DICKINSON WRIGHT

Volume 2, Number 3

Editor's Note

In this edition of *Plugged In*, we invite you to dive into the intricate web of global supply chains and their profound implications for national security and economic resilience. This issue includes the conclusion of our 3-part interview with John McElroy and Co-Chair of DW's EV Initiative, Bob Weiss. John offers insights into the evolving landscape of the automotive industry, particularly in relation to China's growing influence in the supply chain. As China tightens its grip on critical materials like graphite for batteries, John underscores the urgent need for the U.S. to mitigate dependencies and enhance domestic manufacturing capabilities, not just in autos but also across sectors vital to national security. Despite ongoing efforts such as the Chips Act and investments in domestic production facilities, John emphasizes the long road ahead in achieving supply chain independence and navigating the complex dynamics between the U.S. and China, which extend beyond economic competition to encompass broader geopolitical tensions and potential military challenges.

In addition, in his article, Bob Weiss delves deeper into these issues raised by John, and provides additional insight into national security concerns directly tied to the U.S. reliance on foreign supply chains. He expands on the scope of the issue as articulated by authors in the field and what the government is doing to address these potential threats to national security. He also explores the imperative of diversification and strategic sourcing, as well as legislative efforts to bolster supply chain resilience in sectors pivotal to both national security and economic prosperity.

As we navigate a rapidly evolving geopolitical landscape, the significance of supply chain security has never been more pronounced. Against this backdrop, this edition of *Plugged In* examines the complexities and challenges inherent in reducing dependency on foreign suppliers, despite

significant investments announced by private companies in sectors such as semiconductors and electric vehicles. Join us as we dissect the multifaceted dimensions of supply chain security and its far-reaching implications for global stability and economic competitiveness.

Heather L. Frayre | Editor and Member Partner

Interview with John McElroy of Blue Sky Productions; Part 3

Question 1

Bob: John, welcome to the conclusion of our 3-part interview. I think we have covered fairly well the estimated timeline and potential impact of China-based OEMs selling both electric and combustion-powered vehicles in the U.S. market. Let's now focus on China's role in the automotive-supply-chain relationship and its inherent risks. Do you see the current dominance of China as supplier of materials and processing functions as a material threat to the US automotive industry?

John: Absolutely, it has already started. China has already announced that it is going to limit the export of graphite that's needed in batteries. This is their retaliation to the Biden administrations cut-off of Chinese access to high-tech chips. OK, we can't get your chips; we're going to start restricting your access to battery-quality graphite. A decade ago, China essentially cut off Japan's access to rare earth minerals. It has shown its willing to use its dominance, and that's the only way to describe it, in not only the mining of the raw materials needed for batteries and electric motors, but also the processing of those materials. And, that's really one of the primary objectives of the Inflation Reduction Act – to begin to wean American manufacturing from dependence on China.

Question 2

Bob: Is China's control of the supply chain limited to the auto industry?

John: No. The need for those materials, and the need for batteries and magnets, goes well-beyond the auto industry. It's an extremely important part of the military-industrial-complex. One of the things I like to point out is that when the U.S. military deploys our soldiers into a combat zone, each one of those soldiers has 18 pounds of batteries in their gear. Communication, night vision, that sort of thing. Where do you think most of those batteries come from? Most of them come from China and if they don't come from China, most of the materials that were used in making them were processed in China. So, this has very serious national security implications that go beyond just electric cars. These materials, batteries and magnets, are absolutely used

across the military. Further, even if you just look at the auto industry itself, you know it's an industry that's considered strategically important to the United States and there's a feeling it should not be dependent on China to thrive and survive.

Question 3

Bob: What action has been taken to mitigate this risk?

John: The Chips Act was instituted to begin to address this problem. The U.S. used to produce something like 30% of the chips in the world. Now, it's under 10%. We put all our eggs in Taiwan Semiconductor Manufacturing Co. ("TMSC"), which is Taiwan's large, chip-making company. Now there's a recognition like holy smokes, what if China goes into Taiwan. It would cripple the American economy if they cut off our access to those chips. So, yeah, it's going to take a long time to get this resolved. In fact, it won't be 100% resolved because even if we go back to where we were before, 30% - we are still importing 70% of those chips. But, having said that, Intel is building a massive fabrication plant in Ohio. TMSC is building a massive fabrication plant in Arizona. There are fabrication plants going up in New York and in Michigan, and so you look at the problem and it's a mountain; it's daunting. But, if you just sit on your hands and do nothing, you're never going to get anywhere. You may as well start. And, the same thing goes into the raw materials for batteries. I attended the SAE's North American Propulsion Conference where they bring in all the top powertrain people in the world. I can't tell you who said this because they follow Chatham House Rules. I can talk about anything that was said at the conference, but I cannot say who said it, or what company, but I can quote you the numbers right now, and this comes from an extremely large battery company out of Korea. In the next five years, they say 63% of all the cathode material needed in batteries will be sourced in the U.S. or from our allies - 42% of the anode material; 100% of the electrode material, and 72% of the key metals. So, that's still going to leave us short. It's still going to leave us dependent on China. But in five years, we are going to see significant progress in being able to source those materials within North America, or from allies like Australia.

