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New Tariff and Trade Policies: What Should Supply Chain Leaders Do?

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with PoE Enabled Panel PCs

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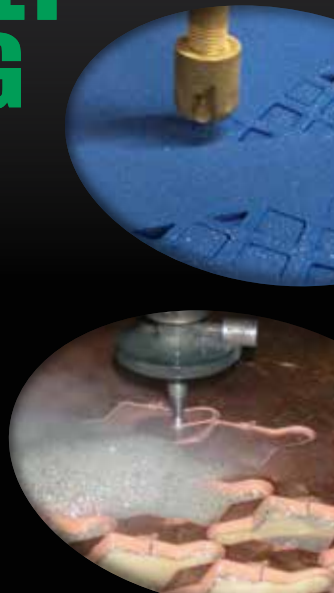
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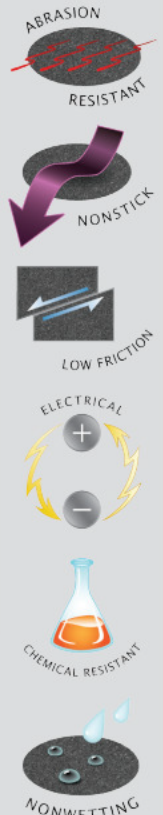
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ISSUE 308

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NEW TARIFF AND TRADE POLICIES: WHAT SHOULD SUPPLY CHAIN LEADERS DO?

The following article was submitted by Adrian Wood, the Director of Strategic Business Development at DELMIA. We're appreciative of his thoughtful dialogue around a hot button topic right now. The piece explores the new tariff and trade policies and gives actionable advice to supply chain leaders that can be implemented. We think you'll find this article helpful and thought provoking. Enjoy!

The need to react to unexpected global disruption is now a fundamental requirement for all companies; tariffs are only the latest incarnation of what manufacturers have to deal with.

Personally, and professionally, the impact of recent US government policy around trade and tariffs is felt by all of us. From a business perspective, tariffs represent a major concern for companies looking at corporate goals and metrics in both the short and long-term. It has now become unclear exactly what the cost of doing business

will be, and how consumer demand may shift, based upon personal preferences and spending ability.

But this is not really uncharted territory. Over the last decade, the world has faced many disruptive events: Brexit, COVID, the Suez Canal, geo-political conflicts, climate changes, and so on. Each one is unique in its nature, but they all have similar impacts on supply chains and manufacturing, causing breaks in global supply, extreme fluctuations in demand, and unknown costs and barriers to competing.

Tariffs & Twins – The critical connection between disruption, AI and virtual twins

The need to react to unexpected global disruption is now a fundamental requirement for all companies; tariffs are only the latest incarnation of what manufacturers have to deal with. In each case, business leaders in supply chain and manufacturing are forced to face with the same basic questions:

1. What is the impact of the disruption?
2. What should I do now?
3. What can I do to be better prepared in the future?

Prior to globalization of trade and the increase in product and supply chain complexity, the first two questions were difficult, but not impossible to solve. Because of that, the third question was largely ignored or de-prioritized. Today (with COVID being the pivot point in my opinion), all three questions have become a) critical and b) impossible to answer without the help of technology.

This is where Virtual Twins and AI capabilities have become essential to helping companies become agile and resilient to disruption. Let's look at how they help with each of the basic questions:



