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FROM HIGH TECH TO HEAVY STEEL: COMBATING THE PRC'S STRATEGY TO DOMINATE SEMICONDUCTORS, SHIPBUILDING, AND DRONES

Wednesday, June 26, 2024

House of Representatives,

Select Committee on the Strategic Competition Between

the United States and the Chinese Communist Party,

Washington, D.C.

The committee met, pursuant to call, at 11:18 a.m., in Room HVC-210, Capitol Visitor Center, Hon. John Moolenaar [chairman of the committee] presiding.

Chairman Moolenaar. The select committee will come to order.

During the Second World War, America was called the "arsenal of democracy." While our brave soldiers fought on the front lines, millions of men and women labored on the assembly lines to bury the axis under a storm of steel.

Today, the Chinese Communist Party aspires to become an "arsenal of autocracy," repressing a billion people at home and providing authoritarian regimes with the means to wage aggression abroad.

To do so, the CCP seeks to control the key technologies and sectors that will determine future conflicts. We are looking in detail today at three of these: chips, ships, and drones.

Chips, or semiconductors, power everything from the guidance system on missiles to satellites, mobile phones, computers, and cars.

Ships transport cargo around the world and form the navies that can blockade global supply lines or enable invasions. This includes the risk to Taiwan, which would cut off the foundries that produce virtually the entire world's supply of advanced semiconductors.

Unmanned aerial vehicles, UAVs, or drones, will play a key role in the future of civilian and military air power.

In all three, America's industrial capacity has waned while China has gained dominance or is in the process of gaining dominance over each. China added more legacy semiconductor manufacturing capacity in 2024 than the rest of the world combined. And that capacity is expected to grow by a further 13 percent this year alone. With 18 new fabricators set to begin operations, the CCP announced a further $47.5 billion in subsidies in May.

Today, the U.S. accounts for one-tenth of 1 percent of global shipbuilding, while

Chinese shipyards, with nearly 20 percent of their operating costs subsidized by Beijing, accounts for 54 percent.

DJI, a Chinese firm, controls roughly 80 percent of the U.S. commercial drone market. To be clear, our concerns with DJI and PRC control of the drone ecosystem are not about the competitiveness of American companies; rather, congressional concern stems from the PRC having hundreds of thousands of spy-balloon equivalents operating daily across our Nation, not only jeopardizing our homeland but giving the PRC a dominant position in an industry that is already playing a key role on the front line of modern warfare.

Across each of these sectors, the CCP playbook is simple and straightforward; it is consistent. Using a combination of illegal subsidies, hardball tactics, IP theft, and forced labor, the Party gains a stranglehold over the world's most important supply chains.

From Huawei to SMIC, YMTC, DJI, and beyond, it is the same play every time. In fact, we call it the "Huawei playbook." Pick a national champion in a strategic industry; subsidize; employ predatory pricing to offer its products at a massive, anticompetitive price point; expand globally; drive out the competition; then leverage newfound dependencies to advance CCP interests.

Like a football team running the triple option, it is an effective play and it can be hard to defend, but once you see the pattern, you can understand how to defeat it.

We need to install market access barriers in strategic sectors to prevent malign PRC companies from taking over our domestic economy. We need to leverage and build upon crucial authorities to ensure the security of data and communications across our country. We need to cut off access to the U.S. technology and capital that helps fuel PRC national champions in critical sectors. And we need to coordinate with our allies to encourage them to mirror these steps.

Fortunately, there are those of us who have been watching the tape of similar games that threaten similar outcomes. Semiconductors were an American invention. The Soviets copied us. Others underpriced us. There were times when observers counted America out. But as Chris Miller, who is here with us today, has observed and documented in his exceptional book "Chip War," no one has ever been rewarded for betting against America.

We are joined today by Adam Bry, the founder and CEO of Skydio, an American drone manufacturer. American-made technology is safer, higher-quality, and does not come with links to a totalitarian regime. I look forward to hearing Adam's perspective on competing with the CCP's economic warfare.

We are also joined by Scott Paul from the Alliance for American Manufacturing. Scott has seen the CCP decimate the American manufacturing sector, and nowhere is this more costly for our Nation than in our shipyards. The CCP is producing ships at a rate we couldn't dream of here. Though they are made using cheap steel and shoddy market practices, the People's Liberation Army Navy represents a grave threat to the U.S. and our allies.

Our national task is clear: We need to revitalize our domestic industries and those of our allies so we can become an arsenal of democracy once again. We must ensure a reliable domestic supply of semiconductors outside the reach of the CCP, rebuilding our shipbuilding, and clear our skies of Chinese-made drones.

With that, I turn the floor over to the ranking member.

[The statement of Chairman Moolenaar follows:]

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Mr. Krishnamoorthi. Thank you, Mr. Chair.

And thank you to the witnesses.

Thank you to the audience for attending.

"Made in China 2025" was a plan to ensure China took the lead in key industries, including, among others, ships, chips, and drones, by the year 2025. That is next year, by the way. The CCP set global-market-share targets in each sector. In shipbuilding, for example, they set a target to control half the global market by next year, which they have already surpassed.

This wasn't by accident. Xi Jinping has called for heightened restrictions on foreign products sold in China, while trying to, quote, "tighten international...dependence on China." How do they do this? They heavily fund the production of goods far in excess of what their internal demand requires and then export the surplus to other countries at prices designed to undercut the competition. This Chinese practice creates overcapacity, and it makes it nearly impossible for the rest of the world to compete. Thus, the Chinese monopolize markets.

History shows us what happens if we do not respond forcefully. Consider what happened to our glass and steel industries.

Between 2004 and 2008, the CCP gave glass-makers $30 billion in subsidies, including discounted energy and soda ash, the key ingredients to making glass. This led to a sevenfold surge in exports by 2007. As a result, in 7 years -- in those 7 years -- America lost 40,000 jobs in the glass industry.

And then there is steel. China produces almost 108 percent of its domestic demand for steel. That 8-percent surplus may not sound like a lot, but it is equivalent to what the U.S. produces in an entire year. And China produces steel at prices 40-percent lower than what U.S. steel-makers charge.

It is no surprise why: China's largest steel-maker, known as Baowu, is owned by the government and, just like those glass-makers, gets cheap financing and subsidies for coal. China is now the world's largest steel-maker by far, producing more than 12 times the amount of steel that America produces in a single year.

We can't let history repeat itself, but, in some cases, unfortunately we are. Take ships. In 1975, we were the world's number-one shipbuilder. Now, we don't even produce 1 percent of the world's large ocean-going vessels. For every 359 large container ships China builds, we are building 1. That is not a typo. We are building 1 container ship for every 359 the Chinese are building each year.

Or take drones. As this chart shows, China currently controls a whopping 90 percent of the U.S. drone market.

So what do we do about it?

Here is a brief analogy. In a few weeks, athletes from around the world will gather for the Olympics. Some athletes win by breaking the rules, but others win through investing in themselves and becoming the best at their sport. It is the difference between a rigged game and a fair competition.

It turns out that outcompeting the CCP isn't all that different. Because the CCP is not currently playing fair, we need to do two things: One, we need to stop the CCP from breaking the rules. And, two, we have to invest in ourselves to win.

First, we stop the CCP through trade enforcement. For example, USTR recently launched a Section 301 investigation into the CCP's unfair shipbuilding practices, including investigating the overcapacity issue we discussed earlier.

But then it is on us to win the gold. We do this by making smart investments -- for example, the CHIPS Act. The CHIPS Act has led to a surge in new chip factories being announced. And, unlike the CCP, which favors its own Chinese

state-owned enterprises, America is building these chip factories in partnership with others. Just look at TSMC's investments in Arizona or Samsung's investments in Texas. Korean and Taiwanese companies are creating American jobs.

But it is time to consider what else needs to be done in other industries. We can win the gold, but we need to do the work to win the gold.

Thank you, Mr. Chair. I look forward to hearing our witnesses. And I yield the balance of my time.

[The statement of Mr. Krishnamoorthi follows:]

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Chairman Moolenaar. Thank you, Ranking Member.

And if any other member wishes to submit a statement for the record, without objection, those statements will be added to the record.

[The statements follow:]

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Chairman Moolenaar. Our first witness is Mr. Adam Bry. As founder and CEO of Skydio, an American drone manufacturer, Mr. Bry heads a leading consumer and commercial technology company of national-security importance.

Welcome.

Our second witness is Dr. Chris Miller, currently an associate professor of international history at Tufts University. Dr. Miller's research focuses on the intersection of technology, geopolitics, and economics.

Welcome.

And, finally, we are joined by Mr. Scott Paul. Mr. Paul serves as the president of the Alliance for American Manufacturing, a partnership between major U.S. manufacturers and the United Steelworkers Union.

With that, I want to welcome all three witnesses and thank them for being here.

Mr. Bry, you are now recognized for your opening remarks.

STATEMENTS OF ADAM BRY, FOUNDER AND CHIEF EXECUTIVE OFFICER, SKYDIO; CHRISTOPHER MILLER, PH.D., PROFESSOR, FLETCHER SCHOOL AT TUFTS UNIVERSITY, AND SENIOR NONRESIDENT FELLOW, AMERICAN ENTERPRISE INSTITUTE; AND SCOTT PAUL, PRESIDENT, ALLIANCE FOR AMERICAN MANUFACTURING

STATEMENT OF ADAM BRY

Mr. Bry. Thank you. Chairman Moolenaar, Ranking Member Krishnamoorthi, and members of the committee, it is an honor to be here with you today.

We are having this discussion at a critical moment for the drone industry and an inflection point in artificial intelligence. And, as I am sure we will discuss, both of these technologies are increasingly at the center of our national security and our competition with China.

I think autonomous drones are critical for two reasons. One, they are becoming critical tools for many of our most critical industries. And, two, they represent the competitive playing field for leadership in AI robots in general and for leadership in the next century of aviation.

Now, since it bears on the discussion we might have, I would like to be clear up front that if I am an expert in anything, it is drones and AI, not China and geopolitical competition.

My passion for aviation came from my grandfather, who served as a crew chief in the U.S. Army Air Force during World War II, keeping B-17 bombers in the air over Europe. And I grew up flying radio-controlled airplanes, which were the predecessors to drones.

As a grad student in the Computer Science and Artificial Intelligence Lab at MIT, I really became obsessed with trying to build AI software that could fly these systems better than the best human pilots. And when we founded Skydio, we started with a big bet on AI. We essentially build the skills of an expert pilot into the drone so that it can fly itself. And we did this because we felt like that was going to be the key to making these products more useful to more people in more places.