Question 4

Bob: Given the timeline for the U.S. to develop a supply chain independent of China, how does this get resolved?

John: Look, China and the U.S. are going to be formidable competitors. We just are. The world pretty much welcomed China into the global-economic community until Xi Jinping came to power and set China on this course of domination. Not just competition, but domination in key industries. It goes beyond EVs, you know. It includes artificial intelligence; it includes space; it

includes super-computing. And then, you throw in these other things like trying to wall off the South China Sea. You know, declaring it had rights to what other countries, notably the Philippines, declare their territorial waters. And look, one of our admirals, who retired recently said that China is going to challenge us militarily by 2025. So, if that does happen, all bets are off. Hopefully, we and they, find some path of accommodation because it's in our mutual economic interest to grow together and we should sell them what we do best and they should sell us what they do best. I mean, in an ideal economy that's how things should go. Right now, it's hard to see a happy ending to this story.

Bob: Thanks so much for your time and sharing your insights with our readers. It has been enjoyable and most enlightening. I very much hope we will have the chance to revisit this topic and discuss other facets of the industry transformation in the near future.

Please note the views represented in this interview belong to the interviewee and do not necessarily reflect the views of the interviewer or Dickinson Wright.

EV Supply Chain Not the Only Supply Chain at Risk Due To Dependence on Foreign-based Suppliers

Most of us are well aware of the EV supply chains' reliance on foreign-based suppliers, most prominently China, to supply and process critical materials and minerals. However, during my recent interview with veteran automotive journalist John McElroy, I was intrigued by John highlighting the U.S.'s dependence on China (directly or indirectly) for critical materials and processing for national security assets, as well as the automotive industry. Many of these materials are the same as in the EV supply chain (e.g. lithium).

Scope of the Problem

Some commentators express concerns that increasing dependence on Chinese suppliers in U.S. defense contracting poses significant national security risks, including potential theft of sensitive information, sabotage of critical systems, and leverage for influencing U.S. government policies. For instance, a recent article gives us a sense of the magnitude of the problem. In that article, the authors cited to a report featured in a *Forbes* article by Govini, a commercial data analytics firm, that found that the Department of Defense (DOD) has 922 Tier One Chinese artificial intelligence (AI) suppliers, 552 Tier Two AI suppliers and 45 Chinese Tier One suppliers for optical sighting and ranging equipment. The authors concluded that, "the growing reliance on Chinese suppliers in U.S. defense contracting presents a number of risks to national security. For example, China could use its access to U.S. supply chains to steal sensitive information or sabotage critical systems.

Additionally, China could use its leverage over U.S. suppliers to pressure the U.S. government to make concessions on policy issues."

An example of the potential scope of the problem is illustrated by an article appearing in the February 23rd edition of the *Wall Street Journal* entitled, "U.S. to Invest Billions to Replace China-Made Cranes at Nation's Ports." The article opens by reporting, "The Biden administration plans to invest billions in the domestic manufacturing of cargo cranes, seeking to counter fears that the prevalent use of China built cranes with advanced software at many U.S. ports poses a potential national security risk." The article quotes Anne Neuberger, U.S. deputy national security adviser for cyber and emerging technology: "These cranes, because they are essentially moving the large-scale containers in and out of port, if they were encrypted in a criminal attack, or rented or operated by an adversary, that could have real impact on our economy's movement of goods and our military movement of goods through ports." Although Chinese officials dismiss these security concerns as "entirely paranoia…irresponsible and will harm the interests of the U.S. itself, Rear Admiral John Vann, who leads the Coast Guard cyber command disagrees, "By design these cranes may be controlled, serviced and programmed from remote locations. These features potentially leave the PRC-manufactured cranes vulnerable to exploitation."

In an article appearing in the March 7th edition of the *Wall Street Journal*, it was reported that a congressional committee investigating Chinese built cargo cranes deployed in U.S. ports has discovered that a number of these cranes contain "communications equipment that don't appear to support normal operations, fueling concerns that the foreign machines may pose a covert national security risk." The manufacturer of the cranes involved is ZPMC, a Chinese manufacturer, which is reported to provide nearly 80% of ship-to-shore cranes in use in U.S. ports.