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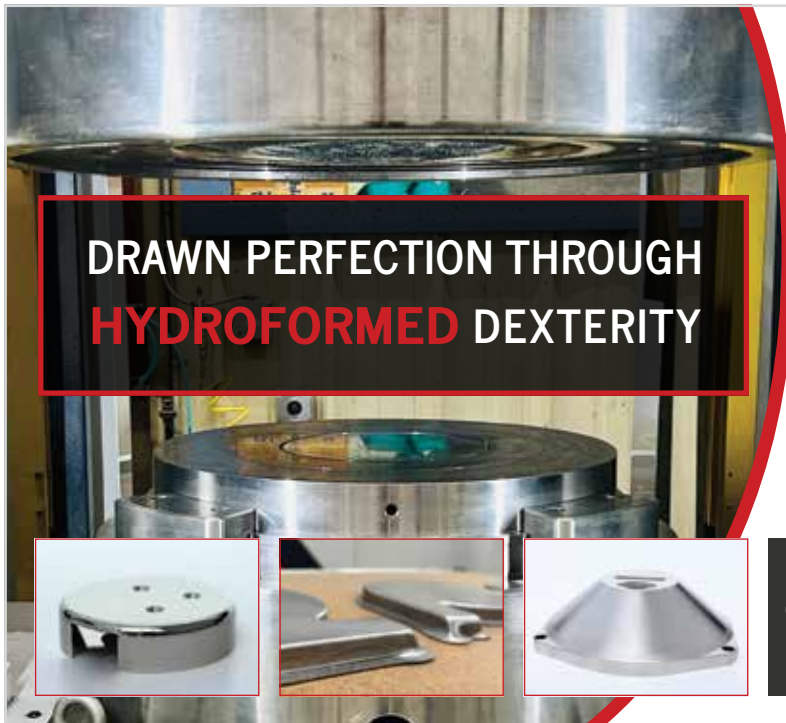
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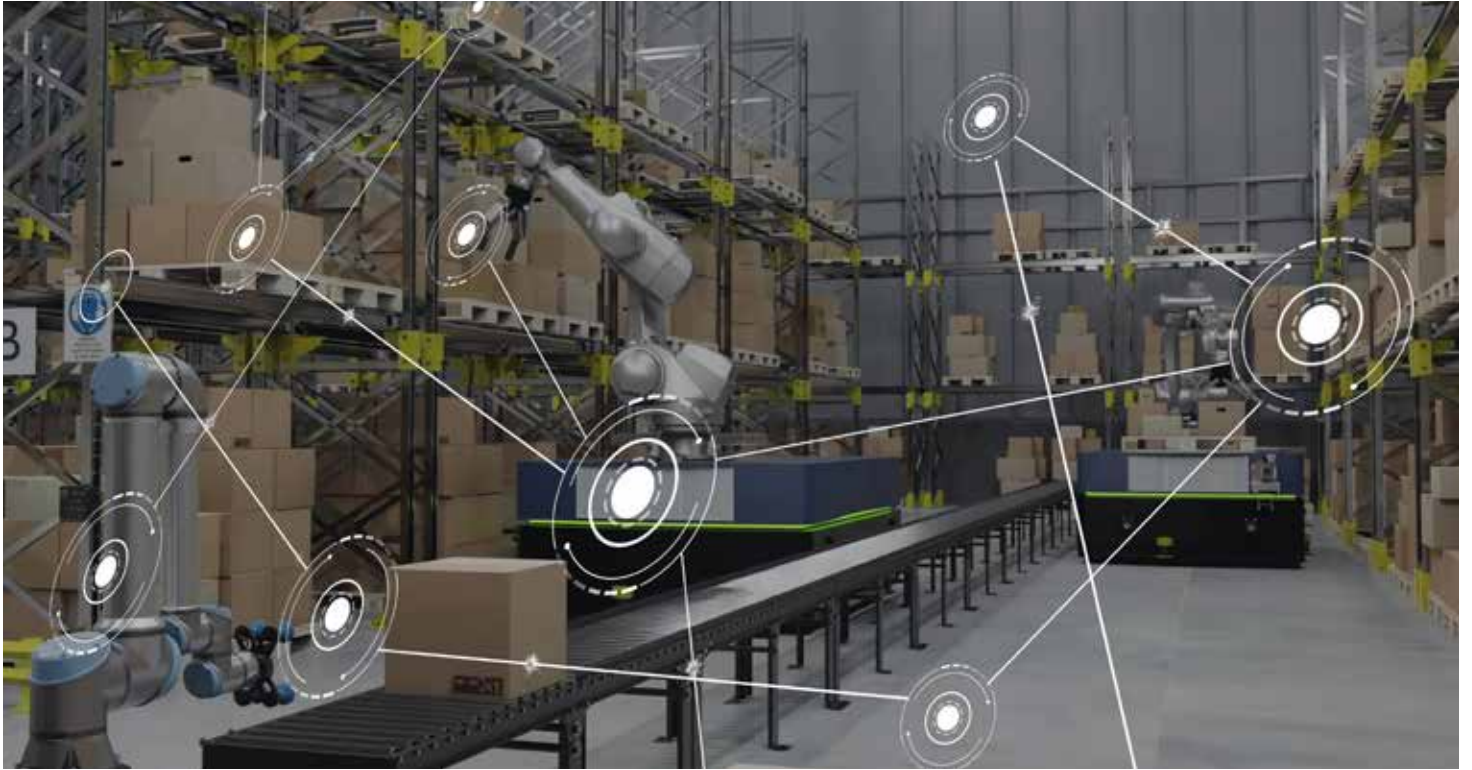
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What is the impact of the disruption?

