

**EXAMINING THE AMERICAN
MANUFACTURING INDUSTRY'S RESPONSE TO THE
COVID-19 PANDEMIC**

HEARING

BEFORE THE

SUBCOMMITTEE ON MANUFACTURING, TRADE,
AND CONSUMER PROTECTION

OF THE

COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION

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ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

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**EXAMINING THE AMERICAN
MANUFACTURING INDUSTRY'S RESPONSE TO
THE COVID-19 PANDEMIC**

TUESDAY, NOVEMBER 17, 2020

U.S. SENATE,
SUBCOMMITTEE ON MANUFACTURING, TRADE, AND
CONSUMER PROTECTION,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2 p.m. in room SR-253, Russell Senate Office Building, Hon. Jerry Moran, Chairman of the Subcommittee, presiding.

Present: Senators Moran [presiding], Thune, Fischer, Sullivan, Young, Blumenthal, Cantwell, Klobuchar, Baldwin, Sinema, and Rosen.

**OPENING STATEMENT OF HON. JERRY MORAN,
U.S. SENATOR FROM KANSAS**

Senator MORAN. Good afternoon, everyone. Thank you for being with us or being near us, at least in the technology sense.

As Chairman of the Senate Commerce Committee on Manufacturing, Trade, and Consumer Protection, I welcome all of you to today's hearing that we have entitled "Examining the American Manufacturing Industry's Response to the COVID-19 Pandemic." The Subcommittee, as of the pound of the gavel, will come to order.

As the Nation continues to fight the unprecedented public health crisis brought on by the COVID-19 pandemic, Americans have worked to protect against further spread of the virus while trying to maintain a certain degree of normalcy, including maintaining a job and earning a paycheck. There is not a corner of the United States' economy that has not felt the impact of the pandemic, and today's discussion will focus on particularly harmful effects that this public health emergency has had on the manufacturing sector.

During this pandemic, many in the manufacturing community have adapted their operations to help provide products needed to prevent the spread of the virus. Whether it is an early stage pharmaceutical wholesale distribution company that completely pivoted to manufacturing face masks in response to a dire national supply shortage or a successful printer cartridge remanufacturer shifting to production and distribution of hand sanitizer and other innovative sanitation solutions, we have examples of manufacturing businesses in Kansas taking the lead bolstering the U.S. manufac-

turing to compete globally and to assist in meeting the needs that arrive with the pandemic.

There are a variety of Federal programs intended to provide assistance to our nation's manufacturers, and in response to the pandemic, Congress and the administration took action through the CARES Act to improve existing programs and to create a few new ones.

As Chairman of the Senate Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies, I am particularly involved in the oversight of the National Institute of Standards and Technology Hollings Manufacturing Extension Partnership, MEP, which distributes resources to 51 State designated centers to assist small and medium sized manufacturers. The CARES Act specifically provided an additional \$50 million to the Fiscal Year 2020 appropriation to augment support in response to the pandemic. The law provided additional assistance by waiving the statutory non-Federal cost match requirement for all MEP funding for that fiscal year.

The comprehensive pandemic response package offered assistance to manufacturers and other businesses, including but not limited to Small Business Administration's Paycheck Protection Program, the Treasury's Main Street Lending Program, the Manufacture USA Institutes, and the Economic Development Administration's Recovery Assistance Grants. Congress must uphold its oversight responsibilities to determine what worked in administering these programs and make refinements, where appropriate, to ensure effective Federal investment.

In addition to resources, the manufacturing community requires regulatory and technical guidance to enable new manufacturing venues such as production of masks, gloves, gowns, ventilators, and other relevant items.

While I understand the U.S. Food and Drug Administration, the U.S. Centers for Disease Control and Prevention, the National Institutes of Health are fundamental in forming and sharing critical information needed to enable solutions, the private sector has played a critical role in the disbursement of this information.

In addition, liability relief to the nation's small businesses, coupled with robust resources dedicated to testing and PPE, will play an enormous role in the nation's economic recovery.

As Congress enters negotiations for a future COVID-19 response package, I urge my colleagues to use today's discussion to reinvigorate their efforts to provide thoughtful Federal policies and resources to our nation's job creators and innovators.

Additionally, I would like to highlight Senate bill 3705. It is a bipartisan piece of legislation that I have developed with Senator Warner designed to allow the aviation manufacturing sector to retain workers who are at risk of permanent reduction through furlough. This proposed cost sharing program would enable the private and public sector to come together to preserve a uniquely hard-hit industry and overall major contributor to the U.S. trade balance.

Finally, I would be remiss if I did not address the unique national security and economic consequences if the U.S. does not immediately fortify and increase its manufacturing capacities and

supply chain, specifically as it relates to the national strategic stockpile of PPE.

The threat from China to our manufacturing sector is real. In 2019, U.S. imports of pharmaceuticals, medical equipment, and related products from China were estimated to have an approximately \$20.7 billion of value according to the Congressional Research Service calculations based on official U.S. data. This number likely understates the current extent to which the U.S. relies on China for pharmaceuticals and medical equipment, products and supplies as demand in the United States for these products rose during the pandemic.

All in all, the American manufacturing industry has played a critical role to date in mitigating harm stemming from this pandemic from both public health and economic perspectives, and it is vital for Congress to acknowledge this work by providing appropriate support through thoughtful policymaking.

Kansas is home to the Air Capital of the World in Wichita which remains our nation's leader in industry and academic collaboration and manufacturing and workforce development. This type of innovative collaboration takes the form in various other manufacturing capacities across the State of Kansas, so today's conversation is personal to me and to my constituency.

I look forward to hearing from our witness panel today that provides a variety of different perspectives to the same important issue.

Joining us today is Mr. Ravi Bulusu, founder of MolMas, Inc. based in Haysville, Kansas; Mr. Neil Gilman, President of Gilman Gear in Connecticut; Mr. Rick Krska, Chairman and Chief Executive Servant of InkCycle, Inc. based in Shawnee, Kansas; Ms. Tiffany Stovall, Chief Executive Officer of Kansas Manufacturing Solutions which serves as Kansas' MEP center to our State's small and medium sized manufacturers; and finally, Mr. Michael Wessel, Commissioner of the U.S.-China Economic and Security Review Commission.

Finally, the National Association of Manufacturers provided their American renewal action plan for the hearing record describing their collaborative efforts of their member companies in responding to the pandemic, and I ask this document be submitted for the record. Without objection, so ordered.

[The information referred to follows:]

American Renewal Action Plan

NATIONAL ASSOCIATION OF MANUFACTURERS

Manufacturers have mobilized to respond to the unprecedented COVID-19 pandemic in ways unseen in modern history. The industry has been on the front lines as part of the nation's critical infrastructure, supplying health care workers, working toward treatments and producing Americans' daily needs.

The men and women of manufacturing, even as they are profoundly affected by the economic crisis, have a special and essential role in America's response, recovery and renewal. We offer this **American Renewal Action Plan**, knowing manufacturers possess a unique perspective on the current situation and are critical to ensuring America emerges stronger than ever before.

In accordance with the President's "Opening Up America Again" guidelines, governors and local officials will make the call on exactly when and how we "reopen" and move forward. But it is clear that America urgently needs personal protective equipment to support not only our hospitals but all sectors of the economy. This unforeseen crisis has created an unprecedented demand for PPE—unique to this threat and time—that our nation is woefully unprepared to meet. This is why during the **response** phase manufacturers must be able to ramp up production of PPE in an historic way so that the country is ready and well supplied.

Manufacturing has long been the backbone of the American economy, and our future success will depend on manufacturing's resiliency. For the **recovery** phase, policymakers must provide the tools needed to restart our economy, including strong liability protections. And for long-term **renewal**, we must set the stage for long-term growth, which will include historic investment in our nation's infrastructure, robust workforce training, regulatory improvements and more.

The road ahead is not easy. Bringing our \$22 trillion economy out of our "induced coma" is a herculean task for the ages. This challenge will require our policymakers to innovate and act boldly. This crisis will need the whole of the nation to unite in common pursuit. And, as with other consequential moments in our history, it will be manufacturers who make the difference to lead us forward—to secure the future health, safety and prosperity of all Americans.

American Renewal Action Plan

RESPONSE: MANUFACTURERS RISE TO SUPPORT AMERICA DURING THE CRISIS

The nation is not prepared for the near-constant demand for personal protective equipment that will come from all industries as states prepare to reopen their economies. For manufacturers to meet these and other essential needs, and save lives, the nation will also need a significantly larger supply for PPE. Action is needed to allow manufacturers to ramp up production and enhance distribution:

- Congress and the administration should provide **direct financial support and incentives** to domestic manufacturers who can successfully retool production to support the nation's additional PPE demands.
- The **Strategic National Stockpile** should be replenished with appropriate PPE and medical supplies.
- To ensure maximum PPE for the duration of the declared national emergency, the administration should take key steps to **facilitate trade in PPE** and other essential goods, including avoiding imposing additional tariffs, export restrictions or actions that could jeopardize U.S. efforts to reopen the economy.
- Congress and the administration should **expand cargo capacity** and consider prioritizing medical cargo, including active ingredients, raw materials, work-in-process inventory and components.
- The White House, U.S. Trade Representative, Department of State and Department of Commerce should ensure **robust coordination with foreign governments** on essential business guidance implemented around the world, while ensuring the continued safety of those employed by American manufacturing companies around the world.

RECOVERY: THE TOOLS NEEDED TO REOPEN AND RESTART OUR ECONOMY

Ramping up production of essential goods means that **employees must be able to go out in public and into their places of work confident that proper health precautions are being implemented**. More testing is needed, as is clarity on other best practices for staying safe and healthy:

- Congress should appropriate funds to ensure that **COVID-19 tests** are widely available so that Americans can safely return to work.
- The Equal Employment Opportunity Commission should provide guidance to employers on administering employee **temperature checks and COVID-19 testing**.

- The Centers for Disease Control and Prevention, Occupational Safety and Health Administration, Department of Labor and EEOC should publish “**Return to Work**” **guidance** that clearly defines proper hygiene and sanitization processes and practices that employers must follow.
- OSHA must publish a guidance memorandum that defines the differences between face coverings and PPE and whether using **face coverings** is mandatory or voluntary.
- OSHA must notify businesses that they will trigger **PPE requirements** (hazard assessments, testing, etc.) when they require employees to do certain tasks.
- The EEOC should continually **update its guidance materials** to help employers understand what questions they can ask employees and what actions can be taken to increase safety protocols and not discriminate against employees. The EEOC should use its discretion and not penalize employers that have taken good faith efforts to protect workers and increase safety measures.
- The Department of Labor should provide employers **flexibility to modify schedules** and create new work calendars to lower the risk of spreading COVID-19.
- Congress should enhance tax incentives for employers who invest in safety equipment, including handwashing stations, respiratory equipment and cleaning products.

Legal reforms are necessary for companies in essential industries that are trying to do the right things so that they can continue their vital work in keeping America safe and healthy:

- Congress should limit lawsuits in state and federal courts claiming damages for COVID-19 exposure in the workplace to those based on claims that companies had actual knowledge that the person would be exposed to COVID-19 and acted with reckless indifference or conscious disregard as to whether the person would contract it, and require that such allegations be pled with particularity.
- Congress should acknowledge that the patchwork of advice, industry practices and state responses during a national emergency creates difficulties to identifying a clear standard of care.
- Congress should provide employers with a safe harbor for collecting and exchanging crucial information related to employees’ health status and implementing reasonable measures such as temperature checks to combat workplace transmission of COVID-19.
- Congress should place state public nuisance claims off-limits for the spread of a pandemic disease during a declared national emergency.
- Congress should insulate publicly traded companies for claims based on hindsight evaluations of decisions to remain operational during the crisis or to close entirely or at specific sites based on good faith concerns, or for regulatory disclosures made based on the limited and imperfect information available at the time of the disclosure.

- Congress should prevent the creative use of state tort claims from undermining a response to this crisis or one yet to come.
- The Department of Labor should protect employers from frivolous litigation by publicly announcing what California has already said: COVID-19 can be considered an "unforeseeable business circumstance" under the WARN Act.

Manufacturers across the country have completely redesigned their shop floors to produce critical materials like respirators, face shields, masks, gowns and hand sanitizer for the first time. Others have taken protective equipment that they themselves would have used and donated it to local hospitals. Yet state and local Good Samaritan protections vary widely and **may fail to protect manufacturers from unwarranted lawsuits related to these lifesaving actions. Targeted legal reforms are necessary** to protect manufacturers who have acted in good faith to aid those on the front lines of this crisis:

- Congress should enact liability protection from state or federal claims arising out of the use of masks, respirators and other protective equipment.
- Congress should allow manufacturers to use basic masks and other items designed to slow the spread of COVID-19 in their sites without fear of liability if more suitable options are deployed for health care workers on the front lines.
- Congress should extend volunteer protections for employees who deliver protective equipment to hospitals.
- Congress should generally limit liability to attach only to those who acted with actual knowledge of the product's defect in conscious disregard for the health and safety of others.

Additional steps are also needed to ensure the **financial health of American workers**:

- Congress should provide additional funding to support **unemployment insurance benefits**.
- Congress should exempt COVID-related temporary wage increases or bonuses from "**regular rate of pay**" rules under the Fair Labor Standards Act.
- Congress should allow companies to pay **tax-free bonuses** to employees who work during this crisis.

RENEWAL: A STRONGER AMERICA IS SAFER AND MORE PROSPEROUS

A strong economic recovery will not be possible without a strong manufacturing industry. Investments made today will **protect jobs** and ensure that manufacturing in America remains viable and ready to lead robust economic growth when the crisis abates:

- Congress should continue to provide liquidity up to **\$1.4 trillion in loans and grants** for manufacturers impacted by COVID-19, ensuring financial security for the nearly 13 million men and women who make things in America.
- Congress should **expand the Paycheck Protection Program** by increasing funding sufficient to ensure that all small businesses can qualify for the program.
- Congress and financial regulators should engage in oversight of PPP lenders to ensure that **loans are disbursed fairly** and manufacturers of all sizes, from all areas of the country, including **minority- and women-owned businesses**, are able to access needed funds. Where appropriate, penalties should be assessed for discriminatory actions that prohibit these small businesses from receiving loans.

Clarifying loan requirements and speeding up delivery will make a profound difference for manufacturers:

- The Treasury Department and the Small Business Administration should encourage **rapid and timely disbursements from the Paycheck Protection Program** by providing needed certainty to lenders:
 - Provide clear guidelines regarding eligibility and processes or loan forgiveness.
 - Reduce legal liability for lenders who comply with the legal requirements to disburse funds pursuant to the program.
 - Allow captive finance companies to participate as lenders in the program.
 - Clarify terms of secondary market purchases of loans made pursuant to the program by non-bank lenders.
 - Reform affiliation rules to ensure that all small manufacturers can qualify for the program.
- The Treasury Department and Federal Reserve should **speed the delivery of aid to businesses** by addressing key issues related to their new lending facilities:
 - Clarify the scope of a Federal Reserve provision that prohibits companies from participating in certain liquidity programs if they have otherwise received "specific support" from the CARES Act or other federal legislation. Businesses that utilize general items authorized in the bill, like tax credits, should not be excluded.

- Allow more companies to access funding facilities by expanding the pool of qualifying bond ratings and ratings agencies used to determine eligibility for specific liquidity programs.
- Ensure that a U.S. entity with a substantial American workforce or significant domestic presence can access needed liquidity resources, irrespective of the country in which its legal parent company is domiciled.
- Allow more borrowers to utilize the Main Street Lending Program, including by reducing the minimum loan amount and reforming the maximum loan calculation to encourage participation from smaller companies.

Through **tax and pension provisions**, Congress and the IRS can take additional immediate actions to **inject more liquidity into the manufacturing industry**, further enhancing job security:

- Congress should provide additional liquidity to manufacturing by expanding and improving upon recently enacted tax relief provisions (such as net operating loss carrybacks and the employee retention tax credit) and by allowing companies to **accelerate the utilization of tax benefits**, including general business credits.
- The IRS should further **delay all scheduled federal tax payments** (including quarterly payments of estimated tax) during this crisis and the initial stages of the economic recovery.
- Congress, the Pension Benefit Guaranty Corporation and the IRS should provide **relief to defined benefit plan sponsors** by freezing interest rates at pre-crisis levels for the purposes of determining contribution requirements, extending pension smoothing, modifying the interest rate corridor and extending the time frame for plan sponsors to make funding balance elections.

A renewed economy will also be a changed economy, and **dislocated workers will need significant support through training and jobs programs**. The Manufacturing Institute, the workforce and education partner of the National Association of Manufacturers, recommends a **\$10 billion investment in workforce and job training programs** through Workforce Innovation and Opportunity Act, Perkins and grants programs. \$2.5 billion should be reserved for manufacturing programs with a focus on key priorities:

- Congress and the Department of Labor should award all discretionary or competitive grant funds no later than 18 months after passage of a bill, and funds should be given for grant proposals no longer than 24 months in length.
- Congress and the Department of Labor should prioritize **customized training models** for all funded programs up to two years in length to guarantee a connection to employment for participants.
- Congress should prioritize **earn-and-learn models** in all workforce legislation and allow for expenses that support business participation and student success.

- Federal and state lawmakers should enable recovery funds from Perkins and USDOL grants to be used for the **purchase of necessary equipment** in community and technical colleges and allow for secondary schools to utilize this new equipment through partnerships between high schools and community colleges.
- Congress and the Department of Education should **reduce barriers** and encourage flexibility to allow experienced manufacturing employees to become training instructors.
- Congress should require **partnerships with industry associations** or reserve a portion of funding for industry associations to improve dissemination of successful solutions across companies and regions.

Even before the crisis, America desperately needed bold infrastructure investment. Now, building a **21st-century infrastructure system** will not only provide urgently needed jobs but also lay the foundation for a more competitive economy:

- Congress should approve historic investment of at least \$1 trillion in our nation's infrastructure that aligns with the NAM's "**Building to Win**" blueprint, which calls for upgrades to our transportation, water, energy and digital infrastructure systems.

Smart adjustments to America's tax and financial regulatory policies will further spur growth and safeguard economic progress:

- Congress should enact comprehensive **multiemployer pension reform** to protect retirement benefits and put the Pension Benefit Guaranty Corporation's Multiemployer Program on a path to solvency.
- Congress should enact legislation that **exempts from taxation income from loan modification, forgiveness or cancellation**.
- Congress should enact legislation that reduces to 2018 levels the **base erosion and anti-abuse tax**.
- The Securities and Exchange Commission should finalize reforms that would **expand the pool of "accredited investors"** who can provide capital to manufacturers.
- The Securities and Exchange Commission should allow companies to better convey to their investors the long-term nature of manufacturing investments by **moving away from one-size-fits-all quarterly reporting** obligations.
- Congress should enact a **reinsurance framework** to provide a backstop for manufacturers affected by disruptions from COVID-19 and future pandemics.

Encouraging exports and facilitating international trade will bolster manufacturing in the United States and create lasting job opportunities:

- Customs and Border Protection should **expedite duty drawback payments** and Section 301 tariff refunds, which were delayed before and during the COVID-19 pandemic, to allow these funds to be used to rehire and reinvest as soon as possible.
- Congress, the U.S. Trade Representative and U.S. International Trade Commission should **extend critical tariff relief programs**, such as the Miscellaneous Tariff Bill and the Generalized System of Preferences, to allow the importation of components critical to support the growth and renewal of U.S. manufacturing.
- Congress should **increase the competitiveness of the Export-Import Bank** to allow manufacturers in the United States to compete on a level playing field with foreign manufacturers that are supported by increasingly flexible and tailored financing from foreign Export Credit Agencies.
- The U.S. Trade Representative and Congress should recommit to an **active trade agenda** to remove foreign trade barriers and open critical markets, including by restarting trade negotiations paused or slowed during the coronavirus—such as binding “phase two” China trade agreement negotiations—and launching negotiations to eliminate tariff and nontariff barriers with likeminded countries (for example, U.S.–EU, U.S.–UK and U.S.–Kenya negotiations).
- The White House, U.S. Trade Representative, Department of Treasury and Department of Commerce should postpone internal U.S. government discussions regarding potential U.S. withdrawal from the **World Trade Organization** generally and WTO agreements, including the Government Procurement Agreement, as such moves would create significant business uncertainty and operational disruption.
- The Department of Commerce and Small Business Administration should expand U.S. government **export promotion programs**, enhancing manufacturers’ ability to compete and win in the global marketplace.
- The administration should develop a targeted list of products for which Section 301 tariffs and retaliatory tariffs can be suspended or removed to spur economic growth and job creation; in the interim, credit the tariffs being paid back to the companies affected.