We are now the largest U.S. drone manufacturer and world leader in autonomous flight. Our products are used to inspect the energy grid; they are used to ensure the integrity of our bridges and our transportation infrastructure; they are used to deescalate the most dangerous situations in public safety with minimal use of force; and they are used to give our soldiers better situational awareness on the battlefield.

Now, competition with China plays out in every sector that we serve, but I think the military use of drones and the use of drones in Ukraine is instructive. I actually had the chance to visit Ukraine and meet with many of their drone operators. And they don't do anything without putting a drone in the air. They use drones to deliver strikes. They use drones to surveil the battlefield. They use drones to inspect buildings that have been damaged, to document Russian war crimes.

Skydio has delivered over 1,000 drones to Ukraine, but our Chinese competitors have delivered over 100,000 systems. Now, the Ukrainian dependence on Chinese drones is extremely fragile. These are fundamentally a hostile platform. They have to hack them to stop them from giving away their position to the Russian adversaries. And the Chinese are increasingly using export controls to restrict the flow of drones into Ukraine.

Now, our latest-generation drone, the Skydio X10, which we have here today, has some real breakthroughs in AI that make it much more resistant to Russian electronic

warfare. And the Ukrainians have requested thousands of these systems for use on the front lines and elsewhere.

Before we move on to questions, I would like to leave you with two big ideas, two key thoughts.

One is that, as important as drones are today, the technology is really still in its infancy, and it is going to become far more important over time. It is really going to become, I think, bedrock infrastructure for many of our critical industries -- responding to 911 calls automatically, in seconds, well ahead of how quickly responding officers on the ground can get there; persistently inspecting the energy grid in an automated fashion to keep the lights on. And I think it would be really insane to accept a future where we are dependent on our adversaries for technology this critical.

But I think the second really important idea is that U.S. companies can compete and win. I think Skydio is proof of this. The shift to AI and the increasing importance of software on these devices plays to our strengths. And we are also fortunate now to have an increasingly strong group of U.S. peer companies doing everything from tactical SWAT drones to drone delivery. And I am 100-percent confident that, as an industry, as a U.S. industry, we can meet the need and the opportunity.

And I think you all have an opportunity to help support this and ensure that the future of this industry is built based on U.S.-made drones. And the path to do that comes through supporting end users in public safety and critical-infrastructure operators; I think, also, scaling our own military's use of drones to reflect the reality of the modern battlefield, what we are seeing in Ukraine.

And then I think the most pressing opportunity and the most pressing need is to supply U.S.-made drones where they are needed most: on the battlefield in Ukraine.

Thank you.

[The statement of Mr. Bry follows:]

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Chairman Moolenaar. Thank you very much.

Dr. Miller, you may proceed.

STATEMENT OF CHRISTOPHER MILLER, PH.D.

Mr. Miller. Mr. Chairman, Mr. Ranking Member, members of the committee, thank you for the opportunity to testify for you today.

Over the past several years, the United States, as well as allies, have taken a series of steps in the sphere of advanced semiconductors to ensure U.S. technological leadership and to guarantee that advanced technologies are not falling into the hands of adversaries and, in particular, the People's Republic of China.

What I would like to do today is focus our attention not on the most advanced chips, important as that issue is, but rather on the foundational semiconductors that enable almost every other segment of modern economy.

Now, as the phrase "foundational semiconductors" suggests, modern economies are the technological foundation of contemporary industries. Almost every sector of the U.S. economy today only functions because it has access to not just dozens but often hundreds of thousands of foundational semiconductors per system. Whether it is toys or tractors, whether it is ships or drones, whether it is military systems or automobiles, we rely on more and more foundational chips to undertake absolutely critical functions.

If you think about a modern car, for example, it could have a thousand semiconductors inside, and almost all of those are foundational chips -- chips that don't use the most advanced manufacturing technologies but nevertheless provide critical functions. Moving your window up and down, that is a function provided by a foundational semiconductor. Moving windshield wipers back and forth, that too is a

foundational chip. Deploying the airbag in case of an accident, you need a chip for that. Managing the automatic braking system requires multiple foundational semiconductors.

And so, just in the automobile industry alone, we have an extraordinary reliance on foundational chips. And autos aren't unique. In fact, we have put more and more chips in more and more types of products almost every single year.

Today, most of the world's advanced chips, as well as most of the world's foundational chips, are produced in either the United States or in allied or partner countries. When it comes to the foundational segment, the United States is a major producer of foundational chips, with very efficient and profitable firms producing in an economic manner. Our allies like Japan, European countries, Korea, Taiwan, Singapore, and others are major producers of foundational chips as well, and they have been reliable suppliers to U.S. industry for some time.

But if you look at investment trends now in the industry, focusing in particular on the foundational segment of the chip industry, the biggest investor by far is the People's Republic of China. And investment is coming partly from ostensibly private-sector firms but largely from the Chinese Government, which has poured billions and billions of dollars, far more than the United States has invested, far more than any other country is investing, into its chip industry, with a focus in part on advanced chips, but, actually, if you trace the dollars invested, even more are going into foundational-chip-making facilities.

If you project current trends forward, China is poised to see its share of the foundational chip market increase dramatically. And some of these chips will be sold into Chinese markets, but many will be sold into Western markets unless policy changes. And this, I think, presents two main risks for the United States, for our economic security as well as for the manufacturing base.

The first risk, which we are already seeing today, is that Western firms, including U.S. firms, will invest less because they are fearful of their ability to produce profitably in the market if Chinese firms are investing in non-economic manners.

And the reality is, we already see evidence that investors in U.S. firms are advocating that CEOs spend less on capital investment in the United States because they are fearful that investment will not be profitable because Chinese firms are producing in non-economic manners. It is already happening today. And I think that makes the case for acting today to address this challenge.

The second risk is that if we don't act and we become more reliant on foundational semiconductors that are sourced from China, this puts our economic security and our national security at risk. I haven't yet mentioned the role of foundational chips in military systems, but military systems are just as dependent on foundational semiconductors as the rest of the economy.

And, moreover, we have seen China already use export controls as a means of developing coercive tools against the United States and its adversaries -- and our allies, excuse me. China is already deploying export controls in semiconductor materials like gallium and germanium, trying to harm the ability of U.S. firms and allied firms to produce the volumes that we need. And it is not at all difficult to imagine, in the sphere of foundational semiconductors, Chinese firms doing the same, restricting access to U.S. manufacturers' ability to source the chips that they need. If we become more reliant on Chinese-made chips, this risk only increases.

And I will just, as a final point, highlight the supply-chain shortages of the pandemic to illustrate the cost of losing access to foundational chips. During the pandemic, supply-chain issues caused relatively small shortages of foundational chips that created hundreds of billions of dollars of economic damage because cars and tractors and

hearing aids and medical devices couldn't be produced at sufficient quantities.

This is a severe risk, I think. It is already present now in the decisions of U.S. firms' investment in the United States and in allied countries, and it is going to get more severe if we become more reliant on foundational semiconductors produced in China.

Thank you for the opportunity to testify, and I look forward to your questions.

[The statement of Mr. Miller follows:]

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Chairman Moolenaar. Thank you.

Mr. Paul, the floor is yours.

STATEMENT OF SCOTT PAUL

Mr. Paul. Thank you, Chairman Moolenaar, Ranking Member Krishnamoorthi, and members of the select committee. I appreciate the opportunity to testify at today's hearing.

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, our June 2024 report entitled "Shockwaves" reminds us of great American industries, like glass, paper, and tires, that have been decimated because of China's massive industrial overcapacity.

Relevant to today's hearing, we are now clearly seeing other critical sectors, ranging from shipbuilding to semiconductors and drones, that 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, so 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.

Today, I am here to focus primarily on China's maritime, logistics, and shipbuilding policies.

Our Nation has fallen frighteningly behind China as a 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, to project our strength, and to 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.

But in the 21st century, the People's Republic of China's approach to bolstering its own domestic shipbuilding capabilities threatens this prosperity as well as the remaining shipbuilding jobs in the United States.

Today, China controls over half the world's shipbuilding and began construction on nearly 1,800 large ocean-going vessels in 2022. During the same year, the U.S. 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.

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 aging fleet, coupled with our dependence on foreign shipbuilders, puts our broader supply chain at risk.

Investing in our domestic commercial fleet and in manufacturing more broadly would help to shore up our economic security and bolster our naval and national-security capabilities. But, 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. China's shipbuilding capacity has been turbo-charged through a series of efforts aligned with 5-year plans dating back more than two decades.

Some of the support for Chinese industry identified in the Section 301 petition

include policy loans from state-owned banks, equity infusions of 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.

Shipbuilding was identified as a pillar industry in the "Made in China 2025" scheme. Beijing sought nothing short of dominating global commerce.

There are also valid concerns about foreign capital and technology flowing into Chinese dual-use shipyards. China has sought this transfer of technologies sometimes through means that are unfair or illegal, such as intellectual property theft, to help bolster its naval build-up, a goal laid out in the 13th national 5-year plan of 2016.

Things are so bad today in our country that our own Navy must rely on Chinese-made dry docks in certain circumstances.

The practices I referenced have allowed China to capture a massive portion of global shipbuilding orders, with reports indicating that China secured 76 percent of such orders globally in April 2024 alone. This dominance in the market continues to have detrimental effect on shipbuilders in other countries, including in the United States.

Any hope of rebuilding these strategically significant sectors requires decisive action. For all these reasons, AAM strongly supports the ongoing USTR Section 301 investigation into China's maritime, logistics, and shipbuilding sectors. 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.

Thank you.

[The statement of Mr. Paul follows:]

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Chairman Moolenaar. Thank you.

And thanks again to all our witnesses.

In the interest of getting through a number of questions, I am going to ask each of you to be as brief as possible in your responses.

But I wanted to start with Mr. Bry.

In your testimony, you write that the Chinese Communist Party, the Chinese Government, has poured resources into national champions in the drone sector.

To clarify, by this, do you mean state-sponsored subsidies that have artificially reduced the cost of drone production? Is that correct?

Mr. Bry. Yes, Chairman. That is my understanding based on publicly available information.

Chairman Moolenaar. And have these state interventions led to market distortions and overcapacity that has affected the U.S. and partner company market share in the drone industry?

Mr. Bry. Yes, Chairman. I mean, I think the Chinese Government recognized the strategic importance of drones and pretty clearly invested to support their industry there.

Chairman Moolenaar. And if these distortions continue without action by the U.S., will there be alternatives to PRC drones in the decades ahead?

