathway for experienced fab workers—perhaps specifically for Taiwanese or South Korean workers seeking to work in newly constructed fabs in the United States. Such a pathway should be complemented by long-term investments in growing the pipeline of American students attending graduate school in fields relevant to semiconductor manufacturing, and helping students already in that pipeline to gain on-the-job training in semiconductor manufacturing.

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Appendix

Table A1. Estimated job growth generated by eight new fabs, detailed occupation breakdown

CSET coding	Occupation	Estimated employment in semiconductor manufacturing industry	Baseline job growth predicted by BLS, 2019-2029	Estimated total growth (BLS projections + 27,000 jobs at eight new fabs)	Estimated percentage total growth
Engineers and software developers	Other Engineers	16,853	-0.1%	2,443	14.5%
	Electrical and Electronics Engineers	10,932	10.5%	2,743	25.1%
	Mechanical Engineers	10,658	-0.1%	1,545	14.5%
	Software Developers	7,165	7.9%	1,612	22.5%
	Materials Engineers	12,949	-0.1%	1,877	14.5%
	Industrial Engineers, Including Health and Safety	8,798	14.7%	2,577	29.3%
Low-skilled technical workers	Other Engineering Technologists and Technicians, Except Drafters	6,439	-0.1%	933	14.5%
	Electrical, Electronics, and Electromechanical Assemblers	5,202	-0.6%	728	14.0%

	Inspectors, Testers, Sorters, Samplers, and Weighers	5,562	-20.1%	-306	-5.5%
	First-Line Supervisors of Production and Operating Workers	5,922	-0.1%	858	14.5%
	Other Metal Workers and Plastic Workers	3,395	-10%	156	4.6%
	Miscellaneous Production Workers, Including Equipment Operators and Tenders	2,349	-0.1%	340	14.5%
	Other Assemblers and Fabricators	3,039	-20.1%	-167	-5.5%
	Electrical and Electronic Engineering Technologists and Technicians	3,929	-0.1%	569	14.5%
	Industrial and Refractory Machinery Mechanics	2,631	19.9%	907	34.5%
	Occupational Health and Safety Specialists and Technicians	2,821	-0.1%	409	14.5%
Managers	Other Managers	1,896	-0.1%	275	14.5%

	Architectural and Engineering Managers	1,819	-0.1%	264	14.5%
	Chief Executives and Legislators	2,908	-15.1%	-15	-0.5%
Other	Sales Representatives, Wholesale and Manufacturing	2,412	-0.1%	350	14.5%
	Other	67,322	-5.3%	6,257	9.3%
Total		**185,000**	**-0.8%**	**24,356**	**13.2%**

Source: CSET analysis of ACS PUMS data, 2015-2019, and BLS data, 2019.

Table A2. Estimated foreign workers required to staff eight new fabs, detailed occupation breakdown

CSET coding	Occupation	Percentage of non-U.S. citizens in semiconductor industry	Estimated foreign workers needed to staff eight fabs
Engineers and software developers	Other Engineers	21.5%	525
	Electrical and Electronics Engineers	23.5%	645
	Other Managers	11.2%	168
	Other Engineering Technologists and Technicians, Except Drafters	4.2%	450
	Electrical, Electronics, and Electromechanical Assemblers	17.2%	321

	Software Developers	27.9%	247
Low-skilled technical workers	Inspectors, Testers, Sorters, Samplers, and Weighers	8.3%	39
	First-Line Supervisors of Production and Operating Workers	6.6%	125
	Other Metal Workers and Plastic Workers	13.5%	0
	Sales Representatives, Wholesale and Manufacturing	5.4%	57
	Miscellaneous Production Workers, Including Equipment Operators and Tenders	12.5%	21
	Materials Engineers	17.1%	43
	Architectural and Engineering Managers	13.7%	0
	Other Assemblers and Fabricators	21.2%	37
	Industrial Engineers, Including Health and Safety	9.6%	34

	Electrical and Electronic Engineering Technologists and Technicians	6.5%	29
Managers	Industrial and Refractory Machinery Mechanics	3.7%	31
	Mechanical Engineers	10.9%	36
	Chief Executives and Legislators	12.3%	0
Other	Occupational Health and Safety Specialists and Technicians	7.1%	19
	Other	11.6%	726
Total		**12.6%**	**3,552**

Source: CSET analysis based on ACS PUMS data and BLS data.