Leaders can take action now to recognize that future economic and national security are both enhanced by a **strengthened U.S. manufacturing supply chain**:

- The administration and Congress should promote manufacturing in the United States by creating a tangible policy plan to support investments in domestic manufacturing. This plan should:
 - Utilize the tax code to encourage investment in U.S. manufacturing.
 - Create a new tax credit to support the onshoring of manufacturing activities, such as moving operations to the U.S. or investing in capital equipment, to support the purchase of property, facilities and more.
 - Provide tax incentives to help companies recruit and train the skilled workforce needed to expand modern manufacturing in the U.S.
 - Ensure that tax incentives for equipment purchases and a full deduction for R&D expenses remain in place.
 - Pass legislation to prevent scheduled tax law changes from going into effect that would increase the cost of obtaining a business loan.
 - Create an incentive, effective for a limited period of time after operations are moved to the U.S., to help mitigate increased labor costs.
 - Direct the General Services Administration to open the federal government's portfolio of surplus and underutilized real property and equipment for purchase—at less than market rates—by companies that want to onshore.
 - Produce an annual, comprehensive report on the relative competitiveness of the U.S. tax and regulatory regime with expedited congressional consideration of recommended actions to ensure that America is the most attractive place in the world to start and grow a business.
 - Expedite federal permitting necessary to acquire and build onshored operations.
 - Expand federal investments in advanced manufacturing technologies to ensure the long-term competitiveness of the sector.

Senator MORAN. With that, I turn to the Ranking Member, Mr. Blumenthal, or perhaps the Ranking Member of the Full Committee. Richard, I have never seen you not in person. So glad you have joined us. Thank you.

**STATEMENT OF HON. RICHARD BLUMENTHAL,
U.S. SENATOR FROM CONNECTICUT**

Senator BLUMENTHAL. Thank you so much, Mr. Chairman. Ordinarily I would be with you in person. I am here in Washington, D.C., but I am taking this extra precaution to participate remotely just for today.

And for you and for me and for many of us, this issue is indeed personal, and I am so glad that you and the Chairman, Senator Wicker, have agreed to do this hearing and especially grateful to Neil Gilman of Bozrah, Connecticut for participating remotely as I am doing.

I want to just make a couple of quick points, and I know we have a vote so we may have to take a recess. But the coronavirus pandemic has created a surge in demand for personal protective equipment and other public health products all across our country and the world. Everyone, particularly health care professionals and essential workers, our heroes today, urgently needed face masks, gloves, and hand sanitizer, among other products. This sudden and universal need for critical supplies exposed alarming vulnerabilities in our system and our supply chain. The United States relies heavily on imports of key medical supplies and equipment, but China and other countries restricted exports and focused solely on their own national health response. As a result, supplies severely dwindled, and our health care professionals, first responders, and front-line workers were put at unacceptable risk.

Fortunately, American manufacturers took up the mantle. They worked tirelessly to produce PPE, ventilators, and other supplies. All around the country, companies began repurposing existing manufacturing lines and investing in new equipment. They often paid to upgrade their infrastructure out of their own pockets during this crisis.

Gilman Gear is a model American success story. It is a Connecticut story, but it also is a model for America. And I am very proud of Neil Gilman's family and all of the companies in Connecticut that stepped up, stood out, and spoke up to help address this crisis. And they helped really address this public health crisis.

In Shelton, Connecticut, Modern Plastics created a new business division. They are currently producing 300,000 face shields every day. By early next year, they aim to ramp up to 1 million face shields per day. They are growing. They are planning to open a facility in Derby. They are going to hire more employees to meet demand. I look forward to visiting with them and other companies in Connecticut such as in South Windsor, I spent some time at Preferred Protective Equipment. They put their expertise as a global leader in manufacturing high end retail stores display to public health use. Preferred Protective Equipment heard first responders' complaints of headaches and discomfort from extended face mask use, as well as concerns about the single use nature. They used their expertise to design a new face shield that is comfortable. It

can be reused. It is affordable, and it is a great public service. The smart business sense and public service of Gilman Gear, Modern Plastics, Preferred Protective Equipment, and countless others that our first responders and essential workers have been served by is really a great success story.

Safeguarding our supply of PPE is not only a matter of public health and national security, it is also a consumer protection issue. Throughout the pandemic, consumers and even hospitals were desperate to find face masks and other crucial equipment. Out of desperation, many turned to middlemen and online marketplaces. Unfortunately, counterfeit PPE such as fake 95 face masks flooded the market. There was little information available to consumers that could guide them through the morass of con artists and fakes. Online marketplaces often took inadequate measures to find and remove fake or suspicious PPE. The health consequences of fake medical supplies are potentially life-threatening.

That is why it is so important to ensure a robust and reliable domestic supply of PPE, to have products from trusted companies close to their communities. Manufacturers can work with State officials and hospitals in hand.

Congress and the Federal Government should do more for these business leaders. The Defense Production Act provides useful tools to the President to incentivize and require the production of key medical supplies. Regrettably and really very unfortunately for all Americans, the President has failed to fully utilize the Defense Production Act and support American manufacturers. They deserve it. So do the American people.

The House-passed HEROES Act would provide tens of billions of dollars in funds to assist health care providers and boost domestic supplies. It would also require the President to use his authorities under the DPA to support more production of diagnostic tests, medicine, and other crucial medical supplies.

I look forward to hearing from the witnesses.

Again, my thanks to the Chairman and Senator Moran for holding this hearing. Nothing is more important than providing this kind of affordable, reliable, and robust supply of PPE, medical supplies, and other aid to our frontline workers and to Americans as a whole. Thank you, Mr. Chairman.

Senator MORAN. Senator Blumenthal, thank you. In my mistaken view that you were at least temporarily absent, I failed to compliment you and thank you for your cooperation and work in putting this hearing together. When you and I first discussed this, I think we thought this would be looking back. Unfortunately, we have not escaped the challenges that lie ahead, and so while we are looking at what has transpired in the past, we are doing so in preparation to make sure that our country is prepared for today and tomorrow. So thank you for your cooperation and your assistance. Thanks for working closely with me to see that this hearing took place.

We are going to now turn to witness testimony. The order that our witnesses will testify is Mr. Bulusu, Mr. Gilman, Mr. Krska, Ms. Stovall, and Mr. Wessel. So, Mr. Bulusu, I now call on you for your 5 minutes of testimony. Welcome and thank you for being here. I would report it is a Kansan who is in the room testifying.

STATEMENT OF RAVI BULUSU, FOUNDER, MOLMAS, INC.

Mr. BULUSU. Chairman Moran. Thank you, Senator Blumenthal. I much appreciate this opportunity and thanks a lot for all your team that supported and guided us all through the way here.

So we co-founded MolMas, Incorporated. I co-founded MolMas, Incorporated, and we are based out of the greater Wichita area in Kansas.

I would like to take us through the journey that we have gone through so far since the COVID pandemic struck in the early part of this year.

The COVID pandemic, which started at the beginning of this year, continues to impact how we live as a society. It exposed critical gaps in our health care system and opened up fault lines that we never knew existed. At the root of all of this is one sad, harsh reality. We do not have a strong manufacturing base for PPE or the equipment that is used to make PPE.

At the ground level, single-use, disposable masks were being re-used, going against the established practice for well over 50 years. Our PPE supply chain, including the machinery used to manufacture them, is overseas dependent, from masks to ventilators. They were throttled before and can be throttled yet again.

For instance, we bought our machinery and raw material from overseas at many times the pre-COVID prices. The raw material was available at a minimum of 30 to 65 times from overseas.

Domestic production continues to not meet the demand, so we rely on imports. However, do we have a handle on the quality? Are there quality controls on the manufacturing process overseas? We do not know. All these questions leave gaps in our preparedness that need to be addressed.

How can we set up our economy and society for resilience in this pandemic or, God forbid, future disasters? Sirs, the simple mask was pioneered here in America. Why is it then that we have a scarcity of good quality face masks today?

How can we achieve self-sufficiency? The only way to actually achieve that is through producing our own medical manufacturing equipment as well and to secure our raw materials supply chain.

The very first case of COVID in our country was identified in my home State of Washington. The factory itself is based out of the greater Wichita area in Kansas. And this was a few miles north of where I live. My wife, a physician, works on the front lines in an underserved area. My younger daughter at that time was 9 months old and was still nursing. So I requested her, maybe selfishly, if she would consider quitting her job. She shot me down immediately and said that was what I had signed up for when I married her.

So I started looking for solutions, solutions to keep her and also her colleagues safe. Quickly I realized that charity was just not going to cut it. We had to manufacture it, and we had to do that to address the three critical areas of availability, product quality, and supply chain reliability. We could not compromise on either. We needed to make PPE here in America out of American raw material. So we pivoted to make face masks.

A whole range of new discoveries ensued. We quickly learned that the bulk buyers of PPE, that is, the State and local governments, were by policy procuring them at the lowest price. So the

overseas product that is being dumped in the U.S. ends up being the default choice. Ironically, the best opportunity to strengthen our supply chain is instead perpetuating our dependence, not weaning us off of it.

The direct-to-consumer sales front was very challenging as well. Well-intended policies by our social media and the e-commerce channels, aimed at preventing price gouging and protecting the consumer, were inadvertently stifling start-up American manufacturers like us. We were prevented from directly—we still are prevented from directly advertising to the consumer. We are forced to rely on old-fashioned cold calling. Net-net, the American manufacturer, who in the true American spirit of grit and fortitude, in the face of threat and stood up to fix the problem, is facing pressure on either end.

I take inspiration from the race to the Moon. 1961 propelled our dominance in space and the human race benefited. The superior technology is what inspired me, a first generation immigrant, to come to America, to contribute positively to change. We look at this honorable chamber to help evolve policy that unleashes the latent spirit of innovation, the prowess to manufacture at superior quality, and the zeal to take the human race forward. Let us not ask can America do it because America has done it multiple times before and very successfully so.

I humbly submit a few recommendations for consideration.

Treat self-sufficiency in the production of medical equipment as a national priority just like we treat national security, economic security, and some nations do food security.

Incentivize startups in the area. Democratize to release the animal spirits of the innovators.

Supportive policy in the immediate 3-year term will help them thrive, especially so in the face of relentless dumping of overseas product.

Reduce regulation. Statistically speaking, 99 percent of startup businesses die in their infancy, and we are talking about the first 1 to 2 years. Regulation during this phase can be very detrimental to this very critical industry that is already under significant stress. If we do have to regulate, however, or restrict, let us remember that America has always produced more than enough, not just for ourselves, but for the entire world. The human race always benefited from America's progress. This will still be the same.

As opposed to blanket restrictions, consider publishing a very nuanced data-driven policy that keeps the doors open for foreign markets. Such a major thrust of this nature will most certainly result in secondary and tertiary benefits that, in the post-pandemic world, will put us in a much, much better position much like the goal to land on the moon did.

I take this opportunity to also urge my fellow manufacturers let us fix this.

Thank you all for the opportunity.

[The prepared statement of Mr. Bulusu follows:]

PREPARED STATEMENT OF RAVI BULUSU, FOUNDER, MOLMAS INC.—FACE MASK
MANUFACTURER

The Covid19 pandemic which started at the beginning of this year continues to impact how we live as a society. It exposed critical faults in our healthcare system and opened up faultlines that we never knew existed. At the root of all of this is one sad yet harsh reality—We do not have a strong manufacturing base for PPE or the equipment used to make PPE.

1. At the ground level, disposable masks, meant to be disposed off, after a single use to prevent cross infections were being reused. This goes against the prescribed and established practice for well over 50 years.
2. Our PPE supply chains including the machinery used to manufacture them, have been overseas dependent, whether for a simple mask or life saving ventilators. These supplies can be throttled at their origin like they were earlier this year, anytime!

As a startup, we have first hand experience of such challenges. We bought our machinery and raw material from overseas at many times the pre-covid prices. The raw material was available at a minimum of 30—65 times from overseas. Worse, the prices were moving upwards on a daily basis. Many times the spike driven by apparent market forces, surprised us also in how there was not much variation in prices across vendors.

3. Domestic production continues to not meet the demand. So, the scarcity continued for months! While that might have since improved due to imports, it is not very clear if we do have a handle on their quality due to lack of adequate quality controls on the manufacturing process. The supply itself continues to be at risk as it may be throttled yet again like it was before.

The above open questions leave gaps in our preparedness that need to be filled. States competed with each other to procure PPE at any price. When availability itself is a challenge, quality and reliability are far secondary considerations.

How can we set up our economy, nay our society for resilience in this pandemic or God forbid, future disasters? Sirs, the simple mask was pioneered here in America in the 1920s. Why is it then that we have a scarcity of good quality masks? How can we achieve self-sufficiency in PPE and medical equipment?

The only way to achieve that confidently and reliably is to produce our own medical supplies and also the equipment used to manufacture them and while simultaneously securing our supply chains for raw materials as well.

OUR JOURNEY

The very first case of Covid in our country was identified in my home state, Washington, a few miles north of where I live. My wife, a physician, is contributing on the frontlines, in an underserved area. My younger daughter at the time was 9 months old, and still nursing. So, I asked my wife maybe selfishly, if she would consider quitting her job, because of the PPE scarcity. She immediately shot me down reminding me that, that was what I had signed up for when I married her. So, I started looking for solutions to keep her and also her colleagues safe. Charity just wasn't going to cut it.

After some research it was clear that, to address the three critical issues of 1) availability, 2) product quality and 3) supply chain reliability, there was an urgent need to make face masks ourselves. The decision was not too difficult to take. So, we pivoted MolMas to manufacture face masks here in America!

That, however, was only the beginning of a whole range of new discoveries in the process. We quickly learnt a few things:

1. The bulk buyers of PPE, especially face masks, *i.e.* the state and local governments were by policy, procuring them at the lowest price. This meant that overseas product that is being dumped in the U.S. ends up being the default choice. Ironically, an opportunity to strengthen our medical equipment supply chain is instead, benefiting the very same unreliable overseas manufacturers that we have over decades become accustomed to relying on.
2. On the direct to consumer sales front, was challenging as well. Well intended policies by our social media and e-commerce channels, aiming to prevent price gouging, were inadvertently stifling American manufacturers of the opportunity to directly advertise to the end consumer. As a consequence of the above two, our sales process was forced to rely on old fashioned cold calling to distributors, or on e-mail campaign strategies from 20 years back.

As a net effect, American manufacturers like us are stifled not because we are unable to manufacture but because the sales channels are at the very best severely throttled.

POLICY RECOMMENDATIONS

I take inspiration from the race to the moon! 1961 propelled our dominance in space and the human race benefited. That is what inspired me, a first generation immigrant to come to America, to contribute positively to change. We look to this honorable chamber to evolve policy that unleashes the latent spirit of innovation, the prowess to manufacture at superior quality, the zeal to take the human race forward. Let us not ask “Can America do it?”. America has done it multiple times before. Supportive policy making will accelerate it and get us to where we need to be quicker. Below are a few recommendations for consideration.

1. Treat self-sufficiency in the production of medical equipment, including PPE as a national priority just like we treat national security, economic security and some nations do food security.
2. Incentivize startups in the area. Democratize to release the animal spirits of the entrepreneurs and innovators.
3. Supportive policy in the short to medium term will help these startups thrive, especially in the face of relentless dumping of overseas product.
4. Avoid regulation—Statistically speaking, 99 percent of startups/new businesses die in their infancy, across sectors. Regulation during the startup phase can be detrimental to a very critical industry that is already under stress.
5. As opposed to blanket restrictions, consider publishing a nuanced data driven policy that specifies the quantities of products that could be allocated to exports.

LONG TERM BENEFITS

Innovations for the pandemic will directly help improve the quality of healthcare and quality of life of our baby boomers in specific and the society in general. Merely through requiring stricter quality checks and higher quality bar, cross contamination can be brought down. Innovation in this space will further reduce it thereby directly contributing to improving the quality of life and quality of care. That will in turn reduce the stress on medicare and medicaid.

By going beyond incremental process improvements the medicare, medicaid funding situation could benefit directly.

A major thrust of this nature will not merely improve our response to the pandemic, it will also result in secondary and tertiary benefits in the post-pandemic world much like the goal to land on the moon did.

Senator MORAN. Mr. Bulusu, thank you for your testimony and the passion with which you presented it.

Mr. BULUSU. Thank you.

Senator MORAN. Let us now hear from Mr. Neil Gilman. Mr. Gilman?

STATEMENT OF NEIL GILMAN, PRESIDENT, GILMAN GEAR

Mr. GILMAN. Senator Moran, Ranking Member Blumenthal, distinguished Senators, ladies and gentlemen, thank you for the opportunity to provide testimony today on the urgency of sustaining a domestic supply chain for PPE during the COVID pandemic.

I come before you as a second generation business owner who runs a manufacturing business in Connecticut. My ancestors built one of the first textile mills in New England. My father built a business that pioneered the development of football training equipment, which he started in 1929. My company is the nation’s leading manufacturer of blocking and tackling dummies and sleds.

When the pandemic struck and the nation’s Governors were issuing stay-at-home orders, most, if not all, the high schools and colleges closed, as well as the entire National Football League. The

game of football was on hold. College football at 591 schools was canceled or moved to the spring. High school football in 24 states was canceled or moved to the spring. Our whole market cratered and collapsed. We were on the brink of shutting down and laying off all of our employees and potentially going out of business.

I thought of my grandfather, Nathan Gilman, who repurposed his textile mill to make Army blankets during World War II. I too wanted to contribute in some meaningful way to help the medical professionals on the front lines battling this deadly COVID virus. I read about the terrible shortage of PPE in our hospitals, nursing homes, assisted living and urgent care facilities. I saw pictures of doctors wearing rain ponchos as gowns, using ski goggles as eye protection, and recycling N95 masks for days on end.

I later learned that the whole domestic PPE market had moved their manufacturing mainly to China to take advantage of cheap labor and material. At the time, the Chinese were dealing with their own domestic pandemic and had decimated their own supply of PPE. When COVID spiked in the United States, hospitals found their normal supply chain choked off and the Chinese market was unable to meet their demand.

Gilman Gear has a large cut and sew operation. I was determined to make an isolation gown because we had the equipment to cut and sew them.

[Pause.]

Senator MORAN. I think we have lost Mr. Gilman. My suggestion is that we probably need to recess anyway so that I can go cast a vote, the other members can cast their votes. There are two votes, and by leaving now, I will arrive at the end of the first vote and vote the first one and return.

Senator Thune is expected to come here and replace me to help accomplish that. If he arrives before I come back, he can reconvene the hearing.

And, Mr. Gilman, if you can hear me, we will start that second phase of our hearing with the conclusion of your testimony. Thank you.

So the Committee will stand in recess till the sound of the gavel.

[Recess.]

Senator MORAN. There is a potential of a third vote now, which we will not know until—I do not know—a half hour from now whether that is happening, but maybe we can work it so that we can tag team the chairmanship. Senator Blumenthal I think is back with us, and I will make certain that maybe he and I can trade positions so we can both vote at different times, if that happens.

The Committee is reconvened.

Mr. Gilman, if you are available, you have about a minute and a half time left. I think we heard your testimony to that last point and would love to hear your concluding remarks.

Mr. GILMAN. Senator Moran, can you hear me?

Senator MORAN. Mr. Gilman?

Mr. GILMAN. Yes. Can you hear me?

Senator MORAN. Yes, sir.

Mr. GILMAN. OK. So I am going to pick up my testimony from where I left off.

Senator MORAN. Yes, sir.

Mr. GILMAN. OK.

I was determined to make isolation gowns because we had the equipment to cut and sew them. I quickly got a sample from a local hospital, designed my own pattern, researched the materials the gowns were made of, and built a prototype. I sent it over to Yale New Haven Hospital. They evaluated it and awarded me my first big order. I was able to get business because there was surge demand. The hospitals needed more gowns than they could buy from their normal supply chain, and they turned to me to bridge the gap.

The problem was twofold. The hospitals wanted the gowns fast and they wanted them cheap. To meet the aggressive supply schedule, I had to invest in new machinery and hire more employees. We went from making 200 gowns a week to making more than 12,000 gowns per week.