Mr. Bry. Well, sir, I am an engineer, and we come at this from a product perspective. I mean, our goal is to build the best products in the world right here in the U.S. I will say that competing head-to-head with Chinese companies that are supported directly by their government is extremely difficult.

And the national-security stakes, I think, are enormous. I mean, these are the ultimate data-capturing tool for all kinds of critical industries.

Chairman Moolenaar. So what I hear you saying is, this would pose a significant national-security risk. Is that correct?

Mr. Bry. Yes, sir, I believe that is the case.

Chairman Moolenaar. Okay. Thank you.

And, Dr. Miller, the same questions about the chip industry. Has the PRC directed subsidies to the chip industry, particularly when it comes to legacy chips, that have artificially reduced the cost of production?

Mr. Miller. Yes, it has.

Chairman Moolenaar. And have these state interventions led to market distortions and overcapacity affecting the U.S. and partner company market share?

Mr. Miller. Yes, there are widespread market distortions.

Chairman Moolenaar. If these distortions continue without actions by the U.S. Government, will there be alternatives to PRC products in the decades ahead?

Mr. Miller. There is a risk of becoming excessively dependent on PRC suppliers.

Chairman Moolenaar. And how would this affect our national security? Would it pose a security risk?

Mr. Miller. This would have direct implications for U.S. economic and national security.

Chairman Moolenaar. Okay. Thank you.

And, finally, Mr. Paul, has the CCP directed heavy state subsidies to its shipbuilding industry to artificially reduce the cost of shipbuilding?

Mr. Paul. Yes, Mr. Chairman. It has consistently done so for at least 20 years.

Chairman Moolenaar. And have these state interventions led to market distortions and overcapacity?

Mr. Paul. They have led to massive global distortions in the shipbuilding sector.

Chairman Moolenaar. And if these distortions continue without action by the U.S. Government, will there be alternatives to PRC products in the decades ahead?

Mr. Paul. There will be diminishing alternatives, and this represents a concern not only to the United States but also to many of our allies as well.

Chairman Moolenaar. And how does this affect our national security?

Mr. Paul. Shipbuilding is a clear case where there are dual uses. There is crossover in terms of the supply chain, in terms of the surge capacity, and also in terms of the workforce and our strategy. The maritime sector of the United States -- the commercial and the military aspects have been intertwined since our founding. So, yes, indeed, there would be.

Chairman Moolenaar. Okay.

What our witnesses have just attested to is the CCP's go-to strategy: building government-subsidized monopolies that sell into a protected domestic market, produce products at below-market prices, exponentially scale their production capacity, then dump that overcapacity on global markets to taint prices and drive competitors out of the market -- all in the service of the CCP's interests.

For chips, ships, drones, and beyond, it is the same play every time. And that playbook has now been exposed, and it is up to us in Congress to counter it.

I will now recognize the ranking member for 5 minutes of questions.

Ranking Member Krishnamoorthi?

Mr. Krishnamoorthi. Thank you, Mr. Chair.

I am going to start with the topic of ships. The number of major U.S. shipyards has gone from 27 to 8. And, today, we currently don't sell any American ships to China.

But China's shipbuilding industry has skyrocketed. In 2002, as this chart shows, China controlled 8 percent of the global shipbuilding market. Today, they control

51 percent, more than the rest of the world combined.

The growth came from the CCP's strategy to dominate global shipbuilding by excluding foreign ships from its market while giving its own state-controlled shipbuilders massive grants and guaranteed funding.

In fact, Mr. Paul, its largest shipbuilder is -- guess what -- the China State Shipbuilding Corporation. And it gets billions in equity infusions from the CCP but regularly operates at a loss, correct?

Mr. Paul. That is indeed correct.

Mr. Krishnamoorthi. State-owned shipbuilders are also building ships for China's military. As you can see here, over two decades, China's Navy almost doubled in size, from roughly 180 ships to roughly 360 ships today, while America's Navy has flat-lined. The gap between our number of ships and theirs is widening dramatically.

This committee has repeatedly talked about the importance of deterrence for preventing conflict. But gaps like this, between the Chinese Navy and the American Navy, don't exactly deter Xi Jinping from starting a conflict, potentially over Taiwan or the South China Sea.

So, Mr. Paul, if we don't reinvigorate our shipbuilding industry, this gap is very hard to narrow and potentially invites aggression, correct?

Mr. Paul. It certainly does.

We have four operating military naval shipyards right now, just in addition to the commercial shipyards. So our capacity has been extraordinarily diminished, and it presents us with a clear and present risk to --

Mr. Krishnamoorthi. And the Chinese know that.

Mr. Paul. The Chinese absolutely --

Mr. Krishnamoorthi. And so this is inviting aggression. We have to change this

for, if no other reason, national-security purposes.

Let me turn to the topic of chips. If ships are the backbone of global sea power, chips are the backbone of modern life. Chips are so important to our competition and the competition is so intense that Mr. Miller wrote this book called "Chip War."

Now, to win this war, among other things, China wants to, A, become the world's dominant producer of foundational or legacy chips and, B, drive American chip-makers out of its market for those same legacy chips.

Now, I have another chart here. As you can see, the CCP is poised to double its capacity by 2030, between now and 2030, to produce these legacy chips.

Mr. Miller, if the PRC succeeds, these chips will absolutely flood our market, right?

Mr. Miller. These chips will certainly arrive in large scale in American markets.

Mr. Krishnamoorthi. It is the exact same, as the chairman alluded to, playbook that we saw decimate our ship and steel industries.

One tool to stop this surge of legacy chips is something called Section 421. It is a trade tool that allows us to impose targeted, quicker countermeasures against CCP market disruptions. But, unfortunately, it expired in 2013.

Now, Mr. Paul, I believe it is time to revive and modernize Section 421. What do you think?

Mr. Paul. I couldn't agree more. It is one of our recommendations. It would be a smart move by the Congress.

Mr. Krishnamoorthi. Well, Mr. Chair, I think we should usher this particular safeguard through Congress in this and future Congresses as well.

Finally, I want to shift to the topic of drones.

American companies don't really sell drones to China. On the other hand, Chinese companies dominate our market. One Chinese company, DJI, accounts for 90

percent of the U.S. consumer market for drones.

DJI dominates our market because they are cheap, thanks to massive backing from the CCP, including equity investments from government-controlled funds. Just to be clear, the government invests in Chinese drone companies. Here is one we found on a popular website today for 300 bucks, okay?

Mr. Bry, I actually brought one of your drones today. This is the Skydio 2+. I am sure that you recognize this. Unfortunately, this sells for over $1,000 for consumers.

Now, Mr. Bry, this $1,000 is quite a bit more than the 300 bucks that you can buy a DJI drone for, right?

Mr. Bry. That is correct, sir, yes.

Mr. Krishnamoorthi. Now, today, I guess it is no surprise that Skydio pulled out of the U.S. consumer market last year.

But across all three sectors, Mr. Chair, the CCP plan is very much the same: They deny access to our markets, and then they flood our markets -- I am sorry. They deny their market to our companies, and then they flood our market with their products, cheaply produced, cheaply made, and heavily subsidized by the CCP.

We have to take action on this.

I yield back.

Chairman Moolenaar. Thank you, Ranking Member.

And, with that, we will go to Representative Wittman.

Mr. Wittman. Well, thank you, Chairman Moolenaar.

I want to thank our witnesses for joining us today. This is incredibly important for our Nation, especially for our future.

Mr. Paul, let me go to you first.

I think it is very telling, where we are today with American shipbuilding. We led

the world at one time. We know, historically, that the nation that rules the seas through shipbuilding is the nation that has the economic advantage. I would argue that we are at a precipice of where we have to be on the path to reestablish our maritime-nation status. We are not on that path right now.

We know that the Chinese have about 235 times more shipbuilding capacity than we have. That, to me, is disturbing, not just on the military side but on the domestic side. You know, we have a requirement here in the code that says we are going to build 355 ships. You know, we have struggled to get above 295 in the past 5 years. We are not on path to get there. The Chinese are.

And it used to be we could make the argument that, while they may have more ships than we have, our ships are better. You look at a Luyang Destroyer today, it is every bit as capable as a DDG 51 Arleigh Burke class.

That being said, the big thing is, how do we get there?

I think there are a lot of impediments. I think the things like environmental requirements -- I mean, if you look today at what you would have to do to establish a new shipyard, it would be incredibly difficult. I was at Newport News Shipbuilding yesterday talking about the issues most important to them -- workforce number one for them, workforce.

I want to get your perspective. What do we do in the regulatory realm to be able to bring down barriers, to be able to build more capacity? And we need that. What do we do to really encourage and prioritize shipyard workers?

And you have heard here recently where Hanwha, a South Korean company, wants to buy Philly Shipyard. So the question is, what do we do in looking at foreign partners that are our friends to build capacity quickly here? And this is on an existing footprint, so we don't have to worry, necessarily, there about the environmental issues.

Mr. Paul. Mr. Wittman, thank you so much for your question.

And I have deep appreciation for the work at Newport News and at HII and the workforce there. It actually stands out to me as one of the models for an apprenticeship program. And the ability to scale that up is going to be very important as we look ahead to try to replicate this, if we truly do want to lift up our capacity.

I think this involves two steps.

One is to identify the unfair trade practices of China and to respond to those. The Section 301 petition is one of those mechanisms. And I think that is very important so that there is a disincentive for the commercial sector to utilize those heavily subsidized chips. It is a very novel approach, because it is not a traditional kind of trade case, but I think it is very important.

And I think the second aspect of that is to use some of the revenue that could be generated to lift up workforce training to provide a stable market for the United States and to shift some of those shipyards that are currently doing repairs into building ships again, into creating that demand. And there are demand mechanisms that are identified in that petition that I think would be important as well.

It worries me that, in tonnage terms, that China could soon surpass the United States from a naval perspective, because that has always been the determinant in who is able to command the seas. So this is an incredibly legitimate concern.

Mr. Wittman. Mr. Paul, thank you.

Dr. Miller, I want to go to you. Listen, your "Chip War" book is spot-on. And we focused here on saying, let's build the manufacturing plants, let's build those legacy chips, let's do that. I think we have gotten the cart before the horse. Because what is happening today, as you talk about, is, the base components in chip manufacturing -- gallium. China controls 100 percent of the world's sources of gallium,

96 percent of the world's sources of germanium.

You know, and even if we want to do that -- and China is now not only going to overprice that but they are also going to restrict how we are able to access those materials. We have done nothing in the realm of extraction and refinement of rare earth elements. We are whistling past the graveyard on this. There is one company in the United States that extracts and refines rare earth, and they are struggling to compete against China.