This was the biggest (certainly the first) question from companies at the start of COVID, and led to much analysis and investment in the “control tower” concept. A control tower is only part of the solution though. What people were actually asking for was a precise digital representation of the entire supply chain with end-to-end and top-to-bottom detail and real-time operational status of facilities, resources and products – also known as the Virtual Twin.

With tariffs, the virtual twin acts as a source of truth that enables companies to see the current state of production and fulfilment, the source of all materials, and the process by which inventory and products are moved across borders before reaching customers. Additionally, it allows companies to immediately identify vulnerable points of supply, new costs, and opportunities to leverage existing contingencies based upon real-time availability and capabilities.

What should I do now?

Even with a precision virtual twin, the complexity of global supply chains and the number of possible business permutations are beyond human comprehension to evaluate and analyze effectively. However, traditional AI methods (such as optimization) are now adept and considering competing business priorities to balance supply and demand while considering any number of physical and logical constraints. Used along with the virtual twin model, manufacturing and supply chain leaders can use AI to experience unlimited what-if scenarios to determine tactical responses.

Tariffs don’t represent a physical constraint, but cost is a major driving factor in the optimization of the supply chain and production plans. Experimentation also allows companies to play games with the possible limits. E.g., At what tariff percentage might we be able to absorb costs to protect margin without having to pass all the costs along to the consumer and impacting demand? These are logical questions that are extraordinarily difficult to answer without technology.



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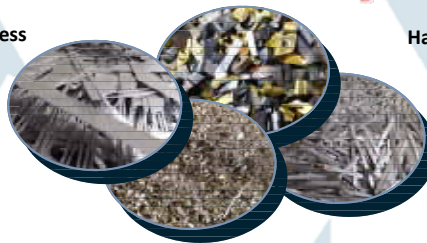
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What can I do to be better prepared in the future?

One of the stated goals of recent policy is to bring manufacturing back to the United States, essentially onshoring production that has developed in areas previously seen as economically more cost-effective. Without debating the policy, let's look at the basic decision process to evaluate strategic changes to mitigate the impact of tariffs on production locations:

- a. What is the increase in operational costs most likely to be based upon movement of inventory and products?**
- b. What would the reduction in operational costs assuming similar production capabilities in the US?**
- c. What is the capital investment required to expand or build new manufacturing capacity?**

The virtual twin of the supply chain will help us answer questions a) and b) by applying AI to the existing model of the enterprise and a variety of what-if models that can rapidly be created. Question c) requires a virtual twin model of production systems, so that we can accurately evaluate what our new or changed facilities and manufacturing process should look like. These virtual twins need to work in orchestration so that we can ensure confidence in what is likely to be billion-dollar decisions.