Pricing was an even more difficult hurdle. The hospitals were reluctant to pay more than the price they had paid for the product exported from China. I could not match that price unless I moved my factory to China. My gowns are 100 percent American made. I am at a competitive disadvantage. My labor costs are higher. My material costs are higher. I am able to mitigate some of the cost disparity with technology. But at the end of the day, my American made gown is two to three times more expensive than those made in China. However, my American made gown is of a higher quality and meets a higher level of protection. But in the PPE market, an isolation gown is considered a commodity item and buyers in the medical community are just looking for the cheapest price.

I am here with an urgent plea for the Federal Government to do more to help the private sector sustain the PPE business in the United States. China dominates the market for PPE. The Chinese Government has made manufacturing PPE a priority not only from a national security standpoint, but also with a view to creating domination over a globally critical marketplace. The Chinese Government has implemented this strategy by taking the following measures:

First, factory owners get cheap land courtesy of the Chinese Government.

Second, factory owners get loans and subsidies.

Third, Chinese hospitals are told to buy local, giving China's suppliers a vast and captive market.

The Federal Government can play a vital role in sustaining United States companies that have pivoted to making PPE if it will do the following:

First, implement a Buy American preference across all Federal agencies that purchase PPE.

Second, create a subsidy for companies investing in new plant and equipment for manufacturing PPE.

Third, establish a tax credit for every job created to manufacture PPE.

We are not looking for a handout. We want, to use a football term, a level playing field so we can compete with China.

What is at stake here is the future of manufacturing PPE in Connecticut and, for that matter, across the United States. If we

let China dominate the market for PPE, if we let them control the supply chain for PPE, does that not compromise our ability to cope with this pandemic? Do we want to be at the mercy of China when and if there is a pandemic in the future?

What is at stake here is jobs. The 50 jobs we support at Gilman Gear are precious. If we lose them to China, they are not coming back.

What is at stake here is our ingenuity and ability to pivot on a dime from a mature business making football equipment to making PPE to serve the medical community. We evolved and we re-invented ourselves during a national emergency and sustained 50 jobs during the worst economic downturn in our history. Help us to sustain this critically important business today and in the future.

Thank you.

[The prepared statement of Mr. Gilman follows:]

PREPARED STATEMENT OF NEIL GILMAN, PRESIDENT AND CEO, GILMAN GEAR

Senator Moran and Ranking Member Blumenthal, distinguished Senators, ladies and gentlemen, thank you for the opportunity to provide testimony today on the urgency of sustaining a domestic supply chain of PPE during the COVID pandemic.

I come before you as a second-generation business owner who runs a manufacturing business in the State of Connecticut. My ancestors built one of the first textile mills in Connecticut. My father built a business that pioneered the development of football training equipment in 1929. My company is the Nation's leading manufacturer of blocking and tackling dummies and sleds. When the pandemic struck and the Nation's governors were issuing stay at home orders, most, if not all, the high schools and colleges closed, as well as all of the NFL. The Game of Football was on hold. College football at 591 schools was cancelled or moved to the spring. High School football in 24 states was cancelled or moved to the spring. Our whole market cratered and collapsed. We were on the brink of shutting down and laying off all my employees, and potentially going out of business. I thought of my grandfather, Nathan Gilman who re-purposed his textile mill to make Army blankets during World War II. I, too, wanted to contribute in some meaningful way to help the medical professions on the front lines battling this deadly COVID virus. I read about the terrible shortage of PPE in our Hospitals, Nursing Homes, Assisted Living and Urgent Care Facilities. I saw pictures of doctors wearing rain ponchos as gowns, using ski goggles as eye protection and recycling N95 masks for days on end. I later learned that the whole domestic PPE market had moved their manufacturing mainly to China to take advantage of cheap labor and material. At the time, the Chinese were dealing with their own domestic pandemic and had decimated their supply of PPE. When COVID spiked in the US, hospitals found their normal supply chain choked off and the Chinese market was unable to meet their demand. Gilman Gear had a large cut and sew operation. I was determined to make Isolation Gowns because we had the equipment to cut and sew them. I quickly got a sample from a local hospital. Designed my own pattern. Researched the materials the gowns are made of and built a prototype using a non-woven polypropylene material. I sent it over to Yale New Haven Hospital. They evaluated it and awarded me my first big order. I was able to get business because there was "surge demand." The hospitals needed more gowns than they could buy from their normal supply chain, so they turned to me to bridge the gap.

The problem was twofold. The hospitals wanted the gowns fast and they wanted them cheap. To meet the aggressive supply schedule, I had to invest in new machinery and hire more employees. We went from making 200 gowns a week to more than 12,000 gowns per week. Pricing was an even more difficult hurdle. The hospitals were reluctant to pay more than the price they paid for the product exported from China. I couldn't match that price unless I moved my factory to China. My gowns are made 100 percent American made. I'm at a competitive disadvantage. My labor costs are higher. My material costs are higher. I'm able to mitigate some of the cost disparity with technology. But at the end of the day, my American made Gown is two to three times more expensive than those made in China. However, my American made Gown is a higher quality and meets a higher level of protection. But in

the PPE market an Isolation Gown is considered a commodity item and buyers in the medical community are just looking for the cheapest price.

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- Factory owners get cheap land courtesy of the Chinese government.
- Factory owners get loans and subsidies.
- Chinese hospitals are told to buy local giving China's supplier's a vast and captive market.

The Federal Government can play a vital role in sustaining U.S. companies that have pivoted to making PPE if it will do the following:

- Implement a Buy American preference across all Federal agencies that purchase PPE.
- Create a subsidy for companies investing in new plant and equipment for manufacturing PPE.
- Establish a tax credit for every job created to make PPE.

We're not looking for a hand-out. What we want, to use a football term, is a level playing field, so we can compete with China.

What's at stake here, is the future of manufacturing PPE in the State of Connecticut and for that matter, across the United States. If we let China dominate the market for PPE. If we let them control the supply chain for PPE. Doesn't that compromise our ability to cope with this pandemic? Do we want to be at the mercy of China, when and if there is a pandemic in the future?

What's at stake here is jobs! The 50 jobs we support at Gilman Gear are precious. If we lose them to China, and they are not coming back.

What's at stake here is our ingenuity and ability to pivot on a dime from a mature business making football equipment to making PPE to serve the medical community. We evolved and re-invented ourselves during a national emergency and sustained 50 jobs during the worst economic downturn in our history. Help us to sustain this critically important business today and in the future!

Senator MORAN. Mr. Gilman, thank you for your testimony and for the response that it describes that you provided to COVID-19.

Mr. Krska, Mr. Rick Krska, is our next witness. Mr. Krska, you are recognized for five minutes.

**STATEMENT OF RICK KRSKA, PRESIDENT AND CHIEF
EXECUTIVE SERVANT, INKCYCLE, INC.**

Mr. KRSKA. I am the founder of InkCycle located in Shawnee, Kansas, and I would like to thank Senator Moran and Senator Blumenthal for the opportunity to share my thoughts and testimony.

After early careers in the industry of producing components for nuclear weapons, we started InkCycle in 1992 in the basement of our Kansas farm home. My wife Carol and I embarked on a new quest to bring manufacturing jobs to Kansas by starting a business which was and remains focused on four primary principles: number one, operate with the principles of servant leadership; two, serving our clients with high quality products; build a significant business that positively impacts a significant number of people internally and externally; and strive to create area employment and economic development.

Prior to starting the business, my partners and myself were working for Allied Signal where we were involved in the production

of components for nuclear weapons. We absolutely loved the engineering, production, and quality roles that we served in.

With the end of the cold war, the demand for our products declined, and we, like thousands of others, found ourselves looking for a job. So looking to the future, we found a sense of purpose. We all had a deep love for manufacturing. We had a desire to provide manufacturing jobs and employment to as many people as possible. After all, we had personally experienced firsthand what happens when a large employer has to downsize.

So here we are in 1992. We launched a new business. We began remanufacturing printer cartridges and rapidly became one of the largest toner cartridge remanufacturers in the USA. By 1995, 3 years later, we had become fourth out of 500 companies and we began to expand in the growing inkjet market. So 10 years later, by 2005 we had become the largest inkjet cartridge remanufacturer in the world employing over 800 people in Lenexa, Kansas.

The demand for remanufactured cartridges was being fueled by: number one, skyrocketing growth of laser and inkjet printers both in the office and at home; two, consumer savings of 25 percent or more versus name brand; and three, the realization that hundreds of millions of empty name brand cartridges were ending up in landfills and a more sustainable solution was needed.

So as the demand for remanufactured products continued to increase, this of course caught the eye of the Chinese. Many of the remanufacturing components were starting to be developed in China. Within a few years, China had become the dominant source of remanufacturing components and then, probably 5 to 10 short years later, the largest producer of newly built compatible after market cartridges in the world.

They were called “clones” in those days because they were basically knock-offs of the original cartridges that were exported to the USA with absolutely no respect for intellectual property and patent law. China quickly began to flood the market to make it impossible for the U.S. remanufacturers to compete. Over time, China, using infringing products, built such a size and scale that they were becoming impossible to compete with, and U.S. patents were expiring while Chinese manufacturers developed their own intellectual property. As time went along, the Chinese suppliers did begin to pay a lot more attention to patents, but by that time, they had so much scale it was unbelievable.

We found ourselves in a position where a Chinese product was available in China for \$5. The same product remanufactured here would cost \$20.

So by around 2015, 90 percent of the 5,000 U.S. remanufacturing companies and their manufacturing jobs were gone. Today that number of companies that are viable is estimated to be no more than 100 companies in the U.S. that are left.

So although we continue to remanufacture, we were forced to choose between buying and reselling a line of Chinese products or going out of business. I am proud to say that over the last 5 years, somewhere around two-thirds of the products that we sell still continue to be remanufactured in our factory. But we do supplement that with Chinese products in some areas where we just cannot compete.

Today, the two China-based companies now control over 80 percent of all aftermarket cartridge chips which, of course, is a technology barrier, and they set the global price. And what we see is those two chip companies in China do things that are against the law here in the United States where they collaborate on the pricing. And I am sure there is a different name for that here in the U.S.

But anyway, China-based Apex and affiliated companies is now the largest producer of newly built aftermarket cartridges and chips in the world.

Summarizing, China has decimated a U.S. remanufacturing industry of over 5,000 companies of all sizes.

However, our love for manufacturing has never wavered. As one of the last U.S. remanufacturing companies, we were frustrated with China's chokehold on our industry, but we were committed to producing what we could even if it meant also buying some products from China.

So fast forward to this year. Early 2020, late January, we were returning from a sourcing trip to Asia that started in Wuhan, China. We obviously witnessed firsthand the beginning of the global COVID pandemic. This inspired us to begin exploring how we might serve and do a business pivot into manufacturing PPE supplies. After all, we had filled hundreds of millions of plastic objects with high quality fluid and powder. So quickly we found that most of the PPE products came from China, as has been mentioned in earlier testimony.

The first product that we launched in our factory was a hand sanitizer that we used our manufacturing experience—and I have to say much of our equipment here too—to bottle this hand sanitizer in Kansas. Ironically, as we ramped up, we found that we would need to buy some of our materials still from China once again. The U.S. no longer has any real small bottle manufacturing capabilities. So we had to go to China to get the bottles.

As we continue to create opportunities for U.S. manufacturing jobs, we are now engaged in a new and exciting endeavor, the production and bottling of an ultra-effective and very safe surface disinfectant called hypochlorous acid. It is also known as HOCl. This is the safest, very safe for humans, pets, plants, the environment, but 80 times more powerful than bleach against all the viruses and all the pandemic bugs out there, including COVID-19.

So we are partnered up with another Kansas company here called Danolyte, and we are using our operations background and making preparations to produce and bottle HOCl in our factory. And we have been doing that now for some time. Our goal is to grow our company and once again bring in more production jobs. But interestingly, even in this area, we are still facing pressures from China as plastic bottle production, as I mentioned earlier, is still located primarily in China.

I am not here today to complain about China. They are smart and ambitious people. One cannot blame them for taking advantage of the opportunities that are in front of them and the political realities. It has been my experience and observation from spending much time in China that the top manufacturing companies in China are strongly backed and supported by their government. It

is my belief that if we seriously desire to bring manufacturing and critical supply chains back to the U.S., it will require strong support and new policy from Washington.

Moving forward, we welcome any discussions about how to help bring manufacturing back to the U.S. Our core team consists of experienced manufacturing engineers, production teams, quality assurance, and labor. In short, we have a huge passion for manufacturing products in Kansas, and we look to be of service however we can.

Thank you for your time.

[The prepared statement of Mr. Krska follows:]

PREPARED TESTIMONY OF RICK KRSKA, PRESIDENT AND CHIEF EXECUTIVE SERVANT,
INKCYCLE, INC.

- I would like to thank Senator Moran and Senator Blumenthal for this opportunity to share my thoughts and testimony.
- We love manufacturing and serving people with high quality products
- After early careers in the manufacturing industries of Telecommunications and Nuclear Weapons, we started InkCycle in 1992 in the basement of our Kansas ranch home.

1992: My partners and I embarked on a new quest to bring manufacturing jobs to Kansas City by starting a business which was (and remains) focused on three primary principles:

1. Design and produce high quality/high demand products
2. Create area employment and economic development
3. Build a business of significance—solve significant challenges and positively impact a significant number of people (internal and external)
4. Operate with principles of Servant Leadership

Prior to starting the business, myself and my partners were working for Allied Signal where we were involved in producing triggers for nuclear weapons. The products we were directly responsible for, properly functioning triggers, absolutely had to fire when they were supposed to and not fire when they shouldn't. There was no margin for error.

We absolutely loved the engineering, production and quality roles we served in and the challenging work environment. Our products demanded the utmost quality assurance and were subject to rigorous testing and audits daily.

With the end of the Cold War, the demand for our products declined and we, like thousands of others, found ourselves being downsized from what was a large Kansas City employer. Looking to the future, we found a sense of purpose.

1. A deep love for manufacturing. A passion that began for me in high school when I went to work for Western Electric. A passion that still exists to this very day.
2. A desire to provide manufacturing jobs and employment to as many people as possible. We had experienced firsthand what happens when a large employer has to downsize,

1992: We launch the new business. We began refurbishing printer cartridges and rapidly became one of the US's largest toner cartridge remanufacturers. By 1995 we had become the fourth largest in the country and began to expand into the growing inkjet market. By 2005 we had become the largest inkjet remanufacturer in the world, employing over 800 people in Lenexa, KS.

The demand for remanufactured cartridges was being fueled by:

1. Skyrocketing growth of laser and inkjet printing, both at the office and in the home.
2. Consumer savings of 25 percent or more vs. the name brand.
3. Realization that tens of millions of plastic and metal name brand cartridges were ending up in the landfill and a more sustainable solution (refurbishing) was needed.

As the demand for remanufactured products continued to increase, many of the remanufacturing components were being developed in China. Within a few years, China had become the dominant source of remanufacturing components and then later, the largest producer of newly built “clone” aftermarket cartridges in the world.

These early-stage “clones” were imported with absolutely no respect for U.S. intellectual property and patent law. China quickly began to flood the market to make it impossible for U.S. remanufacturers to compete. Over time, China, using infringing products, built such size and scale that they were becoming impossible to compete with, and U.S. patents were expiring while Chinese manufacturers developed their own intellectual property.

By this time, the prices for a newly built cartridge from China were less than our direct remanufacturing costs here in the US.

The tipping point came when we saw that a cartridge that cost us \$21 to refurbish was available newly built for \$5.95 in China. \$5.95 to cover all of their costs AND make a profit to produce something brand new vs. \$21 to refurbish! Seemingly impossible, yet this is what we were competing with.

By around 2015, 90 percent of the U.S. remanufacturing companies and their manufacturing jobs were gone. Today that number has dropped from over 5,000 to an estimated 100 or fewer companies.

Until this time, we were producing in our Kansas factory 98 percent+ of everything we sold. However, as China began shipping more and more newly built products into the US, we began to find ourselves, like every other U.S. remanufacturer unable to compete. We were forced to choose between buying and reselling a line of Chinese products or going out of business.

Today, estimates are that over 90 percent of the U.S. aftermarket cartridge business is produced in China compared to less than 5 percent 15 years ago. And prices continue to come down, along with U.S. refurbishing jobs.

Yet it was not just that China was selling newly manufactured products at less than what it costs in the U.S. to refurbish those products. China was beginning to acquire the necessary technology for U.S. remanufacturing companies to refurbish the cartridges, giving China the ability to strangle the U.S. remanufacturing industry.

In 2016, US-based Lexmark (printer manufacturer) was purchased by a Chinese consortium led by Apex Technology and PAG Asia Capital. Apex had already purchased the global leader in aftermarket print chips (US-based Static Control).

Two China-based companies now control over 80 percent of all aftermarket cartridge chips and set the global price. APEX (and affiliated companies) is now also the largest producer of newly built cartridges in the world.

As Apex/Lexmark controversial acquisition was finalized, it was apparent that China would control the U.S. aftermarket cartridge industry.

1. Set their new build prices at far under the cost for a U.S. remanufactured cartridge.
2. Provide chips only on specific models so there could be no competition from a U.S. reman company.
3. Control the cost of components so that their new-build cartridges would always remain priced under a U.S. reman version.

Summarizing, China has decimated a U.S. re-manufacturing industry of over 5,000 companies of all sizes.

Our love for manufacturing has never wavered. As one of the last U.S. remanufacturing companies, we were frustrated with China’s chokehold on our industry, but we were committed to producing what we could, even if it meant also buying in some products from China.

2020: In late January we were returning from a sourcing trip to Asia that started in Wuhan, China. We obviously witnessed firsthand the beginning of global COVID pandemic. This inspired us to begin exploring how we might serve and do a business pivot into manufacturing PPE supplies. Quickly we found that most of the PPE products came from China. Very few U.S. produced products were available.

The first product we launched was a hand sanitizer that we used our manufacturing experience to bottle here in Kansas City. Ironically, as we ramped up, we found that we would need to buy materials from China once again. The U.S. no longer had any real small bottle manufacturing capabilities anymore.

Interestingly, the strange Chinese “economics” we had seen in our core business was to be found in Chinese bottle manufacturing industry as well. Forced to buy bottles in China, we were purchasing our labels from a local Kansas label manufacturer at around \$0.15. The Chinese bottle supplier offered to print and apply the labels for a single cent. The cost to print a label in the U.S.—15 cents. The cost

to print the same label AND apply it to the bottle in China—1 cent. The U.S. loses label printing jobs and manufacturing application jobs.

As we continue to look to create opportunities for U.S. manufacturing jobs, we are now engaged in a new endeavor, Hypochlorous Acid. At 500 ppm, the EPA recognizes certain registered brands of Hypochlorous Acid as an ultra-strong and ultra-safe way to kill bacteria, germs, and viruses, including COVID-19.

We are moving forward with preparations to produce and bottle HOCL in our factory. Our goal is to grow our company and once again bring in more production jobs. Interestingly, we are again facing pressures from China as plastic bottles' production is controlled primarily by China.

It has been our experience and observation that manufacturing companies in China are strongly supported by their government. It is my belief that if seriously desire to bring manufacturing and critical supply chains back to the US, it will require strong support from Washington.

Moving forward, we welcome any discussions about how to help bring manufacturing back to the U.S. and insulate our country from unfair trade practices of other countries. Our core team consists of experienced manufacturing engineers, production teams, quality assurance, and labor. In short . . . we have a huge PASSION for manufacturing products in KANSAS!

Please let us know how we can be of service,

RICK KRKA,
President and Chief Executive Servant,
TonerCycle InkCycle, Inc.

Senator MORAN. Mr. Krska, thank you. Thank you for your passion for what you do and for Kansas, as you mentioned.

Ms. Tiffany Stovall is the Chief Executive Officer of the Kansas Manufacturing Solutions. And Ms. Stovall, you are recognized now as well for 5 minutes.

**STATEMENT OF TIFFANY M. STOVALL, CEO, KANSAS
MANUFACTURING SOLUTIONS, KANSAS MANUFACTURING
EXTENSION PARTNERSHIP (MEP)**

Ms. STOVALL. Good afternoon, Chairman Moran and Ranking Member Blumenthal and members of the Subcommittee. Thank you so much for this opportunity to appear before you to discuss the manufacturing community's response to the COVID-19 pandemic.