Tell us, how do we get to the very base element, and that is, making sure that we are, in the United States, producing critical minerals and rare earth elements? Because without that, we can build all the semiconductor plants in the world, but with no source materials, this is a fool's folly.

Mr. Miller. Representative, I completely agree that production of gallium and germanium, as well as rare earths, has been an extraordinary challenge. And the challenge has been driven by the exact same playbook that China has deployed in this segment; it has been deployed in materials as well -- state-subsidized production, no environmental rules in China, and a large state role in the setting of prices and also supply of minerals that makes it impossible to profitably produce outside of China.

This is an area where I think policy ought to focus, because, as you say, it is relevant not just for minerals production but also for the chip and electronics industries.

Mr. Wittman. Thank you, Mr. Chairman. I yield back.

Chairman Moolenaar. Thank you.

Representative Stevens?

Ms. Stevens. Well, thank you, Mr. Chair.

And I would just say that what we are homing in on here, particularly with regard to shipbuilding/manufacturing capabilities, our Merchant Marines, and our naval

resources, is an absolute outrage. And it is not acceptable.

And I want to grill you, right? I want to ask, how did we get in this place? Why are we so reliant on foreign countries, particularly China, for Merchant Marines? When is the last time we built a ship here?

I have, in the last year, been to Japan. I went to the Yokosuka base. I saw our amazing naval operation over there. It is an over-50-year-old ship. As somebody who is very tied to manufacturing, spends a lot of time with manufacturers and in manufacturing plants, I love seeing the decades-decades-decades-old equipment, because it was built by incredible craftsmanship, and it still works.

And so that is what we saw in Yokosuka. You know, this is a ship that has been reconfigured, that has been brought into the digital age, but it was made a long time ago. And we also know that if it needs to get repaired, it has to go all the way over to the other side of the world, back to the United States, to get repaired.

This past week, I was doing meetings, NATO meetings, in Portugal. And the same thing: a nearly 50-year-old ship, built in Newport News, American-made.

So this is really incumbent on us and this committee to double-down on the catching-up activities that we took with the CHIPS and Science Act. And, you know, I played a key role in that, loved being a part of it. Happy we got it done.

Completely agree with my colleague from Virginia; we are not going to be able to have a vibrant manufacturing sector if we don't have access to the critical materials and critical minerals. We need to replicate what is working through public-private partnership and the like for 21st-century American industrial competitiveness.

But the alarm bell is ringing. And it is really ringing in the ship industry. And, frankly, Mr. Chair, I would love to just do another one on ships and what is going on with our Merchant Marines.

Now, Mr. Paul, after I have said all this, can you just go back -- and you did a beautiful testimony. We always appreciate your words here. How did we get in this spot? And how weak are we really, particularly with Merchant Marines?

Mr. Paul. Thank you for the question, Ms. Stevens. And appreciate your support for manufacturing.

In a nutshell, but -- it was a two- or three-step process.

Step number one, we did stop investing in our own shipbuilding in the 1980s as part of a -- part of a philosophical chain. It is important to point out, by the way, that Adam Smith was like, free trade is important, but you have to invest in your own ships, because they are essential and they are expensive.

So we did that. Others took advantage. And this is the thing. China came in and, again, through a series of 5-year plans, identified shipbuilding as a pillar industry, poured hundreds of billions of dollars into it. And you think of all the materials that go into the ships, too, and how they are subsidized. So it is subsidy on top of subsidy on top of subsidy. And they would stop at nothing to do that.

And so we need to respond to that through the Section 301 petition. And we need to restore some shipbuilding investment in technology, in workforce, and in getting those shipyards from repair --

Ms. Stevens. Does the AUKUS --

Mr. Paul. -- into building.

Ms. Stevens. -- arrangement give us any opportunities? I know that is nuclear submarines. Pillar 1, pillar 2 is, you know, on innovation and technology. But part of it -- you know, as I was looking at your testimony, we talk about -- and you said this here to us verbally -- the well-paying jobs.

Mr. Paul. Yeah.

Ms. Stevens. And, obviously, you know, we are proud of that. We have this going in Michigan, Detroit. You know, thank you, President Biden. Detroit is at its lowest levels of unemployment in 50 years. My district is at 2-1/2-percent unemployment.

You know, you are a part of the skills-gap conversation and the workforce needs. And yet I start to look at this, and I am thinking, well, where is the talent going to come from? Where is the workforce going to come from?

And something that AUKUS is showing us is that we might be able to work with allies more strategically to build these puppies. I don't know if there is opportunity with that.

I am not trying to say we don't want to have it built here, but we have to -- I mean, we have to be strategic and we have to move. 2025 is around the corner. You know, we are sailing into a whole new period of time. And if we don't have a Merchant Marine, if we don't have naval ships, we are just ceding way too much ground.

And the American people -- we appreciate the audience here, but the American people think we are the best. They assume we are the best. It is pride and joy, you know, as we enter summer season, kicked off by Memorial Day, and seeing all -- you know, saluting our troops, recognizing the fallen, and this and that. But we have got to get serious.

I am over my time, Mr. Chair, but thank you for the phenomenal hearing. I yield back.

Chairman Moolenaar. Thank you.

Representative Luetkemeyer?

Mr. Luetkemeyer. Thank you, Mr. Chairman.

In one of the Washington papers today, the Washington Times, the headline is,

"Get China Out of America's Military Supply Chain." That is in today's paper. Pretty timely.

As you go through here, it talks about all of the different components for different airplanes that are produced in China, including our own Air Force planes that are produced.

One of the comments in here is that "Wall Street also remains complicit in propping up China producers," because "there are literally thousands of Chinese entities present in U.S. capital markets, including a wide array of Chinese companies that continue to hide their books from American investors. With Wall Street's help, Beijing is using America's financial markets to raise funds for its state-owned companies -- an advantage that many U.S. producers don't have. It's time to delist these companies from U.S. exchanges."

Mr. Paul, you mentioned a minute ago the amount of money that we need to be investing in ships. Are we financing China's shipbuilding right now, with our own money going over there?

Mr. Paul. I would say that is a possibility indirectly because of the nature of the supply chains involved with shipbuilding, if you think of all the materials and technologies that go into it, and once you get down to those tiers, it is entirely possible.

I mentioned in my testimony, we depend on Chinese-made dry docks for ship repair for some of our naval vessels. That seems to be a vivid example. Yeah.

Mr. Luetkemeyer. Mr. Miller, from the standpoint of chip manufacturing, we passed a bill, you know, the CHIPS Act, to try and incentivize people to come back and put the money here.

Are we continuing to invest in China to be able to allow them to invest in their chip industry, as opposed to our own?

Mr. Miller. Representative, I think investment flows into China's chip industry have declined substantially. The new outbound investment restrictions will put further limitations on any investment into the Chinese chip --

Mr. Luetkemeyer. So there are ways to do this so that we can keep the money from flowing from U.S. investors to the Chinese markets to be able to have them compete against our own companies and own products here.

Mr. Miller. That is correct.

Mr. Luetkemeyer. We need to be looking at that, I would think. Don't you think?

Mr. Miller. I agree.

Mr. Luetkemeyer. You know, the article here said we should delist some of these companies from U.S. exchanges. That is one way to strangle the money from going to these different entities over there. I -- would you agree?

Mr. Miller. I think that is one approach. I think there are multiple approaches being --

Mr. Luetkemeyer. Okay. What are some of the multiple approaches? How do you incentivize people to stay here versus go to China?

Mr. Miller. I think the restrictions coming into force on venture-capital investment in China is another example of an approach that will reduce investment into the Chinese chip ecosystem.

Mr. Luetkemeyer. I know that -- you know, Mr. Bry, you deal in drones. And I know, I have a constituent who has one of the Chinese drones, and he uses it for crop dusting. It is kind of a new way of going about things. Instead of a plane, he uses a drone.

And I think the administration has outlawed those drones from the standpoint of

the military since, I think, 2017, I believe it is, but they came out recently to try and outlaw that for American citizens, to begin no longer being able to purchase those.

And one of the things they are going to do is probably tariff those things and then take -- there is a bill right now that says that they want to tariff these kinds of activities and then use that to incentivize buying American-made drones.

How effective do you think that would be?

Mr. Bry. Oh, I appreciate the question, Representative.

I mean, I think measures like what you just described make a huge amount of sense. You know, we win as a company, I think, by leveraging innovation and free markets. And so placing tariffs on subsidized products coming from our geopolitical competitors and using the funds from that to let end users pick the best secure products and technology, I think, makes a huge amount of sense.

Mr. Luetkemeyer. So the point is, if you are going to tariff drones, why don't we tariff chips? Would that be a way to incentivize the industries, the markets, to be developed here?

Mr. Miller. Well, I think there is substantial discussion under way right now on this exact topic, whether there should be higher tariffs on semiconductors.

Mr. Luetkemeyer. Well, it would appear to me, if it works for drones, it would work for chips. And we need to be taking a look at that as a way to incentivize investment being here so we can do something.

Very quickly -- I have about 30 seconds left -- Mr. Bry, artificial intelligence is a really big deal. I know it is really incorporated a lot into drones.

Would you want to elaborate just a bit on that as a competitive advantage or disadvantage with regards to Chinese production?

Mr. Bry. Yeah. It is a great question, sir.

I think the most important thing for people to understand is that, as important as these products are now, they are becoming way more powerful and way more important.

And it is a combination of two things. It is, one, the drones becoming AI-driven themselves so that they can fly themselves, and then, two, cloud connectivity. So our latest-generation drones have 5G modems built in, they connect to the cellular network, which greatly expands their reach.

And so I think, whatever the stakes are today, they are just going to go up, from a national and a cybersecurity standpoint. And so, if we are going to act, now is the time to do it.

Mr. Luetkemeyer. Okay.

My time is up. Thank you, Mr. Chairman. I will yield back.

Chairman Moolenaar. Thank you.

Representative Auchincloss?

Mr. Auchincloss. Thank you, Chairman. Terrific hearing so far.

I actually want to carry that thread that my colleague just mentioned about drones.

One of the successes of the last 6 to 12 months for Ukraine has been their use of drones in the Black Sea to push back the Russian Navy.

And I am wondering if you could talk to us about what U.S. industry can do with our allies -- not just Ukraine, but Estonia, Poland -- to double-down on investments in maritime autonomous drones for use in establishing maritime supremacy and freedom of navigation in the Black Sea but ultimately in the Indo-Pacific as well.

Mr. Bry. Yeah. It is a great question, Representative.

I mean, I think that the level of innovation, drone innovation, in Ukraine is astounding. Like, they use drones for everything all the time. They have a burgeoning

industry there.