Endnotes

[1] Antonio Varas, Raj Varadarajan, Jimmy Goodrich, and Falan Yinug, "Government Incentives and US Competitiveness in Semiconductor Manufacturing" (Boston Consulting Group and Semiconductor Industry Association, September 2020), https://www.bcg.com/en-us/publications/2020/incentives-and-competitiveness-in-semiconductor-manufacturing, 16. Even legacy logic fabs require approximately 3,000 workers each. For example, GlobalFoundries created 3,500 jobs with its non-leading-edge fab in Malta: Charles Wessner, "Clustering for Competitiveness," slide 21, http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_179471.pdf.

[2] This assumes four advanced logic fabs (12,000 workers), three legacy logic fabs (9,000 workers), and one advanced DRAM fab (6,000 workers). This analysis focuses only on fab workers, rather than workers needed to construct fabs.

[3] "Talent Attraction and Retention" (2018 Corporate Social Responsibility Report, 2018), https://esg.tsmc.com/download/file/2018_tsmc_csr_report_published_May_2019/english/pdf/e_CSR2018_ch5_1.pdf.

[4] Data on stay rates of foreign students are most readily available for PhD graduates. Among international graduates who earned their doctoral degrees in the United States between 2007 and 2009, a 2018 study by the Oak Ridge Institute for Science and Education found a five-year post-graduation stay rate of 76 percent among engineering graduates and 77 percent among computer science and mathematics graduates. Michael G. Finn and Leigh Ann Pennington, "Stay Rates of Foreign Doctorate Recipients from U.S. Universities, 2013" (Oak Ridge Institute for Science and Education, January, 2018), https://orise.orau.gov/stem/reports/stay-rates-foreign-doctorate-recipients-2013.pdf.

[5] Table replicated from Will Hunt and Remco Zwetsloot, "The Chipmakers: U.S. Strengths and Priorities for the High-End Semiconductor Workforce" (Center for Security and Emerging Technology, September 2020), https://cset.georgetown.edu/research/the-chipmakers-u-s-strengths-and-priorities-for-the-high-end-semiconductor-workforce/.

[6] This is because this brief has estimated the percentage of workers in a given occupation based on the broad NAICS code 3344, which includes both semiconductor manufacturing workers and workers in related electronic component manufacturing industries that require a less high-skilled workforce. As noted above, roughly half of all employees of TSMC have graduate degrees, suggesting that high-skilled engineering occupations may comprise half of the

employees of leading-edge fabs. In contrast, this brief's estimates assume less than one third of employees are in this category.

[7] CSET analysis of PERM green card data shows that just four occupations—industrial engineers, electronics engineers, materials engineers, and software developers—collectively comprised more than 80 percent of green card applications from 2008-2019 sponsored by Intel, Samsung, and GlobalFoundries (leading operators of advanced logic fabs in the United States).

[8] If, for example, foreign recruits comprised 50 percent of these two occupations at new fabs (instead of the current 23.5 percent and 9.6 percent as shown in Table 6 in the Appendix), the estimated number of foreign workers needed for these two occupations would jump from 891 [= 0.235*2,743 + 0.096*2,577] to 2,660 [= 0.5*5,553 + 0.5*1,749]; if 75 percent were foreign recruits, the number would be 3,990.

[9] Tacit know-how is the hard-to-articulate engineering knowledge that resides in the minds of experienced engineers rather than in written documents. The difficulty of transmitting this know-how makes technology transfer much more difficult, particularly in highly complex industries like the semiconductor industry. See Andrea Gilli and Mauro Gilli, "Why China Has Not Caught Up Yet: Military Technological Superiority and the Limits of Imitation, Reverse Engineering, and Cyber Espionage," *International Security* 43, no. 3 (Winter 2018/19), https://www.belfercenter.org/publication/why-china-has-not-caught-yet-military-technological-superiority-systems-integration-and.

[10] "Connolly-Kim Reintroduce Partner with Korea Act," Congressman Gerry Connolly, May 20, 2021, https://connolly.house.gov/news/documentsingle.aspx?DocumentID=4305. See also Partner with Korea Act, S. 1861, 117th Cong. (2021), https://www.congress.gov/bill/117th-congress/senate-bill/1861/text?r=1&s=2.