I am Tiffany Stovall. I am the CEO of Kansas Manufacturing Solutions, and as Senator Moran said, we are the MEP center for Kansas.

I am sure the Subcommittee is familiar with the Manufacturing Extension Partnership, also called MEP, but as a reminder, we are the nation's only program providing hands-on, in-depth support to small and medium sized manufacturers to help them compete more effectively in the global marketplace.

As a public-private partnership, the MEP national network has 51 centers. We have got one in every state plus Puerto Rico. MEP also has 1,300 manufacturing experts on staff, 400 service locations, and nearly 2,100 third party service providers and partners. We interact with over 28,000 manufacturers per year. MEP centers truly are the go-to experts for advancing U.S. manufacturing.

It is because of this history of working with manufacturers as trusted advisors that KMS, Kansas Manufacturing Solutions, and the MEP network was uniquely positioned to help support U.S. manufacturers when they had to adapt to this exceptional challenge that was presented to them during the COVID-19 pandemic. Manufacturers have had to respond to COVID-19 challenges within their own facilities, like we have heard about today, but they are

also helping our Nation respond to the COVID-19 pandemic by producing critically needed personal protective equipment, PPE, ventilators, and other equipment and goods essential to the nation's public health efforts.

We heard stories today of manufacturers shifting their capabilities to meet U.S. PPE needs, and the stories that we have heard are very similar to what is happening all across Kansas, as well as all across the United States.

When the lockdowns began in March, manufacturers across the country had to close their doors. Their suppliers could not supply them. Their customers could not buy from them, and they faced a series of mortal threats, none of which had been seen before. KMS and the other MEP centers across the national network have been here for them, and we are here for them now as manufacturing continues to lead the way toward economic recovery.

I would like to acknowledge and thank Congress for providing temporary cost share relief to the MEP for the 2020 Fiscal Year. Ordinarily the cost share requirement leverages Federal funding with a non-Federal match, but this temporary cost share relief has allowed KMS and the other MEP centers across the national network to provide much needed services to manufacturers during these unprecedented times.

Over the course of the last several months, thanks to the CARES Act funding and the temporary cost share relief, the MEP centers have done incredible work with manufacturers to help them retool, stay afloat, modify their processes and procedures, and to adapt to the new health and safety protocols. Many centers remain working remotely and have had to adjust their service delivery to protect their own staff and adjust to the changing protocols that are happening at manufacturing clients, as they are trying to protect their own staff as well. So, again, thank you, Congress, for the temporary cost share relief.

Supply chain issues have also been heightened because of the pandemic. Believe it or not, there is no national supply chain data base. So organizations were scrambling to figure out where to go to get specific parts, materials, and PPE. KMS and other MEP centers worked around the clock in the early days of the pandemic and beyond to keep manufacturers viable by matching companies to suppliers and getting them the supplies they needed. We were building supply chain data bases particularly around PPE and critical need equipment as we went state by state and we linked them through our National Supplier Scouting System.

An example of that and how that has worked in Kansas with the MEP is with the manufacturer Fuller Industries. They produce FDA-approved disinfectants, hand sanitizers, soaps, and other industrial strength janitorial products and cleansers. They also sell dispensers for soap and sanitizers. These dispensers had previously been sourced overseas, and Fuller was suddenly facing long lead times, short supplies, and a reduced ability to deliver this product to clients, along with medical centers after the onset of the pandemic. We were able to quickly match them with another manufacturer in southeast Kansas that could help them bring the production of the sanitizers not only back to the United States but in-

house. So by connecting Kansas manufacturers, we were able to really keep the supply chain going.

We just heard from Rick at InkCycle about the issues with bottling. That is another thing that we are really working across the national network with connecting manufacturers to those that are manufacturing bottles and those that have expanded their capabilities to meet the bottling needs of manufacturers.

Workplace safety is also a huge concern for manufacturers during the best of times, and it has really heightened during the COVID pandemic. While a portion of the U.S. workforce could shift to remote work, manufacturers could not do that. So the MEP centers have helped manufacturers really understand the safety protocols and adjust everywhere from the front office all the way to the production floor and shipping facilities and beyond.

In helping manufacturers respond to COVID-19, we are helping them build resiliency and to keep their workforce steady. As we know, manufacturers are driving economic recovery while also suffering an economic hit and uncertainty themselves. And so the role of KMS and the entire MEP national network is to help manufacturers get back on their feet and to deliver the tools to them to address the uncertainty while they help our country continue to get back on its feet by providing the critically needed equipment, as well as continue everything else that we need to have produced from our food supply to everything else that the manufacturers in the United States make.

In the face of so much economic uncertainty, we really have worked hard to help manufacturers look forward. An example of one of these programs is a service developed by KMS called Future State Optimization. It really works to help manufacturers look forward and sustain profitability throughout the pandemic while building for their future. It provides a three-part framework delivering expert consultancy, comprehensive manufacturing centered assessment, and a strategic road map for manufacturers to ensure the future of their facilities, as well as the future for their employees.

I hope that what I have shared today has given some insight on how KMS has responded to these unprecedented conditions here in the United States with COVID-19 and how the MEP national network has responded across the United States. In a strong and coordinated response to this pandemic, together we are partnering with manufacturers on their top COVID-19 concerns.

And I certainly appreciate the opportunity to appear before the Subcommittee today, and I look forward to answering any questions you might have. Thank you.

[The prepared statement of Ms. Stovall follows:]

PREPARED STATEMENT OF TIFFANY M. STOVALL, CEO, KANSAS MANUFACTURING SOLUTIONS, KANSAS MANUFACTURING EXTENSION PARTNERSHIP (MEP)

Good afternoon Chairman Moran, Ranking Member Blumenthal and members of the Subcommittee. Thank you for the opportunity to appear before you to discuss the manufacturing community's response to the COVID-19 pandemic.

I am Tiffany Stovall. I am the CEO of Kansas Manufacturing Solutions (KMS), the Kansas Manufacturing Extension Partnership (MEP) Center. I have been with MEP since 2010 and began leading, as CEO, in 2017.

I am sure that the Subcommittee is familiar with the Manufacturing Extension Partnership, but as a reminder, we are the Nation's only program providing hands-on, in-depth support to small and medium-sized manufacturers to help them compete more effectively in the global marketplace. The MEP National Network has 51 centers—one in every state plus Puerto Rico. MEP has over 1300 manufacturing experts on staff, 400 service locations, nearly 2100 3rd party service providers and partners, and we interact with over 28,000 manufacturers per year. MEP Centers are the go-to experts for advancing United States Manufacturing.

As a public-private partnership, MEP delivers a high return on investment to taxpayers. The Upjohn Institute for Employment Research conducted a study of MEP this past year and found that the program generates a 14.4:1 return on investment. Each year, an independent firm surveys manufacturers regarding the impact they have achieved from MEP Center services. In 2019, MEP clients reported \$15.7 billion in new and retained sales and the creation or retention of 114,650 jobs. Considering that the average U.S. manufacturing worker earns more than \$87,185 in wages and benefits per year, MEP clients are economic drivers in their communities. MEP clients are also increasing their capacity for the production of goods. MEP clients reported \$4.5 billion in new investments directly attributed to their work with MEP.

It is because of its history of working with manufacturers as trusted advisors that MEP was uniquely positioned to support U.S. manufacturers when they had to adapt to the exceptional challenges presented to them during the COVID-19 pandemic. Manufacturers have had to respond to COVID-19 challenges within their own facilities, but they are also helping our Nation respond to COVID-19 by producing critically-needed personal protective equipment (PPE), ventilators, and other equipment and goods essential to the Nation's public health efforts. I would also like to mention the other manufacturing industries that have kept our food supply going as well as all of the other essential goods that may not be directly related to COVID-19 response but need to stay in production.

When the lockdowns began in March, manufacturers across the country had to close their doors. Their suppliers could not supply them, and their customers could not buy from them. They faced a set of mortal threats, none of which they had seen before. KMS and the other MEP Centers were there for them then, and we are there for them now as manufacturing leads the way to economic recovery. We helped manufacturers create new supplier networks, navigate stay-home orders, apply for Paycheck Protection Program (PPP) funds, develop and implement best practices for internal COVID-19 safety, and in many cases, retool their factories to make COVID-19-related products.

I would like to acknowledge and thank Congress for providing temporary cost share relief to MEP for the 2020 Fiscal Year. Ordinarily, the cost share requirement leverages Federal funding with a non-federal match. When the pandemic hit, our non-federal funding stopped, which would have prevented us from unlocking the Federal funds. Temporary cost share relief has allowed KMS and the other Centers across the National Network to provide much-needed services to manufacturers during these unprecedented times. Over the course of the last several months, thanks to CARES Act funding and temporary cost share relief, the MEP Centers have done incredible work with manufacturers to help them re-tool, stay afloat, and modify their processes and procedures to adapt to the new health safety protocols. Many Centers remain working remotely; they have had to adjust their service delivery to protect their own staff and adjust to the changing policy protocols of their manufacturing clients. The temporary cost share relief has been critical in allowing them to do so.

Some examples of the kinds of work that Kansas Manufacturing Solutions and other MEP Centers have been able to do as a result of the temporary cost share relief:

- Work with companies that needed to invest in pivoting their operations instead of paying for MEP services in the short term;
- Keep specialized expertise on staff at MEP Centers to provide guidance to manufacturers during this critical time;
- Provide webinars, instructional materials, and guidelines to manufacturers about how to get specific PPE and information regarding critical resources like PPP;
- Focus solely on meeting the needs of U.S. manufacturers and provide them with critical services at their time of greatest need, without worrying about the Center meeting payroll or paying rent; and

- Shift the delivery of direct services and training to online and virtual platforms when we could not meet with companies in person.

Supply Chain and Supplier Matching

Supply chain issues have been heightened because of the pandemic. Believe it or not, there is no national supply chain database, so organizations were scrambling to figure out where to go to get specific parts, materials, and PPE. KMS and other MEP Centers worked around the clock in the early days of the pandemic and beyond to keep manufacturers viable by matching companies to suppliers and getting them supplies they needed. We built supply chain databases as we went, state by state, and linked them through our National Network Supplier Scouting system.

KMS and the MEP National Network have been working tirelessly to build and strengthen PPE supply chains to ensure the United States has the critical PPE to meet the needs of our citizens during this unprecedented pandemic.

One example of how this has worked here in Kansas is with a manufacturer, Fuller Industries, that produces FDA approved disinfectants, hand sanitizer, soaps and other industrial strength janitorial products and cleaners. They also sell dispensers for soap and sanitizer. These dispensers had been previously sourced overseas and Fuller Industries was suddenly facing long lead times, short supplies and a reduced ability to deliver this product to clients including medical centers after the onset of the pandemic. Fuller reached out to KMS with the urgent need to gain more control over their supply chain.

KMS was able to quickly match them with another manufacturer in Kansas that could help them bring production of the sanitizer dispensers in-house. While the project is still ongoing, this a great example of the supply chain building that is happening by connecting one manufacturer to another—reshoring a production capability that helps meet the Nation's PPE needs. This effort will generate more U.S. investment, U.S. revenue, and U.S. jobs. An upside for Kansas is that it also is a significant investment in a rural community.

This is the kind of work MEP is doing right now, every day, every month and as long as we need to help manufacturers weather the COVID-19 storm.

Adjusting to New Safety Protocols

Workplace safety is a huge concern for manufacturers during the best of times, and is incredibly heightened during the COVID-19 pandemic. While a portion of the U.S. workforce shifted to remote work, this is not an option for the manufacturing sector. MEP Centers helped manufacturers understand the recommended safety protocols and adjust everywhere from the front office to the production floor to shipping facilities and beyond.

Centers have helped by creating and updating Safety Guides for manufacturers on COVID-19 practices in their facilities based on current best practices, including the appointing an infection control officer, use of thermometers, face shields, masks, and other PPE to keep staff safe.

These safety protocols also include considerations on plant layouts to increase safety of the workforce and encourage six-foot distancing when possible, without disrupting production or efficiency. Again, MEP staff was already well positioned for this type of work because of the ongoing trusted advisor relationships we have had with manufacturers and the shop floor expertise within the Centers. MEP and KMS understands their business and has earned this trust.

KMS has provided manufacturers throughout the state with COVID-19 safety guidelines and updated COVID-19 policies for HR handbooks. This helps give companies peace of mind that they are doing the right things to keep their employees safe and communicating expectations effectively to their employees.

Moving Forward: Sustaining and Growing U.S. Manufacturing

In helping manufacturers respond to COVID-19, we are helping them build operational resiliency and keep their workforce steady. Manufacturers are driving economic recovery while also suffering an economic hit and uncertainty themselves. The role of MEP is to help manufacturers get back on their feet, deliver tools to address the uncertainty so the Nation can continue to get back on its feet.

Throughout this pandemic, MEP Centers like KMS are continuing to provide critical services to help sustain and grow manufacturing, even if those services have to be delivered in different ways. We have long been known for working elbow-to-elbow with companies anywhere from strategy in the board rooms to process and efficiency on the shop floor. While we miss the face-to-face interaction, we have been able to pivot to meet the restrictions many manufacturing companies have had to set by putting our existing services on virtual platforms and developing new services that can be effectively delivered remotely.

An example of one of these newly developed services from KMS is an on point new program called Future State Optimization. It is a proprietary multi-faceted program to help manufacturers sustain profitability throughout the pandemic while building for their future. This program provides a three-part framework for delivering expert consultancy, a comprehensive manufacture centric assessment and a strategic roadmap for manufacturers to ensure their future and the future of their employees.

This comprehensive program will help manufacturers understand through the deployment of the assessment what will and has to change only temporarily, what will need to change permanently, and how to make good strategic decisions without full information in rapidly changing economic environments with the help of high level consultation from planning experts, financial scenario planning and a roadmap of *how* to pivot to sustained profitability.

In the face of so much economic uncertainty, this program is designed to ensure manufacturing leaders get back into the driver's seat and be proactive with their current business strategies instead of reactive. The process can make the future much less daunting, and the feedback from the first few companies that have gone through the hands-on, intensive process has been outstanding. In the words of one early participant:

"KMS was able to take a very complex set of opportunities facing Mid-State Aerospace, distill them down to very understandable and prioritized list of actions to grow our business as well as develop a roadmap to address the COVID-19 impacts from both an operational and economic standpoint."—Robert Rogers, President, Mid-State Aerospace

I hope the foregoing information has given insight on how Kansas Manufacturing Solutions has responded to the unprecedented COVID-19 pandemic in Kansas and how the MEP National Network has responded across the United States. In a strong and coordinated response to this pandemic, together we are partnering with manufacturers on their top COVID-19 concerns about adjusting to new safety protocols, building operational resilience, supply chain concerns, and workforce needs while giving critical insight into investment plans and regional infrastructure need. Manufacturing generates the kind of jobs that come with benefits and a paycheck. Manufacturing matters to the health of Kansas and to the health of the US. Whenever, wherever, and however we can, we need to support domestic manufacturing. KMS does that and MEP does that!

I sincerely appreciate the opportunity to appear before this Subcommittee. I look forward to answering any questions you may have.

Senator MORAN. Ms. Stovall, thank you. We appreciate your testimony, your willingness to appear.

Our final witness is Mr. Michael Wessel, Commissioner, U.S.-China Economic and Security Review Commission. Mr. Wessel?

STATEMENT OF MICHAEL WESSEL, COMMISSIONER, U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

Mr. WESSEL. Chairman Moran, Ranking Member Blumenthal, members of the Subcommittee, thank you for the invitation to appear here today.

My name is Michael Wessel, and I am appearing as a Commissioner on the U.S.-China Economic and Security Review Commission, but as the normal Washington disclaimer, I am only speaking for myself.

The pandemic has put stress on supply chains and our manufacturing base, and it has spurred a debate about our preparation, the availability of public resources and public policy responses. We need to address today's needs and prepare for a possible future pandemic.

Early on in the pandemic, I was contacted by some manufacturers wanting to contribute in confronting the crisis, much as my colleagues on this panel discussed earlier. The Federal Government was overwhelmed, and it became easier to match some of these

firms up directly with States and hospital systems to meet their needs including, I should point out, Yale New Haven Hospital, Senator Blumenthal's home.

Our nation owes a great debt of gratitude to our manufacturers and their workforce who have come to the aid of our country to meet the critical needs of our sick, our health care workers, first responders, and our entire population in this time of crisis. Today, as we all know, while supplies are more available, there are still shortages. Health care workers and others are having to reuse equipment, stressing safety protocols and putting their health at risk. America must do better to support our manufacturing base to help them protect our citizens.

The Chinese Communist Party's industrial policies and our own shortsightedness in some ways have added to an unacceptable and dangerous reliance on China for our pharmaceuticals, active pharmaceutical ingredients, APIs, medical devices and equipment, including PPE.

The virulence, breadth, and impact of the coronavirus was unexpected. But our increasing dependency on China is not news, and China is willing to use and abuse their manufacturing power. For example, the CCP leadership was willing to engage in, quote/unquote, mask diplomacy by using shipments of PPE to garner political support and foster diplomatic gains. The CCP has been willing to weaponize supply chains. We cannot allow the health and safety of our people to be held hostage during a diplomatic, economic, or military confrontation.

We are overly dependent on China for our medical needs. We no longer have the fermentation capacity in the U.S. to make penicillin and are completely dependent on foreign sources. 80 percent of the APIs we use come from abroad with a substantial portion coming from China. Of the 10 active ingredients in remdesivir, one of the therapeutics for treating COVID-19, eight come from China. For many other products, we are partially or entirely dependent on China. One DOD official testified that, quote, the national security risks of increased Chinese dominance on the global API market cannot be overstated. Unquote.

Since China joined the WTO, U.S. business operations have expanded dramatically. China's policies were designed to promote that. But troubling is not just the loss of production but the expansion of R&D. U.S. multinational firms increased their R&D spending in China at roughly twice the rate of their domestic R&D spending. U.S. R&D expenditures in China on the improvement of manufacturing capability of chemicals, including pharmaceuticals, surged nearly 30fold between 2000 and 2017.

Chinese state-directed and -controlled entities have engaged in massive cyber intrusions in the U.S., with many focused on the health care sector, including efforts to obtain vaccine information. Actors in China have used legal and illegal means to obtain the longitudinal health data of U.S. citizens that may allow their firms to dominate the increasingly important biosynthetic sector. Today the focus is on medical supplies, but our dependence on China for many products, some of them critical products, is broad and deep. In certain areas, this dependence reduces our potential resilience. Congress should carefully evaluate supply chain risks to determine

what the potential impact is on our national health and economic security.

Again, thank you for the opportunity to testify today. Your work on these critical issues will help lay a base for making sure that we never face these challenges again.

[The prepared statement of Mr. Wessel follows:]

PREPARED STATEMENT OF MICHAEL WESSEL, COMMISSIONER, U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

Chairman Moran, Ranking Member Blumenthal, Members of the Subcommittee. I want to thank you for the invitation to appear before you today to examine the American manufacturing industry's response to the COVID-19 pandemic. Clearly, the COVID-19 pandemic has put stress on supply chains and our manufacturing base, and has spurred a debate about our preparation, the availability of public resources, and public policy responses. Your Subcommittee's jurisdiction covers many of the key issues that demand attention and forward-leaning approaches to better prepare America for the future. Our citizens want to know that our ability to respond to the ongoing pandemic, and to contain a future pandemic, should it occur, is being addressed.

My name is Michael Wessel and I am appearing before you today as a Commissioner on the U.S.-China Economic and Security Review Commission (Commission), where I have served since its creation 20 years ago. But, as a disclaimer, I am speaking for myself, although my comments are informed by my service on the Commission and other work I have been involved in for many years.

The Commission was created by Congress in 2000 in conjunction with the debate about the grant of Permanent Normal Trade Relations (PNTR) to China, paving the way for its accession to the World Trade Organization (WTO). The Commission was tasked with monitoring, investigating and submitting to Congress an annual report on the national security implications of the bilateral trade and economic relationship between the United States and the People's Republic of China, and to provide recommendations, where appropriate, to Congress for legislative and administrative action.

The grant of PNTR ended the annual debate about whether to extend most favored nation status to China. But as it passed PNTR, Congress created the Commission because it did not want to forego the annual review of our relationship with China. Since the creation of the Commission, our mandate has been extended and altered as the U.S.-China relationship evolved.