I think the most important thing for us to do is to recognize that. And the products that are being used on the front lines in Ukraine are the ones that are going to mature the fastest and be the most competitive on the global stage.

So, you know, I think the opportunity is to surge in and supply U.S.-made products to the Ukrainians to help them in their fight against Russia and also force our products to be on the leading edge of technology and competition.

Mr. Auchincloss. It seems like doing that requires sort of this threading together of capital, expertise, and then this sort of living laboratory to get feedback loops about what is working and what is not.

Of those three things, what are we missing right now? I think we have enough money, right? But is it the expertise? Is it the feedback loops from the battlefield to the technologists?

Mr. Bry. I mean, the question I would ask is, is the money aimed at the right thing? I mean, you know, there is a lot of money available to fund supplies for Ukraine. To date, very little of that has gone towards drones.

Mr. Auchincloss. Yeah. And the Pentagon's Replicator program is not funded, right?

Mr. Bry. I mean, I think it is funded at a very low level --

Mr. Auchincloss. Yeah.

Mr. Bry. -- but -- yeah.

You know, I think that there is a lot of momentum and sort of talk about we need more small, smart, attritable systems. I think putting the dollars toward systems going to Ukraine is where I see the best opportunity to make that real.

Mr. Auchincloss. I have heard that repeatedly. We are not putting the advance

market commitments down for actual swarms of drones, maritime and aerial. We have to get serious about actually buying these things at scale.

Mr. Bry. Yeah. I think -- I -- buy them at scale and send them to Ukraine.

Mr. Auchincloss. Yep.

Let me pivot here and talk about AI for a minute.

I don't think any of us know what AI is going to look like in a decade, in terms of its capabilities or its implementations. But one thing I think we can have increasing confidence about, from listening to people on the cutting edge of the technology and the investors, is that it is going to require an unbelievable amount of compute and an unbelievable amount of energy. We are talking, like, 20 percent of current U.S. electricity needs just for compute clusters; we are talking about trillion-dollar clusters necessary.

My friend, Mr. Khanna from California, has talked a lot about making sure that America's tech progress is more evenly distributed across the country, that everyone can partake in the productivity gains that are coming from the tech sector. This seems like a very clear-cutting example about how we could do that, right?

If we need unbelievable amounts of compute, each one probably powered by a nuclear reactor, frankly, that should probably be domiciled here in the United States. I don't know that we want to have that overseas.

What can we be doing right now to be building out these clusters here in the United States that are going to require huge amounts of steel, that are going to require huge amounts of energy, huge amounts of expertise?

And, Dr. Miller, maybe you take the first crack at that, and then Mr. Paul.

Mr. Miller. Well, thank you for the question, Representative.

I think you are absolutely right that building out compute clusters is going to be

key to our future technological advances and prosperity.

On the compute side, I think chip companies know what to do. The energy side is the challenge. We are going to see the first energy growth, power consumption growth, in the U.S. for the first time in decades, and it will be driven by bigger data centers for AI applications. And that means we need more power and also the transmission to bring power to the data centers that require it.

RPTR MARTIN

EDTR CRYSTAL

[12:17 p.m.]

Mr. Miller. And I think this is a --

Mr. Auchincloss. Do we need the transmission, or do we just need to be able to collocate nuclear either fission or maybe ultimately fusion?

Mr. Miller. The number of places where you can collocate next to nuclear today is quite limited.

Mr. Auchincloss. Will the ADVANCE Act help with that, do you think?

Mr. Miller. I certainly hope so.

Mr. Auchincloss. Mr. Paul?

Mr. Paul. I do think, in addition to what Mr. Miller suggested, that it is also worth looking at the right kind of performance requirements that we have, as you suggested, so that we are maximizing the investment that we are making that will benefit other industries, such as the construction of them and the energy provision.

And there is a number of means to do that. I think that there is a helpful guide in some of the CHIPS Act that we can utilize and some of the other procurement preferences that we have identified through clean energy and other programs that have been scaled up over the last couple of years.

Mr. Auchincloss. Final question.

Dr. Miller, do you think that these compute clusters -- should we be doing these in conjunction with our European and East Asian allies, or do we want to have a heavy bias towards U.S.-domiciled clusters?

Mr. Miller. I think U.S. technology firms have always succeeded because they have had access to international markets. That doesn't mean every market, but for

close allies I don't see a reason why we should be worried about trading with them.

Mr. Auchincloss. Yield back.

Chairman Moolenaar. Representative Newhouse.

Mr. Newhouse. Thank you, Chairman Moolenaar and Ranking Member Krishnamoorthi.

Thank our guests for being here today on a very important subject.

I am going to start with you, Dr. Miller.

Thinking about the Cold War and any lessons that we may have learned during that period, is there anything that you could recommend as the U.S. and European Union try to work together to address a rising China?

I think it is fair to say the U.S. is taking the lead on prohibiting the domestic integration of Chinese technologies and investments through tariffs and energy lists, sometimes outright bans.

But some European countries are reluctant to take such a hard-nosed approach. There are Belt and Road Initiatives in Europe, as well as the use of LOGINK and Huawei technologies. Certainly they pose significant security risks to our NATO allies.

So just curious, how should, in your estimation, the government respond to some of our friends in Europe accepting their investments and using their technologies?

Mr. Miller. Representative, I think this is a very important topic. And you are right, during the Cold War there was extensive alignment of technology controls between the United States, European allies, as well as Japan.

And today we have got some alignment, but much less than we had in the past, and this does create opportunities for Chinese firms to exploit differences in regulatory regimes. And this is a problem that we need to devote more attention to solving.

Mr. Newhouse. Thank you.

Mr. Bry, it is interesting you are here. I was just at home in the district the last month several times talking to those people that use drones in agriculture. I am a farmer myself. It is becoming quite a technology that is being embraced.

And, thankfully, your company provides a superior product to some of those that are options that are probably the one that was shown here today. So I am very happy about that.

But, as you know, American companies, American consumers, when it comes down to picking whatever product they may be looking or shopping for, a lot of times it comes down to the price.

So since we are relying on these things so extensively, and that is growing, tell me what some of the barriers to producing more affordable drones in the U.S. might be and how we can maybe help improve those market conditions.

And is there any role that the Department of Agriculture, either federally or statewide, could play in making sure that farmers and Forest Service planners, everybody that utilizes these things, has access to more affordable American-made machines?

Mr. Bry. Representative Newhouse, I really appreciate the question and the sentiment behind the question.

I would say the single biggest factor in price is scale. The larger the scale you are manufacturing at, the lower your price is going to be.

Our cost structure is quite a bit higher than our Chinese competitors because we are operating at lower scale. We don't pass all of that cost along to our customers. We eat a lot of it ourselves. But the larger scale we get to, the lower we can get our costs, the more affordable our products become, the more customers they can reach.

And so I think there is just this flywheel that we have to spin up. And measures like we discussed earlier, where potentially tariffs on Chinese drones are used to support

and fund the purchases of U.S.-made drones and let the end users pick the best product, technology that suits them, I think things like that could make quite a bit of sense in leveraging the things that we are great at as a country in innovation and competition to get the flywheel spinning faster.

Mr. Newhouse. Thank you.

Mr. Paul, very, I would just say, concerning to hear some of the statistics that you have given us. Seventy-six percent of global shipbuilding orders in April of this year alone, that is a very tenuous position for us to be in. I would guess that most people in this country would tell you that we should not be in that position, we should not be dependent on foreign manufacturers.

So you have given us some recommendations to amplify our response here, using the Section 301 petition, and we will definitely be looking at how we can be helpful there.

I just wanted to pose a question that has been on my mind recently. I guess a lot of us are very concerned about the fact that China has long-term strategies. They have specific outlines of goals in 5-, 10-, 15-, 20-year, even longer increments. They are very adroit at doing that. We as the United States tend to think much shorter periods into the future. It is a very frustrating thing.

Just your reaction to that. And what, at the risk of bringing -- that is totally fine -- bringing criticisms to the U.S. Congress, what should we be doing differently? Should we change our strategy?

Mr. Paul. It is a great question, which would take 5 minutes to answer in full, but I will summarize in 5 seconds if I can.

Mr. Newhouse. That is all the time we have actually.

Mr. Paul. It takes a combination of a more aggressive trade policy, of more focused and strategic domestic incentives and investment in industries that will build our

future. And it also takes collaboration with like-minded industrial democracies as well.

And I will be happy to explicate that for the record.

Mr. Newhouse. Yes, thank you.

Again, thank you all very much for being here today.

Thank you, Mr. Chair.

Chairman Moolenaar. Representative Torres.

Mr. Torres. Thank you, Mr. Chair.

For far too long the United States has been planting the seeds of its own decline through a series of strategic miscalculations and misplaced priorities.

First came the deindustrialization of America. We made a miscalculation in allowing our domestic industrial capacity to atrophy from neglect.

And then came the distraction of America. We made a miscalculation in allowing ourselves to be distracted by quagmires in the Middle East, from the singular challenge to American leadership, which is the Chinese Communist Party.

Thankfully, under the leadership of President Biden, aided by a bipartisan consensus here in Congress, we are correcting these historical errors to the benefit of U.S. strategic competitiveness.

One of the greatest achievements of the Biden administration lies in fundamentally changing the trajectory of the semiconductor arms race or what Mr. Miller calls "The Chip War."

Both the CHIPS Act and the export controls on China have been game changers. According to a report by the Semiconductor Industry Association and the Boston Consulting Group, by 2032 the United States will account for 30 percent of advanced semiconductor production compared to only 2 percent for China.

Mr. Miller, what is the percentage of advanced semiconductors that are projected

to come not only from onshoring but also from nearshoring and friendshoring beyond the reach of the Chinese Communist Party?

Mr. Miller. Representative, I think we are seeing substantial investments both in the United States but also in allied countries, in Europe, in Japan, in other partners that is adding to the resilience of the semiconductor supply chain.

Mr. Torres. And to what extent does the restrictiveness of America's immigration system undermine the capacity to domestically produce advanced semiconductors?

Mr. Miller. Representative, I think if we could have more immigrants with high skills in the semiconductor industry we would have a more innovative ecosystem.

Mr. Torres. The term "protectionism" is often invoked as a pejorative to denounce the policy shift away from so-called free trade. But in my view there is nothing remotely free about trade with China. The idealized vision of free trade implies a level playing field in which everyone is playing by the rules.

China has never been one to play by the rules. China is heavily subsidizing its own industries in order to drive American manufacturers out of business. That is not competition. That is cheating. And President Biden's tariffs are protecting American manufacturers not from competition but from cheating.