Relying on the same logic, the Biden Administration is also investigating whether Chinese vehicles may pose a risk to U.S. consumers. In an article entitled, "Biden calls Chinese Electric Vehicles a Security Threat" appearing in the February 29th edition of the *New York Times*, it was reported that the Commerce Department has opened an investigation to assess security risks to national security from entry of Chinese electric vehicles into the U.S. market. The focus of the assessment is the threat from technology/software embedded in the Chinese electric vehicles "... which could track where Americans drove and charge their vehicles ... and connect with the drivers' smartphone and nearby cars."

Approach to Address the Problem

Belatedly, some would argue, the U.S. government has begun to address U.S. dependence on foreign suppliers. Congress passed the National Defense Authorization Act (NDAA), the Bipartisan Infrastructure Act, and the CHIPS & Science Act and Inflation Reduction Act in an effort to begin

the process of weaning American-based defense contractors from sourcing critical materials and processing from China and China dependent suppliers.

The Biden Administration has also taken actions to recognize the critical importance of a resilient supply chain, advocating for diversified inputs and strategic sourcing, particularly in sectors vital to national and economic security like semiconductors, energy production, transportation, and health, while acknowledging the complex challenge posed by China's significant role in key supply chains amidst the backdrop of escalating geopolitical tensions. In an Issue Brief of the White House dated November 30, 2023, the Biden Administration spoke of the need for a robust supply chain and noted that, "…diversified inputs and strategic sourcing can make a supply chain more robust." The Issue Brief continued that, "…the public sector has an important role to play in improving supply chain resilience. Legislation can prioritize investments in supply chain resilience in targeted sectors that are critical to national and economic security and have large spillover effects, including semiconductors, energy production, transportation, and health." In 2021, the administration issued an executive order directing the development of a government-wide approach to address threats to the United States most critical supply chains. The review identified "vulnerabilities" in a number of key sectors, including the fact that China controlled at least 60% of key battery inputs (lithium, cobalt, and graphites) and that 88% of semiconductor production occurs overseas. According to the White House, as of November, 2023, private companies have announced more than $614 billion in planned investment in industries, including semiconductors, electric vehicles, and batteries. However, given the staggering magnitude of China's involvement in the national-security-supply-chain, it will be a long and complicated process with the U.S. and its allies dependent upon China for the near and, in all likelihood, medium term. The present geopolitical environment makes this subject highly important on a strategic level.

The U.S. drive to decouple as much as possible from China has not been lost on China's competitors. Reuters recently reported that chipmaker Alchip Technologies is an example of this trend. In an article entitled, "Taiwan Chip Makers Flock to Japan as China Decoupling Accelerates," the authors report that a number of large Taiwanese chip makers are moving personnel and resources to Japan. It cites, as an example, Taiwanese chipmaker Alchip Technologies as "illustrative of the China decoupling trend." It reports, "In 2022, the bulk of its research and development engineers were based in China but Alchip has begun moving roles overseas, many to Japan."

Although China's control of the supply chain represents the most obvious risks, the U.S. security concern is broader and includes an uncomfortable reliance on foreign manufacturers located in friendly countries. In an

Subsidies" appearing in the February 27th edition of the *New York Times*, the authors reported that the Federal Government is distributing $39 billion in subsidies to incentivize companies to expand U.S. based production of chips…to reduce the country's reliance on foreign sources of chips." The focus of the incentives is to increase domestic production of the most technologically advanced chips, which are currently predominantly manufactured by U.S. ally, Taiwan. The authors state that with these incentives the U.S. would be on track to produce 20% of the world's most advanced types of logic chips by the end of the decade. The article quotes Gina Raimondo, Secretary of Commerce, that currently the U.S. produces zero of those high-end logic chips.

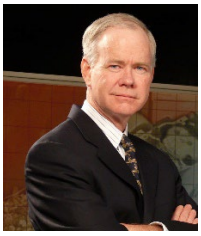
The challenges and risks inherent in foreign dominated supply chains are enormous and there are no short-term solutions.

Robert Weiss | Of Counsel | Co-Chair, EV Initiative

To learn more about our EV practice, visit our website at https://www.dickinson-wright.com/practice-areas/electric-vehicles?tab=0.

All views presented in this newsletter are that of the authors and do not reflect the views of Dickinson Wright.

Issue Authors:



John McElroy | *President, Blue Sky Productions*
jmcelroy@autoline.tv
Tel.: 734-542-7000

Robert Weiss | *Of Counsel* | *Co-Chair, EV Initiative*
RWeiss@dickinsonwright.com
Tel.: 954-991-5455

Editor: ***Heather Frayre*** | *Member Partner* | *El Paso, TX*
HFrayre@dickinsonwright.com
Tel.: 915-541-9370