The Commission is a somewhat unique body: We report to and support Congress. Each of the four Congressional leaders appoint three members to the Commission for two-year terms. The Commission is scheduled to release this year's report in a couple of weeks, with unanimous support. In eight of the last ten years, we have issued unanimous reports. In the two years where it was not unanimous, there was only one dissenting vote. In many ways, the evolving challenges and opportunities posed by the relationship with China have united us in our analysis. All of our hearings, testimony, annual reports and research are available at our website www.uscc.gov.

Our nation owes a huge debt of gratitude to our manufacturers and their workforce who have come to the aid of our country to meet the critical needs of our sick, our healthcare workers, first responders and our entire population in this time of crisis. Many worked tirelessly to retool and revamp operations to produce personal protective equipment (PPE), ventilators and other needed products and equipment.

Indeed, early on in the pandemic, I was contacted by companies and their representatives wanting to contribute in confronting the crisis. A group of textile firms in the Northeast wanted to know what specifications they should use in producing masks, gowns and other equipment. A firm in Mississippi similarly wanted to know what they could do. The Federal government was overwhelmed, and it became easier to match some of these firms up directly with states and hospital systems to meet their needs.

Today, as we all know, while supplies are more available, there are still shortages. Healthcare workers, and others, are having to reuse equipment, stressing safety protocols. And, as experts suggest a surge in cases will continue in the coming months, manufacturers will continue to face rising demand and limited capacity.

Mr. Chairman, I want to focus my comments on questions relating to U.S.-China policy and its impact on meeting the crisis and future challenges. Other panelists

can add to the Subcommittee’s examination of the critical issues you have identified for this hearing.

The debate about the impact of China’s policies and practices on the U.S. continues to be divisive. There are some who view China’s willingness to subsidize and dump products into the U.S. makes our people better off because it lowers consumer costs. While fewer and fewer people subscribe to this view, some still cling to it.

I couldn’t disagree more and believe that the wealth of opinion has concluded that China’s predatory and protectionist trade and economic policies undermine U.S. economic, health and national security interests. The cost of products cannot be the only measure of economic benefit. The public understands that while the flat screen television in their living room may be cheaper, the manufacturing jobs to support that product are not here in the U.S. They know, all too well, that globalization has increased the downward pressure on wages and our standard of living. It has contributed to rising income inequality. And, if we lose all these jobs, few will have the income to even purchase the subsidized and dumped products.

As predatory pricing drives outsourcing of jobs and offshoring of production, it can lead to a severe loss of domestic productive capacity. Industry after industry has faced this problem. Steel, aluminum, solar cells, rare earths have gotten the bulk of the attention. But China’s industrial policies, as well as our own short-sightedness, have also created an unacceptable and dangerous reliance on China for our pharmaceuticals, active pharmaceutical ingredients (APIs), medical devices, and equipment, including PPE. In the early days, as we all know, the offshoring of manufacturing limited our capacity to surge production of ventilators and other critical equipment.

China’s economic policies, driven by the Chinese Communist Party (CCP), have contributed to the hollowing out of the U.S. industrial base. After years of these policies, the reality of our dependence, as well as the impact on our own capabilities, has been all-too-evident in the response to the current pandemic.

While the virulence and impact of the coronavirus was unexpected and, to some degree, our unpreparedness is a function of underestimating how broad a health crisis could be, our increasing dependency on China is not news.

In putting the spotlight on supply chains for medical equipment, the COVID–19 crisis taught the American public not only about our loss of productive capacity, but also China’s policies that contributed to that problem and its ability to control supplies and use them as foreign policy leverage. The Chinese government’s failure to conduct adequate inspections of manufacturing facilities and lack of quality control all became nightly news stories. Masks sold as meeting the N95 standard were often found to be almost ineffective—possibly less effective than simply using a bandana as a face mask.

We also saw that the CCP was willing to engage in “mask diplomacy” using shipments of PPE to garner political support and foster diplomatic gains.¹ For many, it raised significant questions about the CCP’s actions. We have seen prior examples of the CCP’s willingness to “weaponize” supply chains, most notably with regard to rare earth exports to Japan in 2010. We cannot allow the health and safety of our people to be held hostage during a diplomatic, economic or military confrontation.

While the COVID–19 crisis brought all of this to the front pages and to the nightly news, the threats to our economic health and security have been building for years. In 2014, the Commission held a hearing entitled “China’s Healthcare Sector, Drug Safety, and the U.S.-China Trade in Medical Products.” In July 2019, former Senator Jim Talent and I co-chaired a hearing on “Exploring the Growing U.S. Reliance on China’s Biotech and Pharmaceutical Products.” Our work, and the witness testimony we heard, along with staff research, identified broad and deep dependence on China for our medical needs and deep vulnerabilities.

We no longer have the fermentation capacity in the U.S. to make penicillin and are completely dependent on foreign sources. Eighty percent of the APIs we use come from abroad,² with a substantial portion coming from China. Of the ten active ingredients in Remdesivir, one of the therapeutics for treating COVID–19, eight come from China.³ For many other products, we are partially, or entirely, dependent on China. As Christopher Priest, the Acting Deputy Assistant Director of the De-

¹Brian Wong, “China’s Mask Diplomacy,” *The Diplomat*, March 25, 2020.

²U.S. Food and Drug Administration, *FDA at a Glance: FDA-Regulated Products and Facilities*, April 2017.

³Mary Denigan-Macauley, written testimony for U.S. House of Representatives Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, *Hearing on Securing the U.S. Drug Supply Chain: Oversight of FDA’s Foreign Inspections Program*, December 10, 2019, 1.

fense Health Agency told our Commission, “the national security risks of increased Chinese dominance of the global API market cannot be overstated.”⁴

Today, the focus is on medical supplies, but our dependence on China for many products—some of them critical products—is broad and deep. In certain areas, this dependence reduces our potential resilience. Last year, despite rising trade tensions and the imposition of Section 301 tariffs, the U.S. ran a trade deficit in advanced technology products with China of more than \$100 billion and an overall goods deficit of \$345 billion. As has been seen with 5G, the predatory actions of China’s Huawei have undermined the ability of market-oriented firms to develop the technology to ensure safe sources of supplies. Our dependence on China for telecom products has created dangerous vulnerabilities that our nation—and an increasing number of our allies—is only now really grappling with.

Mr. Chairman, this Subcommittee’s jurisdiction over consumer protection issues is also important in this area. There were numerous reports of masks and other supplies that were imported from China, but which did not meet appropriate regulations and safety standards. We saw this in the past with imports of tainted heparin that killed numerous citizens. We learned about blood pressure medications that were tainted with traces of rocket fuel, as both the APIs in the medication and rocket fuel were produced in the same facilities. The quality, efficacy, and safety of many Chinese-produced medical products must be addressed.

Congress should carefully evaluate supply chain risks to determine what the potential impact is on our national, health and economic security.

U.S. Business Activity in China and Its National Security Implications:

At the beginning of July, the Commission issued a staff paper entitled “Trends in U.S. Multinational Enterprise Activity in China, 2000–2017.”⁵ Since China’s accession to the WTO in 2001, U.S. business operations in China have expanded dramatically. The staff report found that “as U.S. MNE [multinational enterprise] activity in China increasingly focuses on the production of high-end technologies, the risk that U.S. firms are unwittingly enabling China to achieve its industrial policy and military development objectives rises.”⁶

Several of the report’s findings are relevant to today’s hearing:

- *China’s vast consumer market and the Chinese government’s coercive policies have incentivized many U.S. MNEs to move their manufacturing operations to China.* U.S. Department of Commerce Bureau of Economic Activity (BEA) data explored in this report indicates the major destination for goods and services supplied by U.S. MNEs in China is the Chinese market itself. In 2017, U.S. MNE foreign affiliates in China sold 82 percent of the goods and services produced in China directly to Chinese customers. At the same time, trade barriers, including localization requirements and export restrictions on key raw materials, have further induced production within China. Sales to Chinese consumers may also constitute sales of intermediate goods and services which might be used in final goods for export to the United States.
- *China is the fourth-largest destination for U.S. MNE research and development (R&D) expenditure and increasingly competes with advanced economies in serving as a key research hub for U.S. MNEs.* The growth of U.S. MNE R&D expenditure in China is also comparatively accelerated, averaging 13.6 percent year-on-year since 2003 compared with 7.1 percent for all U.S. MNE foreign affiliates in the same period. This expenditure is highest in manufacturing, particularly in the production of computers and electronic products, but has diversified over time. For example, R&D expenditure on the improved manufacture of chemicals, including pharmaceuticals, surged nearly 30-fold from a low base of \$13 million in 2000 to \$392 million in 2017.
- *China has grown from the 20th-highest source of U.S. MNE affiliate value added in 2000 (\$5.5 billion) to the fifth highest in 2017 (\$71.5 billion), driven primarily by the manufacture of computers and electronic products as well as chemicals.* The surge is especially notable in semiconductors and other electronic components, which accounted for \$5.6 billion of total manufacturing value added in 2017, up 250 percent from \$1.6 billion in 2009. Separately, pharma-

⁴ Christopher Priest, testimony for U.S.-China Economic and Security Review Commission, *Hearing on Exploring the Growing U.S. Reliance on China’s Biotech and Pharmaceutical Products*, July 31, 2019. <https://www.uscc.gov/sites/default/files/Priest%20US-China%20Commission%20Statement.pdf>.

⁵ Kaj Malden and Ann Listerud, “Trends in U.S. Multinational Enterprise Activity in China, 2000–2017,” U.S. China Economic and Security Review Commission, July 1, 2020. https://www.uscc.gov/sites/default/files/2020-06/US_Multinational_Enterprise_Activity_in_China.pdf.

⁶ *Ibid.*, at 3.

ceutical manufacturing serves as the largest chemical sector in terms of value added, accounting for \$2.6 billion in 2017.

The impact of the CCP's industrial policies is broad and deep. China's government uses an "all of the above" approach to advancing its interests. For example, work by private sector forensic accounting experts⁷ uncovered acts of espionage to undermine the market value of firms which were later acquisition targets for Chinese firms. In other words, they undermined a company's value to put it into a "distress" situation, to reduce its attractiveness to other companies and to make it cheaper for them to acquire.

Chinese state-directed and -controlled entities have engaged in massive cyber intrusions in the U.S. The first major indictment on this was brought forward by David Hickton, U.S. Attorney for the Western District of Pennsylvania, who alleged in 2014 that between 2006 and 2012 five People's Liberation Army hackers had accessed the computer networks of the United Steelworkers union and five major U.S. firms to obtain trade secrets and other information.⁸ The next year, President Obama reached an agreement with General Secretary Xi whereby China agreed that they would not engage in hacking for economic gain. The premise of the agreement was faulty from the start as China treats economic and national security as inextricably intertwined. In short, all hacking undertaken by entities directed or controlled by the Chinese government was for national security reasons and, therefore, not covered by the agreement.

Massive hacking continued with incalculable harm. Indeed, press reports indicate that China, as well as Russia, has been trying to hack into our major medical firms to obtain vaccine information. As former FBI Director James Comey said, "There are two kinds of big companies in the United States. There are those who've been hacked by the Chinese, and those who don't know they've been hacked by the Chinese."⁹ The current FBI Director, Christopher Wray, recently said "The greatest long-term threat to our Nation's information and intellectual property and our economic vitality is the counterintelligence and economic espionage threats from China . . . It's a threat to our economic security and, by extension, to our national security."¹⁰

In the area of medicine, multiple hacks attributed to actors in China, have obtained the longitudinal health data of U.S. citizens. While today's medicines are largely composed of APIs and other chemical compounds, tomorrow's medicines are likely to be biosynthetics. With the massive amount of data that Chinese entities collect—legally and illegally—they have the opportunity to develop new drugs and biosynthetics at a faster pace because of "big data." Industries that fall under the umbrella of biotechnology are worth hundreds of billions of dollars annually, and their development will have a profound impact on U.S. economy and national security. There is also the potential to enable personalized medicine, to produce vaccines faster and more effectively and develop other products which have enormous national security implications. Earlier this year, the Theodore Roosevelt aircraft carrier was sidelined because of COVID-19. The implications are endless.

The Chinese government is aggressively working to obtain America's secrets. The Chinese government maintains many talent recruitment programs, with the Thousand Talents Program being the most prominent example, that are aimed at attracting high-quality researchers, often with expertise in emerging technologies or areas with potential military applications.¹¹ These programs offer a variety of incentives, including salaries, recruitment bonuses, and living allowances of up to \$150,000.¹²

⁷ Jeffrey Z. Johnson, testimony for the U.S.-China Economic and Security Review Commission, *Hearing on Chinese Investment in the United States: Impacts and Issues for Policy Makers*, January 26, 2017.

⁸ U.S. Department of Justice, "U.S. Charges Five Chinese Military Hackers for Cyber Espionage Against U.S. Corporations and a Labor Organization for Commercial Advantage," May 19, 2014. <https://www.justice.gov/opa/pr/us-charges-five-chinese-military-hackers-cyber-espionage-against-us-corporations-and-labor>.

⁹ Maria Tadeo, "FBI's James Comey accuses China of hacking into every major American company," *The Independent*, October 6, 2014.

¹⁰ Christopher Wray, Director, Federal Bureau of Investigation, "The Threat Posed by the Chinese Government and the Chinese Communist Party to the Economic and National Security of the United States," remarks as delivered, Hudson Institute, July 7, 2020.

¹¹ Anastasya Lloyd-Damjanovic and Alexander Bowe, "Overseas Chinese Students and Scholars in China's Drive for Innovation," *U.S.-China Economic and Security Review Commission*, October 7, 2020. https://www.uscc.gov/sites/default/files/2020-10/Overseas_Chinese_Students_and_Scholars_in_Chinas_Drive_for_Innovation.pdf.

¹² In the indictment of former Harvard professor Charles Lieber, the Justice Department alleged that under the terms of Lieber's three-year Thousand Talents contract, Wuhan University

Chinese government guidance funds—more than 1,800¹³ of them according to some estimates—seek to invest in, and obtain, technology and trade secrets to support the CCP’s industrial policies.

In many other areas the Chinese government and the CCP are aggressively pursuing opportunities to advance their interests, often at the cost to our own national, health and economic security.

Conclusion

The policies of the CCP and the actions of their government have already triggered a reaction by the U.S. While the honeymoon period after China’s entry into the WTO lasted too long, and the period of engagement and dialogue yielded too few results, policy makers have identified many actions that will make a difference.

But the challenges posed by China’s policies and practices are broad and deep and countering their negative impact on our interests will require concerted and long-term action. Action is needed not only in the economic policy realm, but on the diplomatic, human rights, health policy, military and other fronts.

Mr. Chairman, Ranking Member Blumenthal, Members of the Subcommittee, thank you for the opportunity to testify today. Your work on these critical issues will help lay a base for making sure that we never face these challenges again. The Commission members and our staff and at your, and your staff’s, disposal.

Senator MORAN. Mr. Wessel, thank you for your testimony. I know you indicated you speak for yourself, not the Commission, but I understand that in a short period of time, there will be a—first of all, let me say I agree with your assessment that China’s predatory and protectionist trade and economic policies undermine U.S. economic health and national security interests. I appreciate you saying that and agree with you.

But your Commission is expected to release this year’s report in the next few weeks. Can you describe any formal recommendations that you would expect to be included in terms of assessing and improving production capacity in the United States, the manufacturing industry producing PPE, medical supplies, and even pharmaceuticals? What would those recommendations—what do you expect them to be?

Mr. WESSEL. Thank you for your question, and let me point out that in fact we have had already a public report on this matter. Former Senator Jim Talent of Missouri and I co-chaired a hearing on this issue in 2019, and the China Commission unanimously, six Democrats and six Republicans, released its report in 2019 and were unanimous behind a number of recommendations regarding this sector.

Let me quickly review just three of those, if I could, which is Congress has the ability to dive deep, as you are doing today and as we have all been forced to as we look to address this pandemic. But we can harness Federal procurement policy through Medicare, Medicaid, Veterans Affairs, DOD to buy American products, to use our existing authorities and leverage those to try and bring these supply chains back to the U.S.

Second, we have to do a much better job of having the FDA use its existing authority to ensure that we are protecting Americans in terms of their safety for many of these products. You are well

of Technology (WUT) paid Lieber a salary of up to \$50,000 per month, living expenses of up to \$150,000 and awarded him more than \$1.5 million to establish a research lab at WUT. It is alleged that in 2018 and 2019, Lieber lied to Federal authorities about his involvement in the Thousand Talents Plan and his affiliation with WUT. U.S. Department of Justice, “Harvard University Professor Charged with Tax Offenses,” July 28, 2020. <https://www.justice.gov/opa/pr/harvard-university-professor-charged-tax-offenses>.

¹³ Karen Sutter, “Made in China 2025’ Industrial Policies: Issues for Congress,” *Congressional Research Service*, August 11, 2020. <https://fas.org/sgp/crs/row/IF10964.pdf>.

aware of the heparin products that caused a number of deaths here in the U.S. coming from China. Two years ago, we found that the blood pressure medicine, valsartan, was actually tainted with rocket fuel because both the APIs and the rocket fuel were being produced at the same facility, and that product made its way to U.S. consumers.

The FDA should be allowed to go into every facility in China that is sending their products to the U.S., and we need to make sure that that happens or that those products are unable to come here.

Finally, we need to disclose where essential drugs and products are coming from, and again, we can do that through Federal procurement standards so that citizens and our officials know where the supply chains are linked, where the products are coming from, and how we can best prepare and protect.

Senator MORAN. Thank you very much for explaining that to me.

Let me ask Mr. Bulusu and Mr. Krska and Mr. Gilman. Your companies have worked to create PPE manufacturing capabilities here in the U.S. in response to COVID-19 with the goal of creating a homegrown American product. However, not only does China dominate global PPE production, they also dominate PPE component and manufacturing equipment sectors. You have described some of those circumstances or at least those facts to us in your testimony. I wondered if you could go into more detail describing the challenges in finding PPE components and manufacturing equipment.

Mr. Krska, you mentioned the bottles that are unsourceable in the United States. I just want to hear more about the challenges that you face. I would tell you that we had numerous Kansas counties, hospitals, nursing homes, and others call our office and ask for help in locating PPE. Often when it was discovered what they had purchased—what we discovered was sitting in a port in California waiting to be approved by the FDA, which was, in many instances, denied based upon quality. So I also would give you the chance to tell me or tell our committee about the quality nature of your competitors and their products from China.

Mr. KRASKA. So one of the stories that I had in my testimony, but my testimony was too long already—I cut it out. But when we started our bottling operation, we started looking for bottles in the U.S. and we could not find manufacturers of it, and distributors were all sold out for 3 or 4 months. So having a lot of experience in China, we did go to China and start looking and narrowing down the field to find the right company. But here is an example of, you know, to give you an idea of the situation we ran into.

So we found a bottle manufacturer in China that could produce the bottles for us. We inspected them. The samples were fine, and we started buying the bottles. We were currently purchasing a label from a Kansas label manufacturer for 15 cents. The Chinese bottle manufacturer offered to make the label, print the label, and apply the label for one penny.

So I think those are the kind of headwinds that we run into, and we have to change the game in regard to how we source and buy these products. And I think it is going to take some type of government involvement because right now it is all about just—as Mr. Gilman talked about, it all boils down to the mighty penny. Right?

And if we get some type of help from our politicians to help us with this, I think it could change that.

Anyway, that was an example that I wanted to share earlier. Here we have got a bottle that we are buying. We got a label that we have sourced in the U.S., and we have been buying it here in Kansas, but here this Chinese company offered to print the label, apply the label for one penny compared to 15 cents. Those are the kind of pressures that you run into.

Senator MORAN. [Inaudible] but what you would tell me is that they would be more expensive?

Mr. KRASKA. Yes.

Senator MORAN. Mr. Bulusu or Mr. Gilman?

Mr. KRASKA. What I was saying earlier—sorry—was that the bottles were not available in the United States at all. So this was just kind of an extension of that process of buying the bottles and then getting into the process of buying the label versus the labor and the extra process to apply the label. But here the Chinese supplier of the bottle was willing to do it for 1 penny versus probably spending somewhere around 20 cents in the United States to do it.

Senator MORAN. Thank you.

Senator MORAN. Mr. Bulusu?

Mr. BULUSU. I will answer this in two different aspects.