Mr. Paul, do you believe, as I do, that the protectionism versus free trade framing ignores the reality of cheating on the part of the Chinese Communist Party?

Mr. Paul. Yes. It is an easy headline, but it doesn't distill all of the issues involved.

And I would just point out there is a difference between building a moat or a wall around your country and simply locking your door, which is what I think the tariffs do, which is smart. No one wants to let something bad happen in their house.

Mr. Torres. I feel like we on the China Committee have no greater mission than to prevent a third world war between the United States and China, to prevent China from escalating aggression in the South China Sea and the Taiwan Strait.

And a war in the Indo-Pacific, as you know, would largely be a naval war. And according to the Secretary of the Navy, quote, "One Chinese shipyard has more capacity than all of our shipyards combined."

We have a reputation as the military superpower, the naval superpower of the world. Are we truly the naval superpower of the world when we have no independent shipbuilding capacity and when ours pales in comparison to our greatest rival?

Mr. Paul. I would say it is diminishing, and that is the concern here, is that we currently have a tonnage advantage, but it is unsustainable. We don't have a surge capacity. I mean, the thing that helped identify -- and I am glad the chairman mentioned the Arsenal of Democracy -- was that we were able to do conversions very quickly to scale up battleship building capacity.

And the difference now is that we don't have that. I mean, that has disappeared. We do have some shipyards that have been converted to just doing repair work that we could scale back up, but we are dangerously deficient when it comes to scaling up to meet the kind of conflict that you are talking about for any sustained amount of time.

Mr. Torres. Mr. Miller, just one more question about -- obviously, much has been said about China's overcapacity of legacy shipmaking.

Do you think that the risk to the supply chain security of the United States is so serious that it warrants a policy response from the United States? And what should that policy response be?

Mr. Miller. Yes, I think a policy response is warranted. I think some mix of trade measures and restrictions on use of Chinese semiconductors and critical systems

should be examined as potential policy responses.

Mr. Torres. My time is expired, so thank you.

Chairman Moolenaar. Representative LaHood.

Mr. LaHood. Well, thank you, Mr. Chairman.

Let me thank the witnesses for your valuable testimony here today and for this conversation. And I am pleased that the committee is discussing the potential impact of the PRC's strategy to dominate three particular important industries: semiconductors, shipbuilding, and drones.

Mr. Newhouse touched on this in his comments, but if you look at China's Made in China 2025 and the 14th Five-Year Plan, the Chinese Communist Party has made it clear that they intend to challenge the United States' global economic leadership, and they are actively advancing their goals as we speak.

President Xi has stated that he aims to achieve 70 percent self-sufficiency in high-tech industries by 2025 and market dominance by the hundredth anniversary of the PRC in the year 2049.

We know that the CCP is investing billions across strategic industrial sectors, such as semiconductors, new and emerging technologies, and energy, such as solar and EV batteries, all in an effort to gain dominant control over the global market.

In fact, The Wall Street Journal recently reported that the PRC-based Semiconductor Manufacturing International Corporation is aggressively adopting homegrown semiconductor production equipment into its product line, part of a broader campaign to eradicate American technology in the PRC. They dub this, quote, "Delete A," unquote.

That article that I am referencing was dated June 3, 2024, in The Wall Street Journal titled "The Goal for China's Chip Giant: Cut Out the U.S." "China's domestic

chip industry strives for self-sufficiency."

Mr. Chairman, I would ask to submit for the record this article from The Wall Street Journal.

Chairman Moolenaar. Without objection.

[The information follows:]

******** COMMITTEE INSERT ********

Mr. LaHood. Thank you.

Whether it be through subsidized state-owned enterprises that do not play by the same rules as their competitors, the use of coercive tactics to manipulate the global market, or forcible transfers of technology and intellectual property, the CCP clearly is willing to do whatever it takes to achieve this goal.

Dr. Miller, in your written testimony you draw a comparison between China's increased subsidy campaign for semiconductors and their efforts to dominate the solar panel and EV battery markets. You note that such control over a given market can create a strategic advantage that may be exploited by the PRC down the line.

Consequentially, this committee has heard from a number of companies that rely heavily on Chinese-manufactured EV batteries and solar panels, making it difficult to derisk their supply chains out of China.

Can you talk a little bit about what steps we need to be making to work with our allies and trading partners to prevent the overreliance on Chinese legacy semiconductors and avoid similar flashpoints?

Mr. Miller. Representative, today, as I mentioned in my oral remarks, most foundational semiconductors are manufactured in the West, in the United States, in Japan and Europe, or in Taiwan. But that is changing as China invests more right now. And so the key for policy measures is to stop the new investment that is being made in China from reaching Western markets in large quantities.

I think there are several approaches you could take to address this problem. The first is trade measures. The second is restrictions on the use of Chinese components in critical systems. And the third is to restrict the access of individual Chinese firms that are particular challenges or security risks to sell into U.S. markets.

And I think some mix of these policies would be an effective response to the risk if

we become more reliant, excessively reliant on chips produced in China.

Mr. LaHood. And those three things you mentioned, how do you grade the current administration on the implementation of those three?

Mr. Miller. There have been steps taken on each of those fronts, but I think there is more work to be done.

Mr. LaHood. And as a follow-up, you draw a distinction between legacy semiconductors and advanced small node semiconductors. When we in Congress talk about semiconductors, it is rare that the distinction is made.

Should we be approaching policy solutions that would apply broadly to both advanced and legacy chips or is it more effective to distinguish between those two types of technologies?

Mr. Miller. Representative, I think we need to distinguish between these two categories.

In advanced chips, we and our allies have a major technological advantage over China.

When it comes to foundational semiconductors, China in many cases is close to the cutting edge in foundational chips. And so our ability to restrict their access to technology is less significant in the sphere of foundational semiconductors.

Moreover, the use of Chinese foundational semiconductors is already present in U.S. manufacturing supply chains, so we need to be careful when we take restrictive measures not to do so too rapidly in a way that would enable or make it difficult for U.S. firms to continue their existing manufacturing operations.

That is why I think for any measure we take we should phase it in over time to give U.S. manufacturers time to adjust to any potential supply chain issues.

Mr. LaHood. Thank you.

I yield back, Mr. Chair.

Chairman Moolenaar. Representative Brown.

Ms. Brown. Thank you, Mr. Chairman.

There is broad bipartisan consensus against the Chinese Communist Party's unfair industrial policies putting Americans, our economy, and the international order at risk. On this one issue, Republicans and Democrats strongly agree. A rising world order promoted by the People's Republic of China, North Korea, Russia, and Iran is dishonorable, dangerous, and deadly.

It is worth taking a step back to get a full picture on the significant steps we have taken to address these challenges. When it comes to China's dishonest manufacturing and trading policies, the Biden-Harris administration has implemented monumental measures. Here are just a few.

One, President Biden increased the tariff rate on electric vehicles under Section 301 from 25 percent to 100 percent. He did the same for certain steel and aluminum products, raising their rates from zero percent to 25 percent.

Two, President Biden launched the historic Indo-Pacific Economic Framework for Prosperity with 13 regional partners, like Australia and India, to enhance long-term economic cooperation.

Three, under Biden's leadership, we have brought $680 billion in private sector investment in advanced manufacturing and clean energy alone to the United States and especially to places like my home State of Ohio.

These are just three examples of hundreds of actions the Biden-Harris administration has taken to protect American workers, to strengthen our economy, and to combat unfair CCP practices.

So, Mr. Paul, can you speak to the success of President Biden's efforts to create a

new century of manufacturing in the United States? And, specifically, how are the President's programs, like Buy America, supporting a diverse workforce and workers of color?

Mr. Paul. Thank you very much for the question, Representative Brown.

I think it is undeniable that over the last 2 or 3 years that we have seen a factory construction boom in the United States, whether you measure it in raw terms as a percentage of GDP or more recently as a percentage of business investment. We haven't seen factory construction like this for generations in the United States. So there is an impact.

We have been adding manufacturing jobs, and the investments have been all over the country in many of these sectors.

At the same time, we are seeking to reduce some vulnerabilities that we have, and I think that we are in progress on that.

I am glad you lifted up Buy America because I think it is fair to say that there has never been more Federal investment subject to Buy America requirements than there is today, and that is a testament to the work that the Congress has done and the administration implementing it right now.

There is always room for improvement as we are on this journey, but I do think that in a lot of ways we are off to a good start.

Ms. Brown. Thank you very much.

And we all know there is more to do to combat unfair CCP practices and the threats posed by CCP, Russia, Iran, and North Korea. These threats are intertwined, and Putin relies on China, North Korea, and Iran to arm its illegal war against Ukraine.

Which begs the question: What are they getting in return? Well, for one, the CCP is selling tens of millions of dollars' worth of drones and drone components to Russia

for use in its illegal war.

So, Mr. Paul or Mr. Bry, can you speak to the steps we in Congress need to take to address our adversaries' drone cooperation?

Mr. Bry. Well, look, I appreciate the question.

I think the most obvious opportunity is to look at our own military's use of drones, look at the scale of our own military's use of drones, and look at our support for Ukraine in the form of drones. And I think there is a lot more to be to be done on every front.

I think the best antidote is to support U.S. industry. This technology is inherently dual use. So if you invest in military drones, especially at the smaller, lighter, less expensive class, you are also boosting the supply of drones for other industries. And I think that is the thing that we have the most direct control over.

It is very clear that in any near-peer modern conflict, our adversaries are going to be flying Chinese drones, and it is critical that we have U.S. technology to match that.

Ms. Brown. All right. Well, thank you.

Clearly, there are measures Congress needs to take to provide President Biden additional authorities to tackle CCP practices which puts us at an economic disadvantage and poses a security threat.

We took the first significant and historic step by passing the CHIPS and Science Act in the 117th Congress, and there is more we can do on a bipartisan basis to strengthen, expand, and defend these wins.

And my time has expired. Thank you, Mr. Chairman.

Chairman Moolenaar. Representative Hinson.

Mrs. Hinson. Thank you, Mr. Chairman, for holding this hearing today and to our ranking member as well.

Thank you to our witnesses.

I want to tackle and kind of follow up on a couple of items that my colleagues have already talked about today. But really the barriers that are hindering our ability to strengthen and expand U.S. domestic drone manufacturing is what I am concerned about.

And I think that there is a lot of regulatory environment improvement that we could probably be making. We have to ensure that our supply chains are secure. That is absolutely critical for our national security.

We talk a lot about the vulnerabilities that exist in the technology right now coming from China. We have seen, though, that that stringent regulatory burden for manufacturing and purchasing drones here in the U.S. can be detrimental for our U.S. businesses, first responders.

We have got a lot of farmers in Iowa who use these drones, and they are using Chinese-made drones right now. We are trying to change that obviously. But when foreign companies are importing these into the U.S. -- we have talked about the price discrepancies there -- obviously they don't have to follow that same regulatory challenge that we do.

And I know, Mr. Bry, you already talked about this a little bit, but are there areas of U.S. regulation where you think we could make some improvements to help us really strengthen domestic drone production? What steps would you say need to be taken to help diversify those supply chains so we are not reliant on chips from China for our manufacturing here?

Mr. Bry. Yeah, I really appreciate the question, Representative.

I point to two things, and actually touching on something we talked about earlier, immigration policy.

We compete for the world's best talent in AI and robotics, and oftentimes we have to jump through all kinds of crazy hoops to get Ph.D.s and master's level folks, many of

whom have studied abroad in the U.S. to receive those degrees.

And I think there may be a misconception. I mean, it is not a zero-sum game. Like, one brilliant scientist or engineer can create ten or a hundred or a thousand other jobs by bringing good ideas to the table.

So that strikes me as a real opportunity, especially at the high end for highly skilled people with unique skills. There is just a huge multiplicative effect in every industry, especially leading-edge technology industries, by making it easier for those folks to come.

And then the second area that I would point to is our airspace regulation. The airspace regulations set the rules of the road, so to speak, for drones.

Historically, the U.S. has lagged a little bit behind in permitting more advanced uses of drones being able to fly beyond visual line of sight, which is incredibly useful for large infrastructure inspection, as well as responding to emergencies and public safety.

I think we are making progress there. But the more that our own regulations reflect the next century of aviation, the more innovation we are likely to see in the U.S. and then have that innovation spread to the rest of the world.

Mrs. Hinson. How do you think the government can work to help offset some of the costs? Because, I mean, we have talked about that discrepancy. What more can we do there?

Mr. Bry. Well, I think the idea that has been floated of placing tariffs on Chinese drones or increasing tariffs on Chinese drones or at least enforcing the tariffs that are already there. I mean, the Chinese are also trying to get around these by going in through other countries.

And using those funds to give end users the ability to purchase U.S.-made products of their own choosing I think is one of the more natural opportunities that is

going to leverage our strengths.

Mrs. Hinson. Yeah. I am actually working on a bill right now to make sure they can't get around tariffs. So we are definitely trying to tackle that side of it.

I think another place where I want to follow up on what you said, Mr. Paul, you talk about the three things that you think we need to work on, trade policy, domestic incentives, collaborations with friends.

We know this is what China is doing. They are trying to continue to manufacture the raw materials, and they are partnering with other countries, and they are using diplomacy to do all of that. And I think that is, again, another attempt to directly marginalize the United States on the global market.

So we talked about friendshoring, continuing to develop global coalitions here to strengthen our supply chains. Are there ways where you think we can leverage our existing relationships better for mutual benefit? What investments or partnerships do you think are really necessary to help us achieve this?

Mr. Paul. This is an excellent question.

I think this comes in play particularly when we are talking about critical minerals, which are involved in semiconductors, in drones, and in a lot of different applications.

And there is a lot that we can be doing here to provide a better environment, to get them through both purchases, regulation, regulatory reform, and what have you, and also seeking to leverage our allies' assets there. And I think that has to be a big part of the strategy.

I think the other part with respect to shipbuilding where this is important is that in addition to direct shipbuilding China has established a series of ports and LOGINK, as I know the committee is very familiar, around the world. And we need to enlist our allies in pushback on that because that is dangerous access to critical commercial infrastructure

and data around the world.

Mrs. Hinson. Absolutely. And it is not just China. It is Russia too. They are definitely eyeing -- I had a chance to go to Ukraine in April, and they are eyeing obviously the port at Odesa too.

So, I mean, there is so much strategy involved with controlling ports when it comes to all of these technologies.

So I am out of time. I know we could talk about this for hours. But I appreciate you all being here. Thank you so much.

I yield back, Mr. Chair.

Chairman Moolenaar. Representative Moulton.

Mr. Moulton. Thank you, Mr. Chairman.

Gentlemen, thank you very much for being here today.

The title of our committee is all about competition, and we all want to improve our competitiveness with China. We want to stop them from eating our lunch, stealing our ideas, taking all the good work that we do in research and development and then profiting off of it by selling those products to the world.

But really what this committee should be about is deterrence. That is foundational. We can have better competitive policies, competitiveness policies, but if they don't fundamentally improve deterrence, preventing what could literally become World War III, then we are failing as a Nation.

So, Dr. Miller, I want to talk to you about your points on connecting competitiveness with deterrence, about how economic policy has to be part of our deterrence picture. And while the Silicon Shield, of course, is really important to Taiwan's deterrence -- and I often make the point to people in the States that we actually don't want necessarily all the highest end manufacturing of chips to come to America

because otherwise that leaves -- there is not as much of a deterrent value that the chip manufacturing in Taiwan presents.

But explain to us how our strategy could backfire if we just basically give China the keys to the kingdom with foundational chips.

Mr. Miller. Well, Representative, today China spends as much money each year importing chips as it spends importing oil. There is no product in which they are more reliant on the outside world for. And it is the United States and partners and allies like Taiwan and Korea and Japan that are major suppliers of chips to China today. And if China were to start a conflict, it would face immense difficulties because it would struggle to source the chips that it needs. That is today.

But this landscape is going to change dramatically over the next couple of years as China invests very heavily in its manufacturing base for foundational semiconductors. And there is not much doubt that China has the technological capabilities to produce foundational chips once it builds these facilities. And so it is going to become much more self-sufficient towards the end of the decade than it is today, especially in foundational chips.

And I think you are right, that that does change deterrence calculations in and around the Taiwan Strait.

Mr. Moulton. So they gain economic leverage, we lose economic leverage and the deterrent value that comes with it if they can produce all these chips that they need themselves.

What about the high-end chips? Is there a risk that they will no longer be dependent on Taiwan for high-end chips? Of course, up until now they have been able to buy whatever they want.

I support the Biden administration's policies -- I think there is generally bipartisan

support for the policies -- of making sure that certain critical semiconductors are not allowed to be sold to China.

But is that just going to create too much of an incentive for China to figure out how to produce these themselves, or can we continue to hold them back?

Mr. Miller. China needs no incentive to try to create self-sufficiency in its advanced chip-making industry. It already had all the incentive that it needed. This desire was built into industrial policy programs like Made in China 2025.

So it is not U.S. policies that are driving Chinese self-sufficiency efforts. It is Chinese policies.

Today the U.S. and allies like Taiwan and Korea are technological leaders in advanced chips. China can't compete in the production of the most cutting-edge chips today. And at least for the next couple of years we have fairly high confidence that China will struggle to produce the most advanced chips.

And so for now China remains reliant on the West for cutting-edge chips. But for foundational chips, the picture is changing quite dramatically.

Mr. Moulton. So the picture is changing for foundational chips. You have given us confidence that for the next 2 or 3 years we will be safe with high-end chips. That doesn't give us a lot of confidence. Two or 3 years is not a lot of time.

What sort of proactive policies should we be making, both to ensure that we have the capacity to produce chips here, but also that our allies have the capacity to produce these overseas? Because this has got to be a team effort against China here.

Mr. Miller. I think that is right. And we have seen over the past couple of years Japan, European countries, Korea, Singapore, and other trusted suppliers expanding their own manufacturing capacity for foundational chips as well as for advanced chips. And this is a very positive development. But companies in these countries are also

threatened by the same nonmarket practices of Chinese foundational chip makers.

And so there is, I think, room to work with allies and partners on these exact issues since their companies face the exact same challenges.

Mr. Moulton. Are there policies specifically that Congress should be pursuing that we are not pursuing today, where we are not being proactive enough?

Mr. Miller. Well, I think the last G7 meeting, if you read the statement, allies endorsed allied efforts at sourcing chips from trustworthy companies, trustworthy providers.

I think there is consensus around this issue among G7 countries, and I think it is pretty clear which providers we trust and which providers we don't trust.

And pushing policy action in that direction to make sure that not just our but also allied manufacturing supply chains don't become too reliant on untrustworthy manufacturers is something we could certainly get the Europeans and the Japanese to agree to.

Mr. Moulton. Thank you, Mr. Chairman.

Chairman Moolenaar. Thank you.

Now I would like to call on our newest member for some questions, Representative Cline.

Mr. Cline. Thank you, Mr. Chairman, I appreciate the welcome and am eager to get to work.

The Chinese Communist Party is an existential threat to America and its allies and, make no mistake, is seeking to uproot freedom and democracy in the pursuit of power, and they are partnering with their own cadre of authoritarians to do so.

Emboldened by the perceived weakness of this administration, the CCP regularly engages in underhanded trade and market manipulation practices, subsidizes the deadly

fentanyl precursors pouring over our borders, and is actively building up its military in preparation for a possible invasion of our ally Taiwan.

We, therefore, have to be clear-eyed and resolute in our response to Chinese aggression and ensure that this Congress is taking the right measures to prioritize our economic and national security interests.

Mr. Bry, drone technology has been identified as a particular industry of interest as we consider our competitive posture with China due in part to both its vast potential for future innovation as well as its dual-use purposes with defense.

Recently Autel was added to the entity list for their involvement in distributing controlled items to aid Russia's war effort, and DJI was already listed due to their use cases of biometric surveillance and tracking to complement China's Uyghur genocide operation.

These ties are troubling as market studies indicate that Chinese-made drones account for roughly 60 percent of the American industrial market and have an outsized presence in the first responder market. However, you are now seeing States take matters into their own hands and restricting the use of Chinese drones, States like Florida, Mississippi, and Arkansas.

Can you tell me what kind of other drone use cases present national security threats and vulnerabilities?

Mr. Bry. Well, Representative Cline, I really appreciate the question.

I think one of the most important things to understand is just the dual-use nature of the technology. And you can see it in the information that you are citing.

Oftentimes the same drones that are being used in public safety are the ones that the Russians are using on the battlefield in Ukraine.

So there is just an inherent national security risk because it is such a powerful

dual-use technology.

Another sector I would point to, which is a really important one for us, is energy. We sell to a number of the largest energy utilities in the U.S. They use our drones to inspect the energy grid.

And we are headed towards a world where drones essentially become part of the energy infrastructure, where every power plant, every substation has an autonomous drone installed there that can fly itself. They can perform persistent inspections.

And so, if the risk is a 3 or 4 today, it goes up to a 9 or 10 when these things really become network connected installed infrastructure.