The first one, which is right now the most critical aspect, is that anecdotally what I understand from our counterparts in some of the best testing facilities in America, SGS, Nelson, is that the testing lines are really clogged up right now. And if we take a product, if we iterate on top of it, another testing cycle to complete on it takes months, and that slows us down. Part of the reason why is because there is so much product that is being tested which is not necessarily manufactured in America and is, what I hear, not of very good quality but is constantly clogging these lines. The net loser is the American consumer because the American product is not going to get to them faster and, two, whatever product they get is going to continue to be of inferior quality. This is not good.

And the second aspect I am going to touch on is the abuse of dominant position. Back when we started, about 6 to 7 months back, the machines that we were trying to procure were available at least 5 to 10 times their pre-COVID prices. A typical machine which would cost \$70,000 pre-COVID from China was costing us \$75,000, and that was a bargain, by the way, to \$150,000. We still went ahead.

And the other thing is the raw material. Raw material pre-COVID that used to cost about \$1,000 to \$2,000 was being sold, offered to us at \$115,000. If I remember right, I might have even seen \$135,000 price on it. That is like 65,000, 67,000 times more.

The worst part, while I cannot really claim to put my finger on this, is that as we watched these prices go up day after day after day, week after week, we wanted to get into the market quickly because we did not want to be priced out. Every day these prices went out. No matter whether we spoke to one vendor or to half a dozen vendors, the prices were almost within a band. Are these guys marching to a beat? I do not know, but they were definitely very synchronized. Will market forces alone really achieve that

kind of synchronization? I do not know. That is an open question I have not been able to figure out.

But these are the kind of things that we have to brave. And we were still putting our faith in the American consumer, and we continue to believe that the American consumer, while they know what a bargain is, they still prefer quality.

Thank you.

Senator MORAN. Let me turn to Senator Blumenthal for his questions. And, Senator Blumenthal, I am on my way to the Senate floor to vote.

Senator BLUMENTHAL. OK. I will be shortly as well.

Senator MORAN. Senator Sullivan is here, Senator Blumenthal, if we need to turn to him to chair the hearing while both of us are gone.

Senator BLUMENTHAL. OK. I will be brief in my questions because we do have a vote that is ongoing.

I just want to make a quick point about Neil Gilman and about Gilman Gear just to impress some of my colleagues, including my friend from Kansas. Gilman Gear actually led the Nation in developing a product called “pylon cam” that was developed with ESPN, which now is an indispensable part of every NFL and college game day broadcast. And in 2015, Mr. Gilman designed and brought to market the roll tackle ring, which revolutionized the way tackling and blocking are taught in high school and elsewhere for the game of football to prevent concussions from being as prevalent as they have been. So he is a highly talented designer and manufacturer in that area of sports equipment but then had to pivot using what we know in Connecticut as good old Yankee ingenuity, not always Yankee ingenuity, but certainly innovative and inventive spirit, and began making the isolation and surgical gowns, isolation hoods, hairnet caps, and other PPE, which is now serving to protect countless health care workers across Connecticut and the country.

I want to thank again Neil Gilman for being here and want to ask him and other members of the panel whether they think that the Defense Production Act would be useful in developing the supply chain and providing the kind of support that you have made reference to because it would, in fact, help to develop and make more robust that supply chain and perhaps even reduce the cost of the raw materials and equipment that you need to produce the equipment that you do?

Mr. WESSEL. Senator, I do not see Mr. Gilman responding, so let me jump in very quickly, and thank you for your question.

I think the DPA is a critical part of what the solution needs to be. I think we saw in this pandemic that it was not utilized quickly enough, effectively enough, and there has been a lack of transparency and accountability. For many of the small businesses, all the way up to the big businesses, but small businesses, as you heard today, are in need of quick capital that can be effectively deployed to meet many of the gaps that exist in the supply chains to retool and do what they need to do. So DPA I think is a critical tool but needs to be enhanced for the future.

Senator BLUMENTHAL. Thanks for that comment, Mr. Wessel.

I do not know whether Mr. Gilman is on. Probably not. I apologize that those technical difficulties have prevented us from connecting.

Mr. KRSKA, I do not know whether you have any comment on the DPA.

Mr. KRSKA. I personally like the idea. I think that when you are starting a new industry and you are competing with the Chinese, very established businesses with a lot of leverage, a lot of volume—you know, having purchased items in China for a long time, it is hard to figure out the pricing even, the expense. How could it be so cheap? Right? When I first started going there, the cost of labor was somewhere around 80 cents an hour. Now in some areas, it is \$7-\$8 an hour, but still the pricing is so low that you cannot even make sense of it.

So if we were to have some environment, some part of the economy that was set aside to allow us to achieve momentum and get leverage—right—in all parts of the supply chain, it would go a long way to restarting many of these industries to get them going. That is my impression.

Senator BLUMENTHAL. Those comments are very, very pertinent and timely because as you know—or there is no reason you should know, but we have been pushing the President to use the Defense Production Act. In fact, in the HEROES Act, there is a specific measure that has been led by our colleague, Senator Baldwin, a member of this committee—we will be hearing from her shortly—that would compel the President to use the DPA which, for reasons difficult to comprehend, he has not done.

But the points that you make and others, Mr. Krska, are very, very powerful. They relate to unfair competition from China. Some of us have been complaining about it for years. They affect Kansas. They affect every State in the country, including Connecticut. We hear the same kind of complaints, and using the Defense Production Act I think is an essential part of the picture and also developing the skilled labor that is needed to provide the human resources that you need. It is not only parts and components that are in the supply chain. It is very much the men and women who do these jobs and who have to learn new skills. When you convert to new PPE, when you reengineer your assembly lines, I think that is an important part of the picture.

So thank you all for being a part of this panel. I have to go vote. You can see that just like you, we as Senators have to multitask. I am going to turn, I think, the gavel over to—I guess I am being told we are going to have to take a short recess. That is the last direction from our Chairman, Senator Moran, who is now on the floor voting, but he has communicated to me through the wonders of a text that I am instructed to declare a recess. So we will be in recess I hope for just a few minutes. Thank you all. Thanks for your patience and thanks for being a part of this hearing.

[Recess.]

Senator MORAN. The Subcommittee will reconvene. This is the most clunky hearing I have ever participated in let alone chaired, and that is saying a lot for the U.S. Senate for clunky. So I apologize to our witnesses in particular but to all who are paying atten-

tion to this hearing how challenging it has been with a series of votes.

I think it is Senator Cantwell who is next to question.

**STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON**

Senator CANTWELL. Well, thank you, Mr. Chairman. So thank you for inviting a witness that is both a business owner in Kansas and a Washington State resident to boot.

Senator MORAN. [Inaudible] well for you and I to work closely together.

Senator CANTWELL. Exactly. And I do want to work with you on the manufacturing workforce issue that you and Senator Warner have introduced as it relates to helping keep the supply chain in aviation manufacturing.

So I appreciate this hearing, and I know that we are all dealing with an increase in the number of cases and the challenges that we face. I am very proud that our State has kept our rates of infection and hospitalizations down and appreciate the ongoing efforts there.

But I am also impressed by the manufacturing efforts in our State, everybody working together. Outdoor Research converted one of its Seattle facilities into making surgical masks. They used to make outdoor equipment. Now they are making 400,000 surgical masks and 60,000 N95 respirators per week, creating 200 new jobs. Aerospace manufacturers, GlobalTech Plastics in Fife and Tool Gauge in Tacoma, worked with Design that Matters, a Redmond nonprofit, on other medical expert designs to help with the shields. At one point in time, I know that Boeing was creating face shields as well. Kent-based Flow International produces high pressure jet cutting systems and has delivered over 200,000 medical grade face shields to the state and nearly 40,000 different distributors—I am sorry—distillers, including the Chehalis Tribe that had just opened up this great new facility, switched over immediately to hand sanitizer. So I feel like the American spirit is alive and well by these manufacturers who had adjusted their production levels.

So I wondered if our witnesses, Mr. Bulusu or any of the others, could talk about—obviously, we have had a lot of frustration here on the Defense Production Act. But what do we need to do to give clear indications to manufacturers that we still need this production level, and how can we gain their help now that we are seeing a spike again on this necessary equipment?

Mr. BULUSU. Could you please repeat the first part of the question, please?

Senator CANTWELL. What do we need to tell manufacturers? What kind of guidance, directive do we need to give them to get these production levels up that we need because of the changing conditions we are now facing for the next several months?

Mr. BULUSU. If I may take this opportunity. The biggest challenge that we face is being able to sell. There are two different channels that we pursued. One was to go after the opportunity to sell to governments at the local levels or the Federal level. The biggest challenge we ran into there was by default the policy favored

the lowest price, which just meant that the product that is being dumped into the United States is the default choice.

I would not say that we cannot necessarily compete, and I am not going to necessarily say that the American consumer has to pay a higher price. But before we achieve that level of economies of scale, there is a need for the American manufacturing industry to be supported. That is not going to happen over a day or two. It is a process through which we have to buildup scale to achieve the economies of scale.

But the first helping hand could come from modifying policy to at least set aside a part of the procurement funds to go to American manufacturers. That will help us put our roots in the medium term.

And the second one, which is probably not super relevant right here but is nevertheless affecting us significantly, is our organic growth is unfortunately—it is stifled given the fact that we cannot advertise directly to the consumer. The prominent search engines, Google, Bing, or social media like Facebook, Twitter—none of them really allow us to advertise because they are worried about price gouging. And the barriers that are established are making it difficult for us to establish ourselves, put our roots by reaching out directly to the consumer at least.

Senator CANTWELL. I am pretty sure this mask I am wearing right now—I am sure it was gotten off of Amazon. So what do you mean? There are manufacturers that are producing supplies and they are unable to sell them because—

Mr. BULUSU. The modern way in general, if I wanted to reach the customer, would be to advertise on Google, maybe make it available on Amazon, and then send a link that would appear on Google and put an advertisement there or maybe on Facebook. And I come from the technology industry initially. So I worked to some extent on Bing, the search engine by Microsoft. All of these opportunities are blocked because the companies are worried—and rightly so—that there is price gouging practices that are due to false advertisement and everything.

But the matter of fact is that American manufacturers, once we have a company on American soil, are completely traceable. So it is not like we should be scared of or we are not so prone to—or we cannot easily abuse the ability to sell to an American customer like maybe others could.

Senator CANTWELL. Yes. So basically we need something of a clearinghouse—

Mr. BULUSU. Yes, ma'am.

Senator CANTWELL.—besides the funding.

I know of another case, Mr. Chairman, of a point-of-care technology that just needed a little bit of funding to go to scale on what would be, you know, an airport test within 20 minutes, which for aviation would be incredibly important. So we do have these manufacturers that are trying.

So I agree with your first point about the funds. I agree that we should help with some sort of clearinghouse on making you feel comfortable that you can advertise these products. You need to know that they meet a standard.

Was there a third point on this?

Mr. BULUSU. That was it. And I tried, by the way, by reaching out to executives in Amazon. My partner—he actually worked for a very long—if for 3 and a half to 4 months we find it difficult and we cannot get into Amazon, then there is a problem.

Senator CANTWELL. OK. So basically funding and some way to make sure that you feel comfortable that you are meeting the standards and then advertising that people will feel comfortable that you are meeting that standard. OK, great.

Thank you, Mr. Chairman.

Senator MORAN. Ranking Member, thank you very much.

Senator Thune.

**STATEMENT OF HON. JOHN THUNE,
U.S. SENATOR FROM SOUTH DAKOTA**

Senator THUNE. Thank you, Mr. Chairman.

Commissioner Wessel, throughout the COVID-19 pandemic, we have seen the United States supply chain and manufacturing industry face a number of challenges to keep up with the demand of certain resources particularly personal protective equipment. What steps should the United States take today to ensure we have a more resilient supply chain?

Mr. WESSEL. Thank you for your question, Senator. And I think we face it all too clearly in this sector, PPE, medicines, et cetera, that has raised public attention, but this exists across a broad cross section of industries.

First of all, in this sector I think we need to make sure that we have a strategic national stockpile that is adequate to the task. Again, as I said earlier, no one expected the virulence and breadth of this pandemic, but I think we have to understand that similar situations could arise in the future and we need to make sure that we are prepared. That means having domestic production available, including surge capacity. It may be idle, but we need to support it potentially with Federal funds. And we need to make sure that we have the stockpiles necessary to quickly deploy to meet needs. The fact is our health care workers, those on the front lines, should not be having to search for equipment, having to potentially use substandard equipment or having to reuse that equipment.

The DOD has been looking at how to make sure that our industrial base is able to meet surge needs for any of a number of defense procurement needs. We need to focus more on our own security and what types of manufacturing capabilities must exist here to support our national economic health and agricultural security.

Senator THUNE. Thank you.

Ms. Stovall, in your testimony you highlighted at the beginning of the pandemic, several manufacturers struggled finding suppliers to support their business needs. What other issues did you see with the supply chain, and how has the Manufacturing Extension Partnership program at NIST been able to help alleviate some of those issues?

Ms. STOVALL. Thank you for the question.

Like I mentioned in my testimony, there is no national supply chain data base. And so early on in the pandemic, we all were looking around. Right? We all were saying where can we find ventilators, where can we find more masks, where can we find hospital

gowns, hospital curtains, all of the things that were critically essential needs to help this public health emergency.

So what we did very early on—I am reminded of a story that happened. I will never forget it. It was a Sunday afternoon back in March, and we got a call. We, center directors across the national network, got an e-mail from our executive director of the MEP program, Carol Thomas. And she sent out an e-mail. There was a request from the White House looking for what manufacturers across the United States could manufacture PPE equipment. We were very early in this pandemic. Everybody was trying to still kind of figure out what this was and what the needs were going to be.

We had 2 hours to respond on a Sunday afternoon. And within 2 hours, we as a national network were able to look in our own—each of the center directors were able to look into our own states, see what was being manufactured, even though there was not a national database and even though we did not have, frankly, at the State levels data bases of who manufactures PPE equipment in our state. Because of the relationships that we have, because of the work that we had done in our state and across the national network, we were able to come up with a pretty exhaustive list just within a couple of hours on what manufacturers, not just in Kansas but across the United States, could meet these PPE needs. So that is one of the things that we have been doing.

One of the other things that we have been doing is we heard earlier from InkCycle from Mr. Krska talking about the need for bottles. We hear those kinds of needs all over the place. Manufacturers have really invested on their own to pivot their production to critical need PPE goods, but there are still gaps in the supply chain. And so what we at the State level MEP centers, as well as linking across the national network, have done are really build an understanding of what capabilities are in our states, what capabilities that are in our states that can help meet this crisis. And that is anything from bottles and caps to dispensers, hand sanitizers, masks, N95 masks, all of the things that might go into any part of this supply chain. So we have been doing this state by state, but we have also been linking that through the national network that we have. So we were able to help meet the needs not just in our state but across the country.

Senator THUNE. Thank you.

And, Mr. Chairman, my time has expired. Thank you, and I will perhaps have some questions to submit for the record.

Senator MORAN. Senator Thune, thank you very much.

The next Senator to inquire is Senator Klobuchar. You are recognized.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Well, thank you very much, Mr. Chairman. Thank you to all the witnesses on this really important topic of manufacturing.

A few days ago, I talked to a number of manufacturers in my state, smaller companies who are really struggling in the pandemic because of employees with coronavirus, quarantines, everything.

And so I would urge all of my colleagues that it is time to do pandemic relief in the next month, that we cannot wait until a new President comes in. I really think we have to do it now. So that is my only political statement here, Mr. Chair.

So I will start with you, Mr. Gilman. Bold action is required to help newly unemployed American people who did not actually think they were going to lose their jobs. And then we are going to, I think, have—when we get to the day after tomorrow when a vaccine comes out, we will have different types of jobs available. And we were already seeing we did not have enough people in manufacturing to fill some of the jobs. We still have openings right now actually in my own state.

So we have a bill for a skills training credit. It is bipartisan with Senators Sasse, Booker, and Tim Scott that I have led, and it can be applied to cover the cost of a wide range of training programs that build skills.

Mr. Gilman, do you believe that increasing a worker's skill set through appropriate training will help workers to reenter the workforce now or after we get on the other side of this?

[Pause.]

Senator KLOBUCHAR. Hello?

Mr. WESSEL. I am not sure, Senator, that Mr. Gilman is still there. Let me just say that is critical. If we do not have the skills, we cannot meet the needs of the manufacturers to get things back on line, get people back to work, and meet our needs.

Senator KLOBUCHAR. Very good.

Anyone else want to chime in on this? Thank you, Mr. Wessel. That was very kind.

Ms. STOVALL. Hi, Senator. This is Tiffany Stovall.

Senator KLOBUCHAR. Yes.

Ms. STOVALL. I would like to comment on that as well.

One of the things that—so we know that the workforce issue is one that is ongoing. It is not new to the COVID pandemic, obviously. Finding a skilled workforce has been a challenge for manufacturers for quite some time, and I think the manufacturers on the call would agree with that.

But one thing that has been a particular challenge and a particular concern during this COVID pandemic is—as manufacturers have had to navigate how they keep operations going, one of the things that they are really worried about is keeping their workforce.

Senator KLOBUCHAR. Some people are at home and they could go, and especially for smaller ones, it is hard.

Ms. STOVALL. Yes, absolutely.

And so they are trying to avoid layoffs at all costs.

We have helped, and I know it is not just us, just KMS, the Kansas MEP, but other MEPs across the network—we have really been hands on and helpful with manufacturers trying to get them access to the PPP and other resources that are available to them so that they can stay open and keep their folks employed.

Senator KLOBUCHAR. All right. Very good. Thanks. And I am a big fan of the MEP and thank you for the work you do.

I have one last question and I will give this one to Mr. Wessel. Back in July when you testified before the full Commerce Com-

mittee, you talked about the importance of standing up to illegal and unfair trade practices such as steel dumping, particularly important to my state. My grandpa was an iron ore miner. Our northern part of our state—that is a large part of the workforce up there.

Now we are going to have a new President coming in who I believe can usher in, I will say, the somewhat strategic era of U.S. trade policy, kind of go away from the 'go it alone' approach.

But what should Congress do, Mr. Wessel, to best work with the new administration to stand up to unfair trade?

Mr. WESSEL. Well, thank you for your question. And that, you know, is the \$64,000 or \$64 trillion question I guess.

First of all is not move quickly to dismantle what this administration has put in place. As you noted, there is questions about strategy, but that strategy must be based on a long-term approach and not simply responding to the tactics of the day.

As you know, clearly over-capacity in steel, in aluminum, in fiber optics, and 15 or 18 other industries, mostly caused by China's economic policies, is what is threatening so many industries. We need specific disciplines that are enforceable, and those need to be done in a multilateral setting.

But we have not had enough support from our allies and partners in the past. We have had, as you know, the Global Steel Forum and the OECD Steel Committee. I think they now understand that America is serious about addressing unfair trade. We want to do so with their support and cooperation. And I believe Congress is going to be a strong bipartisan partner with the incoming administration to do that.

But no one should be confused by America's resolve to support our producers and our workers. That is steadfast. The question is what the long-term strategy is.

Senator KLOBUCHAR. OK. Very good. Thank you.

Thank you, Mr. Chair.

Senator MORAN. Thank you, Senator Klobuchar.

Now I will recognize Senator Baldwin.

**STATEMENT OF HON. TAMMY BALDWIN,
U.S. SENATOR FROM WISCONSIN**

Senator BALDWIN. Thank you very much, Mr. Chair.

Commissioner Wessel, I am going to ask some questions, but I also just want to note for the record, as I have been shuttling back and forth to the floor to take votes, as sometimes happens, they may have been things you have tackled already, but that is OK.

Look, we are 9 months into this pandemic, and I am still hearing on a routine basis from Wisconsin health care workers who cannot get a reliable supply of N95 masks that they need to protect themselves and provide care for their patients. And that is absolutely unacceptable in the United States of America.

Since the pandemic began, I have been calling on the Trump administration to use the full power, all the power, of the Defense Production Act to alleviate these supply shortages, including the shortages of PPE that our essential workers need. So far, it is my observation that the Trump administration has only used it spo-

radically, well short of its full potential, failing to use all the tools that are available under the Defense Production Act.

Also, I have been concerned that supposed DPA contracts have gone to shady middlemen, and when priority orders were issued to major U.S. companies under Title I, they failed to utilize the full weight of the U.S. Government backing to incentivize these companies to truly expand their manufacturing capacity.

So, Commissioner Wessel, what would it have meant and what would it mean going forward to fully unlock the power of the Defense Production Act specifically from a manufacturing perspective?

Mr. WESSEL. Thank you for your question, Senator. Also thank you for your leadership on this issue. You have helped provide some critical thinking and policy approaches to address this issue.

I think it would have been of immeasurable benefit to Americans, to the economy, to our health care workers, first responders, as well as patients avoiding sickness and worse, if we had utilized DPA effectively quickly with accountability and transparency. It is not only about getting the funds, which you have been a leader on and those authorities should have been triggered early, there was no accountability, no transparency as to where contracts were going for production or where the products were being deployed. And that needs to be fixed. We need legislation to make sure that never happens again.

Senator BALDWIN. Well, I appreciate that.

I will note that in May of this year, I introduced the Medical Supply Transparency and Delivery Act with my colleague, Senator Chris Murphy, and many others, which does lay out a framework for an effective COVID-19 response by Federalizing and adding critical oversight and transparency to the supply chain for critical medical supplies and equipment. It also unlocked the full array of authorities under the Defense Production Act. I certainly hope that when President-elect Biden takes office in January, that he will use executive action to implement this framework and unleash that power as we will still have work to do.

I know I have just a few seconds left but, Commissioner Wessel, the Trump administration claims to prioritize economic security as a national security issue. Peter Navarro in a 2018 op-ed in *Real Clear Politics* stated that we are in an era of intense economic competition and that into this breach comes Donald Trump with a new organizing principle for strategic policy. Economic security is national security.

In April, Acting Director of DHS Chad Wolf tweeted that economic security is homeland security and has made similar statements in testimony to Congress.

Can you elaborate on how—well, when push comes to shove, it was a lot of talk and little action. While China views economic and national security as inextricably linked, as you note in your testimony President Trump has failed to underpin his economic policies with the national security concern. Can you elaborate on how this failure put us in a strategic disadvantage in relation to great power competition with China?

Mr. WESSEL. That is a great question—thank you—and a potentially long answer, but I will shorten it.

Those interests are inextricably intertwined, and the workers in your state who provide countless benefits for making sure that we support a strong economy, that we are able to support industries, critical industries, critical infrastructure—their interests, their ability to support America has been undermined by China’s non-economic, predatory policies over a long period of time. But the impact of those has accelerated as China has passed its industrial policies, Made in China 2025, its 5-year plan, which will be updated in March.

We have seen tactics applied to China’s policies but not a long-term strategy to address the overall problems. You know, tariffs, which I have supported, are not a long-term strategy. We need to, again, multilateralize our responses. We need to make sure they are sustainable, and we need to make sure that we have the ability here—manufacturers and others—to compete on a level playing field. So it is an all-of-the-above strategy that needs a coherent framework which we join with our allies on and where Congress is a true partner.

Senator BALDWIN. Thank you, Commissioner.

And I yield back.

Senator MORAN. You have nothing to yield back.

Senator Rosen is the last Senator I think to be able to question our witnesses, and we need to conclude our hearing shortly thereafter. This committee room is to be occupied again, and the preparation to do so needs to take place soon. Senator Rosen.

**STATEMENT OF HON. JACKY ROSEN,
U.S. SENATOR FROM NEVADA**

Senator ROSEN. Thank you, Mr. Chairman. I want to thank everyone here for being here, for what you are doing.

I want to build a little bit upon what my colleagues have already asked you about workforce training and retraining because during the pandemic, of course American ingenuity has been a bright spot, and our Nation has exhibited with many of your companies and those in my State the ability to tackle these insurmountable problems.

For example, when the pandemic hit, there was a plastics manufacturer in Sparks, Nevada. They started making face shields and safety partitions for casinos, restaurants, and our government agencies. The University of Nevada-Reno’s Innovation Center teamed up with our State’s MEP center, Nevada Industry Excellence, to produce gowns for local health care workers. This August I had the opportunity to virtually visit with Frey Ranch. It is in Churchill County—their distillery. They make whiskey and bourbon and they shifted to producing hand sanitizer, and similarly a Las Vegas distillery—in the Henderson area in the greater Las Vegas area—they pivoted their operations from vodka, rum, and whiskey to produce hand sanitizer.

And so I want to thank you for addressing some of the challenges that we have doing this for PPE and some of the other things, workforce training, because you know that having a skilled workforce that is able to be nimble and readily adapt is going to impact how quickly our businesses come back.

But I would like to build on that a little bit because I also believe that we have to build consumer confidence for going back indoors. What are we all worried about? The quality of our air. Indoor air quality is what stops us from going to restaurants, to marinas, to concerts, hotels and casinos like I have in Nevada.

So, Ms. Stovall, in your experience working with small and medium sized manufacturers, do you know of companies that are working to produce the very important type of HEPA filters and the filtration systems that we are going to need, those electronic air cleaners that will help jump start an economy and make us feel more confident to go back indoors through this pandemic?

Ms. STOVALL. Thank you for the question.

Yes, as a matter of fact. So one of the things—early in your comments, you referenced ingenuity and the ingenuity of manufacturers. Manufacturing is built on innovation. Right? We are a country of makers. We make things. And so it is in times like this where we have critical needs, needs that may be a little bit different than they were 6 months prior to that, that companies are looking to say how can we do better at meeting the need. That is where this innovation comes from.

The companies are doing this on their own. I keep pointing that out because I want you all to really understand that the time, the dollar investment, what manufacturers are doing on their own and what we need to be able to do to support them.

So back to your question of, are there companies that are looking at indoor air quality? Absolutely, they are because that is a need. So while we are looking at what are our needs right now, masks, ventilators, those kinds of needs, we are also looking at what gets us back to some sense of normalcy, which is what will make the public comfortable with going into buildings and to retail spaces and office spaces. And that is an increased focus on air quality. So, yes, that is something that is being looked at by manufacturers not only in Kansas but across the country.

Senator ROSEN. Well, I thank you for that. I would like to speak a little bit more about that, but I know that there is another committee coming in right after us, so I will submit those questions for the record. I think it is really important that we talk about indoor air quality because it is key to getting folks back to sports and school and all of the things that we all miss so dearly. So I will yield back my last few seconds, and I thank you all for being here today.

Senator MORAN. Senator Rosen, thank you for your cooperation. Thank you for your participation today.

We are just about to conclude this hearing, but it is always my practice to ask any of our witnesses if they have anything they want to try to clarify or something they wish they would have been asked, something that they wish they would have said.

[No response.]

Senator MORAN. Very good. Thank you all for joining us this afternoon. This is a very important topic, and we need to figure out the policies that are necessary to strengthen and grow our manufacturing economy, creating jobs in Kansas and the United States, but also a better way to protect our citizens from the pandemic and other emergencies and crises that will occur by having access to the

various manufactured products that are necessary for our country's well-being, both health and economic.

Senator BLUMENTHAL. Mr. Chairman?

Senator MORAN. Yes, sir.

Senator BLUMENTHAL. Mr. Chairman, I note that Neil Gilman evidently is back on the line. I want him to know that I was bragging about him. He may not have heard it. I want to say to him how much I admire what he has done and all the entrepreneurs and manufacturers on this call. I think this hearing has really been very inspiring to see the kind of ingenuity and creativeness and innovativeness, which is really the hallmark of America.

The Chinese can steal our intellectual property. They can exploit their workers, and they can try to undercut us, but I think in the long run our system will beat theirs and we will be safer in terms of our health care and our economy because of the patriots that we had at this hearing today you and I had a chance to talk about a little bit on the floor.

And I think that your leadership here has been very important. I hope that you and I can work together in continuing showing how manufacturing of PPE and these health care supplies is so important to our country. So my thanks to you for holding this hearing and to all of our witnesses.

Senator MORAN. Senator Blumenthal, thank you for your assistance, your leadership, and I look forward to continuing our efforts to pursue this topic and others within the Subcommittee's jurisdiction.

We are going to conclude. The hearing record will remain open for two weeks. During this time, Senators are asked to submit any questions for the record. Upon the receipt of those questions, the witnesses are requested to submit their written answers to the Committee as soon as possible. That concludes today's hearing.

And again, I thank our witnesses. I thank our staff, and I apologize for the on again/off again nature of today's hearing through no fault of anyone in this room's efforts. We just had a disjointed chance to have the testimony told, but it was very compelling and very useful and I am grateful for that.

With that, the hearing is now adjourned.

[Whereupon, at 4:42 p.m., the hearing was adjourned.]

A P P E N D I X

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JACKY ROSEN TO
RAVI BULUSU

Question 1. During this devastating pandemic, American ingenuity has been a bright spot, demonstrating our capacity as a nation to tackle seemingly insurmountable problems. Having a skilled workforce that is ready to quickly adapt to rapidly changing conditions has made a difference for these businesses and will impact how quickly our economy will recover from the pandemic.

a.) How did you go about retraining your workforce to manufacture health and safety products? What do you recommend to small and medium-sized manufacturers who want to pivot into the PPE space and that need to do workforce retraining?

a. We are a startup that started from scratch and so are primarily focused on adding employees. Recommendations for manufacturers who want to pivot into PPE would be as follows:

- i. Study the market and the players in the market. This will help establish a niche in a chaotic market in unusual times.
- ii. Reach out to potential buyers, find out their requirements and also quantify potential demand.
- iii. Ensure there is a reliable supply chain of the raw materials needed. Establish sufficient redundancy to avoid interruption in manufacturing.
- iv. Traditional marketing strategies might not always work for your product. In such cases, the flexibility to think out of the box becomes important.
- v. Get the product certified as early as you can.

b.) How can Congress best assist manufacturers in providing a trained workforce? What actions can Congress take to support small manufacturers' efforts to meet product demand and retrain their employees to respond and adapt quickly to an evolving pandemic?

a. To help build a trained workforce, incentivizing training programs would be very helpful. The post-pandemic world is likely to be very different.

b. To help small manufacturers:

- i. Allocate some percentage of government procurement to domestic PPE and medical equipment manufacturers for 5 years. It will help our companies get competitive. Due to the established practice of procuring at the lowest price, most American small manufacturers of PPE are by default not able to compete with China made PPE despite significant difference in the quality.
- ii. Establish a priority channel for American manufacturers in the testing and certification process during national emergency situations either through DPA or a different act. Despite having made a product, the certification pipeline is very crowded causing 3–4 months of delays. EUA is helpful but most consumers in the market prefer a certified product.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JACKY ROSEN TO
TIFFANY M. STOVALL

Question 1. During these challenging times, Nevada's manufacturers and their workers have been resilient in ensuring that our communities have the protective equipment they need to keep our first responders, frontline workers, and families safe. However, despite these efforts to ramp up PPE production, as COVID-19 cases continue to climb, challenges remain—particularly our overdependence on global supply chains. I am curious, however, if American companies—through innovation—can help pave the way to creating new, domestic supply chains.

a.) Are there COVID response-related sectors where small and medium-sized businesses can still step up and fill domestic supply chain needs? Where are the biggest gaps where American manufacturers can jump in to not only contribute, but even create jobs because unmet demand is so high? What would failure to fill these gaps mean for the American economy as a whole?

There are absolutely COVID response related sectors where small and medium sized businesses can still step up and fill domestic supply chain needs. Notably, supplies related to prevention of spread as well as medical professionals such as masks, shields, gloves, gowns, hand sanitizer and such will continue to be in high demand for some time to come. Additionally, supplies that allow our country to remain in business are also critical such as physical barriers like those seen in retail check out lines, janitorial cleaners, and disinfectants for use in a wide variety of spaces and types of businesses from medical facilities and restaurants to manufacturing and distribution.

Further, within the manufacturing industry there are a number of small and midsized companies with knowledge, expertise, and facilities to manufacture various scales of biological materials and biopharmaceuticals within sterile environments. Biomanufacturing is the application of manufacturing processes and biotechnology to produce products from biological origins. Through biomanufacturing, companies are able to produce important biologics and biomaterials that have broad applications across medicine, research, construction, engineering, foods and beverages, and other industrial application.

The Biotechnology Innovation Organization and Boston Consulting Group identified three bottlenecks that need to be prioritized to manufacture COVID-19 related biologics:

- Biologics drug substance production
- Sterile fill and finish capacity
- Lyophilization capacity

To increase capacity, existing biopharma and biologics manufacturers can partner or contract with small to mid-sized contract drug manufacturing companies (CDMOs/CMOs) to increase capacity to address supply shortages. Even in the absence of increased demand due to COVID-19, the changing biopharmaceutical industry will continue to have an increased demand for these types of manufacturing capabilities.

By leveraging and building upon our existing companies that have the above capabilities, we can create additional jobs while also increasing the U.S. market share of the manufacturing and biomanufacturing industry.

b.) What actions can Congress take to strengthen our Nation's domestic supply chains?

Congress can strengthen our Nation's domestic supply chains by establishing and funding a National Supply Chain Database as proposed in the National Defense Authorization Act of 2020. COVID-19 has demonstrated the devastating effects of a global pandemic on public health and safety, our local economies, and global markets. Plant closures, a reduction in manufacturing operations, and in some cases, retooling of manufacturing plants to produce Personal Protective Equipment (PPE) and other products highlight the critical need to have a nationwide real-time understanding about the strengths and vulnerabilities of our national supply chain across various industries.

Global pandemics are not the only threat to our supply chain. Natural disasters, cyber threats, trade agreements, and raw material shortages are but a few examples of threats to our supply chain. Since March, we have watched as our states, hospitals, and employers have struggled to secure access to PPE and other products necessary to protect our communities during the COVID-19 outbreak. It is clear that we need a centralized source of information on our Nation's supply chain of PPE and other products.

Establishing a National Supply Chain Database will ensure the Nation's ability to minimize disruptions in the supply chain by having an accurate and real-time assessment of U.S. manufacturers' capabilities and inventories.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DAN SULLIVAN TO
MICHAEL WESSEL

Question 1. The U.S.-China Economic and Security Review Commission's July 1 report on U.S. Multinational Enterprise Activity in China identified a number of concerning trends from our growing reliance on China for the production of goods.

Globalization has not led to reliability through supply chain diversification across numerous countries in various parts of the world. Instead, we have increased our reliance on a single country—China, in ways that make us vulnerable to catastrophic supply chain disruptions like those that we see with the pandemic.

1. The U.S.-China Economic and Security Review Commission's July 1 report on U.S. Multinational Enterprise Activity in China identified a number of concerning trends from our growing reliance on China for the production of goods. Globalization has not led to reliability through supply chain diversification across numerous countries in various parts of the world. Instead, we have increased our reliance on a single country—China, in ways that make us vulnerable to catastrophic supply chain disruptions like those that we see with the pandemic.

a. What initiatives are underway to encourage U.S. multinational enterprises to diversify outside of China?

- *The U.S. government is considering strategies to bring supply chains in critical industries closer to home.* Some initial steps have focused on addressing U.S. supply chain dependence on Chinese medical supplies¹ and critical minerals.² For example, in May 2020, the Trump administration authorized the Development Finance Corporation to execute loans using the Defense Production Act's Title III authorities to shore up domestic production of strategic resources needed to respond to the pandemic.ⁱ A separate Executive Order issued in September directed the Departments of Defense, Treasury, Commerce, Energy, and others to produce reports offering guidance on how to reduce U.S. overdependence on China for critical minerals. The reports, among other things, should include recommendations on potential incentives to promote domestic mining and processing of such minerals.ⁱⁱ Administration officials have also reportedly considered establishing a \$25 billion "reshoring fund" to subsidize U.S. companies' movement of manufacturing activity out of China.ⁱⁱⁱ

b. How do we incentivize businesses to pursue materials and manufacturing elsewhere while the People's Republic of China artificially keeps costs lower than other competing venues?

- *The supply chain realignment process is in its early stages and will be challenging.* The United States and other countries are just beginning to formulate and implement supply chain reshoring and diversification initiatives. Unfortunately, with supply chains in China, the outsourcing and offshoring that has occurred is also a result of deeply-embedded and supported industrial policies designed to promote China's interests often at the expense of other countries. While many of the dependencies have existed for some time, the current pandemic has elevated attention on these issues in the United States and in other nations.
- *Some governments are providing subsidies and other investment incentives to encourage companies to diversify production away from China.* The Japanese government has earmarked \$2.2 billion to subsidize Japanese manufacturers' relocation of production out of China to diversify supply chain risks.^{iv} So far, 57 Japanese companies have received a total of \$535 million to open new factories in Japan, while another 30 companies have received \$220 million to expand production in Vietnam, Myanmar, Thailand, and other Southeast Asian countries.^v European leaders are also seeking to reshore supply chains in some critical industries, such as medical supplies.^{vi} For example, in June French President Emmanuel Macron submitted a proposal to European Commission President Ursula von der Leyen asking Brussels to develop investment incentives to encourage the reshoring of active pharmaceutical ingredient production capacity to the EU.^{vii}

¹According to research conducted by the Congressional Research Service, China accounted for over 15 percent of U.S. imports of medical ventilators and over 70 percent of imports of medical protective articles like masks. Karen M. Sutter, Andres B. Schwarzenberg, and Michael D. Sutherland, "COVID-19: China Medical Supply Chains and Broader Trade Issues," Congressional Research Service R46304, April 6, 2020, 17–18. <https://crsreports.congress.gov/product/pdf/R/R46304>.

²China produces more than 80 percent of rare earth elements globally, and broad provisions in Beijing's recently passed Export Control Law could see the Chinese government restrict exports of these elements as a tool of coercion. Jamie Smyth, "Industry Needs a Rare Earths Supply Chain Outside China," *Financial Times*, July 27, 2020. <https://www.ft.com/content/fc368da6-1c86-454b-91ed-cb2727507661>; Lester Ross, Kenneth Zhou, and Tingting Liu, "China Publishes Draft Export Control Law," *WilmerHale*, January 15, 2020. <https://www.jdsupra.com/legalnews/china-publishes-draft-export-control-law-58113/>.

- *Despite its diminished competitiveness as a low-cost manufacturing base, China's extensive industrial ecosystem makes the complete transfer of supply chains out of the country a difficult prospect.* China's ecosystem of suppliers, skilled labor, and efficient transportation infrastructure is difficult to match, cementing dependencies on production networks there. According to research from Bank of America, the cost to U.S. and European companies of moving manufacturing out of China could reach \$1 trillion over the next five years,^{viii} a hefty expense as the pandemic strains corporate finances and crimps investment. Preliminary trade data and market research suggests the diversification of discrete portions of production in select industries away from China, rather than a complete uprooting of supply chains out of the country, is more likely.³ Any movement of manufacturing production outside of China is made more difficult in the short term as resumption of industrial activity and economic recovery in China outpaces that of other countries still grappling with the pandemic and the fact that China's industrial policies and state-led market intervention creates incentives for Western companies to continue to rely on that country.
- c. What more can be done to protect against supply chain vulnerabilities created by an overreliance on a single foreign nation like we have with China?
 - *The U.S. government must strengthen its ability to analyze U.S.-China economic relations.* Our country's economic linkages with China are deepening beyond trade to include portfolio investment which is likely to create enhanced vulnerabilities and dependencies. As China's financial authorities strategically open China's financial sector to utilize foreign capital in shoring up China's economy, it becomes more urgent for the U.S. government to track and monitor U.S. exposure to risks and vulnerabilities in China's financial system and to ensure that U.S. investors, as well as our national interest, are protected. To that end, the Commission recommended in 2020:
 - Congress enact legislation establishing a China Economic Data Coordination Center (CEDCC) at the Bureau of Economic Analysis at the U.S. Department of Commerce. The Center would be mandated to collect and synthesize official and unofficial Chinese economic data on developments in China's financial markets and U.S. exposure to risks and vulnerabilities in China's financial system, including:
 - Data on baseline economic statistics (e.g., gross domestic product [GDP]) and other indicators of economic health;
 - Data on national and local government debt;
 - Data on nonperforming loan amounts;
 - Data on the composition of shadow banking assets;
 - Data on the composition of China's foreign exchange reserves; and
 - Data on bank loan interest rates.