Mr. Cline. Critical infrastructure, bridges, roads as well?

Mr. Bry. Yes, yes, sir. I mean, we sell to a number of the State departments of transportation. They are heavy drone users. I think we are doing quite well in that market, but the Chinese drones are still present.

Mr. Cline. In what ways does the technology present privacy concerns to would-be users?

Mr. Bry. So this is another really important question and something we think quite a bit about.

One of the ways we think about what we are building is the world's best automated data capture platform, which is super powerful for all kinds of great uses, but definitely comes with some privacy concerns as well.

This is something we work with our customers on. We have taken a proactive stance in best practices. For example, in public safety we do a lot of work with our customer agencies there on community engagement, transparency, best practices to build trust with community and make sure that their officers are using drones in appropriate ways.

But I think the privacy concerns speak to the greater sort of risk profile of having drones that are connecting back to Chinese servers and, in the worst case, could actually be taking instructions from those servers.

Mr. Cline. Thank you.

Dr. Miller, I appreciate you being here. I enjoyed your book very much.

One distinct advantage that the U.S. and Taiwan possess over China is its advances in semiconductor technology. And it has been the policy of the U.S. since 2019 to carry out strict export controls on this sector to limit China's ability to obtain high-end semiconductor chips, technology, manufacturing equipment, and know-how.

However, while an impediment, China's largest semiconductor foundry, SMIC, still managed to raise some eyebrows with its development of a 7-nanometer chip used in Huawei's 5G phone.

What suggestions might you have to ensure that gaps in this technology denial strategy aren't exploited?

Mr. Miller. Representative, I think it is clear that the initial export controls that were released in 2022 did have some loopholes in them that have been tightened somewhat since then and I think deserve to be tightened further.

It is bad to let technology go into China, but it is even worse to let advanced technology be sold into China in ways that we are trying to prevent. And I think we need to focus on this issue. We need to make sure that our regulations are aligned with those of the allies that have comparable technologies, and this ought to be an area of focus.

Mr. Cline. Would you say European allies have a role to play in this effort? And are they doing enough?

Mr. Miller. I think both our European and our Asian allies have a role to play,

and I think there is more they should do.

Mr. Cline. Okay. Thank you. I yield back.

Chairman Moolenaar. Thank you.

Representative Khanna.

Mr. Khanna. Thank you, Mr. Chair.

The IBEW and the United Steelworkers, along with three other unions, have filed a petition about the unfair trade practices of China when it comes to shipbuilding.

This committee should support unequivocally their petition and demand that the USTR have remedies. I mean, it is unconscionable what we have allowed as a country.

China started out with 5 percent of the global market in shipbuilding in 1999. They are up to 50 percent. They are producing a thousand ships every year. The United States, which used to lead, is producing ten ships every year.

This committee is for American leadership. We should be for ensuring that we are not losing a hundred to one on shipbuilding to China. The way we won World War II was that we had the Arsenal of Democracy. We mobilized building ships and airplanes, and now China is outproducing us one hundred to one.

Now, these unions are asking for something very simple. They are asking for a docking fee, a docking fee of about a million dollars, which would be less than $50 per container, which would mean that Americans may have to pay a few cents more for their jeans or their shirt so that we can have American-made ships again.

But guess who is opposed to it? The Chamber of Commerce. They have been opposed to every policy on industrial policy for the last 40 years. They are testifying, no, we can't pay a few cents more on our shirts or jeans to have shipbuilding in America.

This is the philosophy that bankrupted and deindustrialized America. For cheap labor, for cheap prices, we kept sending our industry overseas to China, and we are still

doing it.

Mr. Paul, can you speak clearly about the political forces at play here? Is the Chamber opposing the unions in bringing a docking fee? Why are they doing that? Can we ask every member, instead of just saying, "Oh, I am on the committee, I am tough on China," to actually endorse having docking fees on these Chinese ships?

Mr. Paul. Thank you for the question.

I can't tell you exactly the motivations behind the Chamber of Commerce opposition to it, but I think it is short-sighted. And I think that a fee like that, again, could be well absorbed within our economy and when the benefits would be focused towards lifting up our shipbuilding capacity, which has reached a critical breaking point in the United States.

Mr. Khanna. Dr. Miller?

Mr. Miller. Representative, I am far from an expert on shipbuilding, so I will defer to my colleague.

Mr. Khanna. Do you think, though, logically, if we are losing a thousand to one to China, a thousand to ten, that it makes logical sense that we should have some fee on Chinese ships?

Mr. Miller. Representative, I am no expert on shipbuilding. I don't like the idea of losing to China a thousand to one.

Mr. Khanna. I don't think you have to be an expert in shipbuilding. I am just saying that China is basically subsidizing these ships. Japan and Korea are subsidizing theirs ships. The United States doesn't subsidize their ships.

We have had this argument time and again that basically we don't want to pay a penny more on consumer prices, we want to maximize corporate profits, and so we have allowed industry after industry to go to China.

Finally, we are trying to fix it, and we are saying let's have a docking fee on these Chinese ships. Does that seem a reasonable argument to you?

Mr. Miller. Well, Representative, I agree that the shipbuilding industry is very important for U.S. national economic security, but the specific policies I will defer to the shipbuilding experts.

Mr. Khanna. Mr. Bry?

Mr. Bry. Well, look, sir, as I mentioned in my opening statement, I know a lot about AI and drones. I know much less about shipbuilding.

I think it is overall important for us to focus on the competitiveness of our industries and in the competitiveness of our manufacturing. The Chinese have invested extremely heavily over the last two to three decades in trade policy and industrial policy to build up a formidable consumer electronics manufacturing base.

I oftentimes say, wherever they are building iPhones, they are going to be building a lot of other stuff as well because of the ecosystem that gets pulled along with it.

And that is something that we see and face in the drone industry, but I also don't think it is an insurmountable task. We actually see in Silicon Valley now a lot of manufacturing coming back to the U.S. I think that is worth supporting.

To your specific question, I think we are going to have to pay for that somehow, and there are short-term costs for long-term benefit. I am not an expert in the trade-offs there, but I think that we have to recognize that we are going to have to make some investments as a country to bring back the manufacturing base.

Mr. Khanna. Appreciate that.

Thank you, Mr. Chairman.

Chairman Moolenaar. Thank you.

Representative Barr.

Mr. Barr. Thank you, Mr. Chairman.

That was an interesting exchange, and I appreciate my colleague from California's conversation. And I am open to what he is saying about a fee because I think China is an exceptional case.

I think what the Chamber of Commerce may be concerned about, however, is that this kind of a policy, this kind of protectionist policy could evolve into something beyond China, and that could be used even in cases where we have reciprocal free trade agreements with allies and partners.

That I think would be a mistake. I do not believe that we should try to counter China by imitating Chinese industrial policy.

The advantage that we have in our country is that we are capitalists. We do believe in free and reciprocal trade, not with China, because China is an exceptional case and they don't engage in free trade.

But I think it would be a mistake to try to copy Chinese industrial policies because that actually is the best way to misallocate resources. Free markets are the answer in our competition with China generally.

Let me ask Dr. Miller a question about Taiwan and semiconductors in Taiwan.

I was recently in Taiwan with a bipartisan delegation, and we were able to tour the very impressive semiconductor capabilities there. We visited TSMC. I think they have 30 percent of global market share of advanced semiconductor chips, the chips that power artificial intelligence.

We had the opportunity to ask the chairman of TSMC about a Taiwan invasion scenario, and he was very direct. He said, "An invasion of the island would take us down instantaneously."

Paint a picture for the American people, for the people watching, my constituents,

why Taiwan matters, Dr. Miller. What would happen to the average American consumer and Americans' access to chips in the event of an invasion?

Mr. Miller. Representative, thank you for the question.

During the pandemic when there were relatively minor chip shortages, we saw an experiment in real time as to just how costly that would be.

I mentioned in my testimony the auto industry alone faced hundreds of billions of dollars in cars that couldn't be sold because they couldn't source chips.

And it wasn't just autos. It was tractors. It was hearing aids. It was across the manufacturing sector of the economy. And that was at a time when there were minor disruptions.

As you said, Taiwan is the world's most important producer of chips, especially when it comes to the most advanced chips.

And so for phones, computers, telecoms infrastructure, certainly any artificial intelligence application, we would face enormous delays, huge inflation as a result of any disruption to the chip production in Taiwan.

Mr. Barr. Well, I think that is why we need deterrence with Taiwan. And we also need to have supply chain resiliency and build out our diversification of access to chips beyond China.

Mr. Paul, let me ask you about Subic Bay and shipbuilding.

When I was in Subic Bay, we spoke to Cerberus about their decision to buy the shipyard, and the State Department touted the success of an American company purchasing this critical infrastructure. But we also saw how much the shipyard and port is underutilized, and Cerberus expressed concern that they were not making returns on investment.

How can the United States Government actively encourage or help U.S. companies

invest in the capabilities at Subic? And can Subic be a part of the answer to our shipbuilding capabilities and part of the deterrent strategy in the Western Pacific?

Mr. Paul. Mr. Barr, I am glad you raised up that question, because I do believe that there are possibilities, that this is not a hopeless case, and I am glad you mentioned that.

The idea behind just going back to the fee is that it would provide a revenue source to have some investment in new technology, in port upgrades, and in workforce training that we are going to need to scale up.

We are at such a breaking point now, we have a very fragile supply chain in shipbuilding. We have lost 20,500 suppliers in the shipbuilding sector over the last 2 decades. And so we need it to be agile, and that is going to take some investment.

Again, yes, I do believe that we should operate as a free market whenever possible. Even Adam Smith suggested shipbuilding is a unique case and that you need to find revenue sources to support your --

Mr. Barr. And can I say, Mr. Paul, I appreciate your testimony. I appreciate the comments from my friend from California, Mr. Khanna. And I am open to that.

But I want to make sure it is limited to China. I think it would be a mistake to broaden that. And a source of revenue to revitalize our shipbuilding capacity, great, I am for it. But let's not let that evolve into an overly broad industrial policy that limits free trade with allies and partners. That is my point.

Now, tell me about Subic and Cerberus. We need to get back into Subic Bay. Does that present some shipbuilding opportunities with the Philippines?

Mr. Paul. It may. Let me respond for the record since I see the time, but I would be happy to explicate more on that in a written response.

Mr. Barr. Thanks so much.

I yield.

Chairman Moolenaar. Thank you.

And I want to thank all of our witnesses today.

Questions for the record are due one week from today.

And without objection, the committee hearing is adjourned.

[Whereupon, at 1:06 p.m., the committee was adjourned.]