There are also many questions concerning the scope and scale of U.S. multinational firms' business in China that are left unanswered by data aggregated by the U.S. Department of Commerce. Enhanced collection of data on U.S.-China commercial ties will enable U.S. policymakers to more readily identify and assess supply chain vulnerabilities with respect to China and determine where we should prioritize our efforts to defend against related vulnerabilities. The Commission thus recommended in 2019:

- Congress enact legislation requiring the collection of data on U.S.-China economic relations. This legislation would:
 - Direct U.S. economic statistics-producing agencies, including the U.S. Census Bureau, the U.S. Department of Commerce's Bureau of Economic Analysis, and the U.S. International Trade Commission, to review methodologies for collecting and publishing not only gross trade

³For example, according to the World Trade Organization Economic Research and Statistics Division, in the first half of 2019 about \$21 billion in U.S. imports diverted from China to Mexico (\$6.9 billion), the EU (\$6 billion), Taiwan (\$4.5 billion), and Vietnam (\$2.8 billion). Looking forward, consulting firm McKinsey estimates that the production of 16 to 26 percent of globally traded goods could move to new countries over the next five years as companies and governments pursue supply chain resilience. Susan Lund *et al.*, "Risk, Resilience, and Rebalancing in Global Value Chains," McKinsey Global Institute, August 2020, 61; Eddy Bekkers and Sofia Schroeter, "An Economic Analysis of the U.S.-China Trade Conflict," World Trade Organization Economics and Statistics Division, February 26, 2020, 9. https://www.wto.org/english/res_e/reser_e/ersd202004_e.pdf.

flows data, but also detailed supply chain data to better document the country of origin for components of each imported good before it reaches U.S. consumers.

- Direct the U.S. Census Bureau to restart data releases in its Current Industrial Reports at the ten-digit industry level.
- Direct the U.S. Department of the Treasury to coordinate with the U.S. Census Bureau to match U.S. firm-level data with their U.S. employees' data.
- *Develop new analytic tools to more effectively monitor supply chain vulnerabilities for materials critical to the U.S. manufacturing base.* China dominates global supply of numerous critical minerals and metals used in energy storage and other advanced technologies, creating supply risks for materials, components, and end products sourced from China. The Chinese government's approach to establishing dominance in global supply chains has been systematic, requiring coordination between industrial policy, domestic geological exploration, and commercial engagement in resource-rich developing countries, all supported by substantial state funding. As China's control over these materials expands, risks to the United States of impaired or narrowed access to them heightens. To address this challenge, the Commission recommended in 2019:
 - Congress direct the U.S. Geological Survey, in coordination with the U.S. Department of Energy, U.S. Department of Commerce, U.S. Department of the Interior, and U.S. International Trade Commission to develop and maintain a risk assessment framework that identifies materials used in manufacturing industries critical to both national security and commercial vitality. Such a framework should provide an early warning mechanism for any threats to the U.S. supply of these critical materials, including an increasing concentration of extraction and processing by another country or entity and acquisition of significant mining and processing facilities; increasing export restrictions by another country; large gaps between domestic prices for these materials in another country versus prices on international markets; sharp increases or volatility in price; and substantial control in supply of minerals used within the same industry or related minerals that serve as substitutes by another country.
- *Incentivize U.S. enterprises to invest more in the basic research that underpins U.S. innovation and technological leadership.* While the U.S. government funds some basic research and offers incentives like the research and development tax credit to spur innovation, the Chinese government uses prescriptive and interventionist methods to build supply, generate demand, and guarantee a market for nascent industries. The CCP broadly supports licit and illicit technology and talent acquisition strategies and programs. Beijing's statist approach helps new technologies overcome obstacles to commercialization. A U.S. policy environment that expands support to U.S. companies conducting innovative early-stage research in emerging industries will enable the United States to more effectively rise to the challenge of economic and technological competition with China. The Commission thus recommended in 2019:
 - Congress amend Internal Revenue Code Section 41 to extend the research and development tax credit to initial stages of deployment for new products, processes, computer software, techniques, formulae, or inventions that increase the production of final and intermediary goods manufactured primarily in the United States. The tax credit should also extend to precompetitive commercial development of basic and applied research performed in the United States, particularly in industrial sectors where the People's Republic of China threatens the technological leadership of the United States.

Question 2. Beijing has leveraged an array of economic incentives to induce U.S. companies to increase production in China, and U.S. companies have done so to realize their fiduciary duty to their shareholders. The U.S. government is increasingly asking U.S. companies to consider how their decisions can serve not just their shareholders' interests but also those of U.S. policy as strategic competition with China heightens.

a. How can the U.S. government better engage with U.S. companies to enlist industry in shoring up U.S. economic competitiveness with respect to China?

- *The COVID-19 pandemic is putting business and government on the same page with respect to resolving the risks of overreliance on China-based production networks.* Shortages caused by the COVID-19 pandemic are sparking renewed interest on the part of multinational companies in reshoring or nearshoring pro-

duction closer to home markets. As the international business community re-evaluates China as a production base, U.S. policymakers are presented with opportunities to elevate the attractiveness of the United States as an investment destination for U.S. and other multinational companies. According to a May 2020 survey of global supply chain executives conducted by McKinsey, about 40 percent of companies intend to nearshore and increase their supplier base to bolster resilience.^{ix} Analysts anticipate critical supply for strategic industries, such as healthcare products, personal protective equipment, or pharmaceuticals, may begin to reshore as governments and companies prioritize resilience and redundancy over cost.^x Congress and the Administration must engage in a broader discussion to advance and accelerate these efforts and broaden them to other sectors.

- *Continued formalization of rules and regulations to mitigate selected risks of U.S.-China commercial engagement may guide U.S. companies to make business decisions that more closely align with the national interest.* U.S. policy efforts to halt the flow of U.S. advanced technologies to Chinese companies that pose a national security threat or are involved in human rights abuses in Xinjiang province, for example, signal to U.S. companies what kind of business activity runs counter to U.S. policy interests and harms U.S. national security in the long-run. As these companies may not consider risks to U.S. national security when conducting business in China, U.S. policy steps to defend against those risks can define the appropriate bounds for U.S. commercial activity in China as strategic competition between the two countries heightens.
- *The United States can also work with likeminded partners to bolster supply chain resilience and develop alternatives to China-centric production networks.* Supply shortages wrought by the COVID-19 pandemic have led some governments to explore how they can work together to assure supply chain security. For example, the Japanese, Australian, and Indian governments are mulling the establishment of a trilateral supply chain resilience initiative focused on securing supply chains in the Indo-Pacific region,^{xi} while the British government has proposed the formation of a “D10” group of ten democracies to jointly develop 5G technology and reduce dependence on Huawei.^{xii} U.S. engagement in these multilateral efforts can both strengthen U.S. supply chain security and bolster U.S. economic competitiveness with respect to China. Taiwan firms’ central role in global information and communications technology supply chains makes Taiwan an attractive partner to the United States in this effort. To this end, the Commission recommended in 2020:
 - Congress encourage the Administration to include Taiwan in multilateral efforts to coordinate and strengthen supply chain cooperation and security. This could be done through the expansion of Global Cooperation and Training Framework programming or a new multilateral arrangement with likeminded democracies. This multilateral engagement should focus on securing critical inputs and assuring supply chain resilience in strategic industries critical to economic competitiveness and national security, including information and communications technology, integrated circuits, and electronic components.
- Policymakers must make clear to multinational enterprises and companies that rely on China as either a location for production, or a supplier, that there are significant costs to producing in, or obtaining supplies from, that country. Short-term profits are not the only determinant for a fiduciary; rather, the long-term health and success of the enterprise are. The COVID-19 pandemic and the focus on supplier relationships with China has made clear that dependency on China creates enormous risks. China’s technology acquisition strategies have undermined the value of many of our companies as their competitors have obtained technology, R&D, and manufacturing capabilities from multinational’s activities in that country. The subsidies that China provides to many domestic champions also harm long-term competitiveness of U.S. companies. and in addition, the relationships that many U.S. firms have with Chinese companies now on the Entities List or identified by the Department of Defense as promoting the PLA, may expose U.S. companies to risks under U.S. law and undermine U.S. national security.

Question 3. U.S. laws, regulations, and practices afford Chinese companies certain advantages that U.S. companies do not enjoy. For example, Chinese firms that raise capital on U.S. stock markets are subject to lower disclosure requirements than their U.S. counterparts.

a. Can you describe other benefits Chinese companies enjoy in the United States, especially in cases where U.S. companies do not enjoy reciprocal advantages in China?

- *U.S. firms compete with unfairly subsidized Chinese companies both in the United States and abroad.* Chinese firms' U.S. operations may pose competitive challenges if they receive below-cost financing or subsidies from the Chinese government. For example, state-owned China Railway Rolling Stock Corporation (CRRC), China's largest rail-car manufacturing company, reported that it received \$37.1 million in government grants—including loans at below-market rates—in 2017.^{xiii} In the United States, CRRC has won four out of five major U.S. contracts for new railcars in the cities of Chicago, Philadelphia, Boston, and Los Angeles since 2017.^{xiv} U.S. firms can operate at a disadvantage in global markets as well. For example, Chinese construction firms operating in African countries have benefited from significant government subsidies, allowing them to submit lower bids for many construction projects.^{xv} According to Aubrey Hruby, Senior Fellow at the Atlantic Council's Africa Center, Chinese firms have won 42 percent by value of all World Bank open bid contracts with bids that are often 40 percent less expensive than competitor firms.^{xvi} The early entry of Chinese firms Huawei and ZTE into Africa's telecommunications sector, aided by generous subsidies from the Chinese government, has also helped Chinese companies gain an advantage over competitors in the continent's telecommunications and mobile phone markets. In order to equip the U.S. government with information needed to better address the ways in which Chinese government subsidies unfairly advantage Chinese companies, the Commission recommended in 2020:
 - Congress expand the authority of the Federal Trade Commission (FTC) to monitor and take foreign government subsidies into account in premerger notification processes.
 - The FTC shall develop a process to determine to what extent proposed transactions are facilitated by the support of foreign government subsidies.
 - The definition of foreign government subsidies shall encompass direct subsidies, grants, loans, below-market loans, loan guarantees, tax concessions, governmental procurement policies, and other forms of government support.
 - Companies operating in the United States that benefit from the financial support of a foreign government must provide the FTC with a detailed accounting of these subsidies when undergoing FTC premerger procedures.
 - If the FTC finds foreign subsidies have facilitated the transaction, the FTC can either propose a modification to remedy the distortion or prohibit the transaction under Section 7 of the Clayton Act, which prohibits mergers and acquisitions where the effect "may be substantially to lessen competition, or to tend to create a monopoly."
 - U.S. firms have no existing tools to address the anticompetitive practices of Chinese state-owned or state-supported firms operating in our market. To be actionable, existing U.S. laws against unfair competition require the pricing and market activities of a competitor be based on the theory of recoupment. In short, if a Chinese entity does not plan to recoup lost profits, their competitive strategies may not violate our existing laws. Therefore, a subsidized Chinese SOE, with little to no cost of capital, may be able to invest in plant and equipment at dramatically lower costs than their U.S. counterparts. This is an issue that Congress should examine.
- b. Does the ability of Chinese companies to access U.S. capital markets give them an advantage when competing against U.S. firms globally?
- *Like all foreign issuers, Chinese firms that raise capital on U.S. exchanges have been subject to lower disclosure requirements than their U.S. counterparts, thereby affording them unfair advantages when competing with U.S. firms.* This situation is particularly challenging because Chinese companies do not comply with U.S. regulations on disclosure requirements. Chinese firms have benefitted from the United States' deep and highly liquid capital markets without complying with U.S. disclosure standards and despite failing to disclose basic data on ownership, operations, and political ties to U.S. regulators. This noncompliance not only enables these companies to unfairly outcompete U.S. firms, but also erodes the integrity of U.S. capital markets and exposes U.S. investors to fraud, as the recent Luckin Coffee accounting scandal and numerous other past examples have demonstrated. The Commission is therefore heartened by the recent passage in the House of Representatives of the Holding Foreign Companies Ac-

countable Act, and looks forward to strengthened enforcement of listing standards on U.S. exchanges.

ENDNOTES

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RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JACKY ROSEN TO
MICHAEL WESSEL

Question 1. During these challenging times, Nevada’s manufacturers and their workers have been resilient in ensuring that our communities have the protective equipment they need to keep our first responders, frontline workers, and families safe. However, despite these efforts to ramp up PPE production, as COVID–19 cases continue to climb, challenges remain—particularly our overdependence on global supply chains. I am curious, however, if American companies—through innovation—can help pave the way to creating new, domestic supply chains.

a.) Are there COVID response-related sectors where small and medium-sized businesses can still step up and fill domestic supply chain needs? Where are the biggest gaps where American manufacturers can jump in to not only contribute, but even create jobs because unmet demand is so high? What would failure to fill these gaps mean for the American economy as a whole?

Although American small and medium enterprises (SMEs) stepped up to address PPE shortfalls at the start of the coronavirus crisis, ongoing PPE shortages mean their role remains critical in meeting domestic demand and protecting jobs. According to a December 9, 2020 report by the *Wall Street Journal*, despite an increase in PPE production since January (up to 150 million N95 masks a month from 20 million a month prior to the pandemic) there are still widespread shortages of N95 masks and other personal protective equipment.¹ Supplies of medical products that require certification, including testing kits, N95 masks, needles, and reagents, continue to be limited.² According to a survey conducted by the Government Accountability Office (GAO) in September 2020, one-third to one-half of the states reported shortages of testing supplies and one-third of states reported being very concerned about having sufficient supplies to administer COVID–19 vaccines.³ Even following the pandemic, concerns about reliance on China for medical equipment and supplies prompted by the experiences of COVID–19 may create a longer-term demand for U.S. sourcing that may create an opportunity for U.S. manufacturers. We must ensure that domestic capacity exists to meet our Nation’s needs.

Another area where SMEs could contribute is in production of medicines and active pharmaceutical ingredients (APIs). The COVID–19 outbreak highlighted the United States’ reliance on China for APIs, some of which are critical for the production of therapeutics used to treat COVID–19, which may prompt demand for APIs processed in the United States. Willy Shih, a professor at Harvard Business School who focuses on manufacturing, notes that innovations in the production of APIs, including biomanufacturing, could allow existing businesses to pivot to the production of APIs at a competitive price point.⁴ Generally, SMEs represent a growing share of the pharmaceutical development pipeline, increasing from 52 percent of late-stage product pipelines in 2003 to 73 percent in 2018. These companies’ smaller size may allow them to pivot quickly to meet emerging health needs, indicating the capability of SMEs to play a critical role in addressing API shortages and diversifying the United States’ pharmaceutical supply chains.⁵ These SMEs should have quick access to capital to shift production in the future, should their capabilities and production capacity be needed.

In 2019, the United States imported 80 percent of its APIs, many of which were sourced from China or from third party countries that ultimately source from

¹ Stephanie Armour, Betsey McKay, and Susan Pulliam, “U.S. Supplies of Covid-19 PPE Fall Short of Targets,” *Wall Street Journal*, December 9, 2020. <https://www.wsj.com/articles/u-s-supplies-of-covid-19-ppe-fall-short-of-targets-11607509800>.

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⁵ IQVIA Institute for Human Data Science, “Emerging Biopharma’s Contribution to Innovation: Assessing the Impact,” 2019. <https://www.iqvia.com/insights/the-iqvia-institute/reports/emerging-biopharmas-contribution-to-innovation>; Danielle Navarro, “Research Synthesis: Role of Small and Medium-Sized Enterprises,” *Graduate Institute of Geneva Global Health Center*, October 28, 2019. <https://www.knowledgeportalia.org/small-and-medium-enterprises>.

China.⁶ Generic drugs are particularly vulnerable to disruption: 40 percent of generic drugs sold in the United States only had one manufacturer.⁷ As highlighted in the Commission's 2019 annual report, the Food and Drug Administration (FDA) has faced difficulties inspecting China-based API production facilities, which may expose U.S. consumers to the risk of using APIs that have not been produced to acceptable standards.⁸ Efforts to diversify the United States' pharmaceutical supply chains and ensure sourcing from facilities inspected by the FDA in response to problems highlighted by the pandemic may create new market opportunities for U.S. manufacturers.

Failure to diversify supply chains for pharmaceutical products and medical protective equipment would make the United States vulnerable to future supply chain disruptions and risk potential exposure to products manufactured in facilities that do not meet U.S. health and safety standards.

b.) What actions can Congress take to strengthen our Nation's domestic supply chains?

The Commission has generated several recommendations to strengthen domestic supply chains by preventing the abuse of the United States' open market system by Chinese actors backed by Chinese government subsidies, supporting U.S.-based innovation, and reducing reliance on China-based suppliers that may pose a risk to U.S. consumers and industry.

Strengthen regulatory oversight: A key recommendation from the Commission's 2020 Annual report is that Congress expand the authority of the Federal Trade Commission (FTC) to monitor and take foreign subsidies into account in premerger notification processes.⁹ This recommendation would limit the ability of companies aided by foreign government subsidies to engage in acquisitions that would reduce competition. This follows a 2018 recommendation that Congress direct the Office of the U.S. Trade Representative to identify the trade-distorting practices of Chinese state-owned enterprises and develop policies to counteract their anticompetitive impact.¹⁰

Shore up supplies of critical materials: In 2020 the Chinese government revised its export control law to include provisions allowing for blocking foreign access to strategic resources like rare earths, furthering highlighting the risk that the Chinese government may use its dominance in the production of rare earth materials as a tool for coercion.¹¹ China produces more than 80 percent of rare earth elements globally.¹² In contrast, U.S. export controls are limited to dual-use technologies and do not include raw materials. A 2019 Commission recommendation would help the United States identify and respond to risks associated with the Chinese government's control of the supply of rare earth materials. The Commission recommended that the U.S. Geological Survey develop and maintain a risk assessment framework that identifies materials used in manufacturing industries critical to both national security and commercial vitality. This framework would provide an early warning mechanism for any threats to the U.S. supply of these critical materials.¹³ This could provide an initial step toward diversifying production of rare earth materials when necessary, insulating U.S. manufacturing industries from coercion and unexpected disruptions to the supply of rare earth minerals.

Boost U.S. innovation: Several Commission recommendations would support U.S. innovation and initial development in emerging tech sectors, creating an environment that is conducive to U.S.-based innovative industries. In the 2019 annual re-

⁶U.S. Food and Drug Administration, FDA at a Glance: FDA-Regulated Products and Facilities, April 2017.

⁷*Economist*, "A Dire Scarcity of Drugs Is Worsening, in Part, because They Are So Cheap," September 14, 2019. <https://www.economist.com/international/2019/09/14/a-dire-scarcity-of-drugs-is-worsening-in-part-because-they-are-so-cheap>.

⁸U.S.-China Economic and Security Review Commission, *2019 Annual Report to Congress*, November 2019, 259.

⁹U.S.-China Economic and Security Review Commission, *2020 Annual Report to Congress*, December 2020, 536.

¹⁰U.S.-China Economic and Security Review Commission, *2018 Annual Report to Congress*, November 2018, 483.

¹¹Lester Ross, Kenneth Zhou, and Tingting Liu, "China Publishes Draft Export Control Law," *WilmerHale*, January 15, 2020. <https://www.jdsupra.com/legalnews/china-publishes-draft-export-control-law-58113/>.

¹²Jamie Smyth, "Industry Needs a Rare Earths Supply Chain Outside China," *Financial Times*, July 27, 2020. <https://www.ft.com/content/fc368da6-1c86-454b-91ed-cb2727507661>.

¹³U.S.-China Economic and Security Review Commission, *2019 Annual Report to Congress*, November 2019, 207.

port, the Commission recommended that Congress amend IRS Section 41 to extend the research and development tax credit to initial stages of development.¹⁴

Secure the pharmaceutical supply chain: The Commission has also highlighted several steps that Congress could take to ensure that the United States has access to safe and secure supplies of critical lifesaving and life-sustaining drugs and medical equipment. This includes a recommendation from the 2019 Annual Report that Congress require Medicare, Medicaid, the U.S. Department of Veterans Affairs, the U.S. Department of Defense, and other Federal funded health systems to purchase their pharmaceuticals only from U.S. production facilities or from facilities that have been certified by the FDA to be in compliance with U.S. health and safety standards and that actively monitor, test, and assure the quality of the APIs and other components used in their drugs, unless the FDA finds the specific drug is unavailable in sufficient quantities from other sources.¹⁵ These actions would ensure that domestic health supply chains are sourced from facilities whose health and safety can be verified by the FDA.



¹⁴U.S.-China Economic and Security Review Commission, *2019 Annual Report to Congress*, November 2019, 207.

¹⁵U.S.-China Economic and Security Review Commission, *2019 Annual Report to Congress*, November 2019, 249.