The precision of the virtual twins is so important because there are so many factors to consider. For example, it's unclear whether there will be enough skilled workers



to support a resurgence in manufacturing, so robotics and automation need to be considered as part of the manufacturing process. The smallest of details can have such a major impact on the final result.

There are also other ways to address the challenges in the short and mid-term. One strategy might be rapidly re-designing products to reduce the reliance upon supply and parts that need multiple border crossings, another great leverage of the virtual twin and what-if simulation.

Of course, the best course of action to be prepared for the future, is to consider virtual twin technology today, if you have not done so already. Ironically, today's uncertainty will undoubtedly be the biggest barrier to making an investment in digital transformation as budgets become frozen pending a more confident outlook. The challenge though, is that the next disruption is right around the corner, and from another unexpected direction. There is rarely a "best time" to wait for, but there is never a "wrong time" to make a start.

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MANUFACTURERS SOLVE SPACE, POWER CHALLENGES WITH POE ENABLED PANEL PCS

Industrial manufacturers conserve valuable floor space and improve production efficiency with panel PCs, single cable power, and versatile mounting options.

This month's industry spotlight is brought to us by Del Williams, a technical writer who lives in Torrance, California.

As industrial manufacturing facilities expand by retrofitting existing spaces, they often face a new challenge: overcrowding. In space-constrained environments, traditional computing setups with bulky hardware, excessive cabling, and external power requirements pose significant logistical and compliance challenges.

With limited room for critical computing platforms and KPI visualization displays, essential control systems can be squeezed out—putting quality standards and productivity at risk.

To address these concerns, industrial manufacturers are turning to panel PCs, integrated computing solutions built for demanding production environments. With touchscreen interfaces and onboard processing, they eliminate the need for separate peripherals, reducing clutter and contamination risks. Their compact design allows flexible mounting on walls, control panels, or equipment, optimizing space while ensuring seamless operation.

Beyond their space-saving benefits, panel PCs are purpose-built for control room and production environments, featuring fanless, sealed enclosures that resist dust and withstand frequent cleaning. With industrial-grade durability, customizable hardware, and IP-rated enclosures, these devices provide a robust, compliant solution.

“For manufacturers, panel PCs deliver an optimal balance of efficiency, cleanliness, and reliability—helping companies optimize space while meeting the highest quality and regulatory standards,” says



Paul Shu of ARISTA Corporation, a leading provider of computing platforms and visualization display products for manufacturing environments.

Integrating single-cable Power over Ethernet (PoE) technology further enhances the space-saving capabilities of panel PCs. By delivering both power and data through a single Ethernet cable, PoE eliminates the need for external power sources or bulky batteries and reduces excess wiring, directly contributing to cleaner, more organized workspaces.

With the newest improved standards in high-power PoE, 802.3bt Type 3/4 PoE can now provide sufficient wattage, up to 70 watts, to powered devices such as panel PCs as well as flat screens, thin clients, and workstations commonly installed in control rooms and production lines.

As an example, Arista's Powered by PoE (Power over Ethernet) panel PC streamlines the deployment of KPI displays across the plant floor by simplifying installation, reducing cabling complexity, and enhancing flexibility in device placement.

With power and data transmitted through a single Ethernet cable, installation is more efficient, reducing time and labor costs. Manufacturers can deploy a PoE-enabled device like a panel PC within 330 feet of the network switch using a single Ethernet cable. This eliminates the cost and inconvenience of having an electrical contractor run wiring. These devices are particularly suitable for applications where it may be costly or difficult to run extra wiring.

Centralized power management also enhances operational efficiency, as power can be monitored and controlled remotely through the network switch. Some PoE switches even allow individual ports to be turned on or off as needed, improving control over energy consumption. The cost-effectiveness of PoE technology is another advantage, as using a single cable for both power and data reduces infrastructure expenses. Additionally, scalability is significantly improved, making it easier to integrate new panel PCs into the network without requiring additional power sources.





Another key benefit is reliability, since PoE technology often includes power redundancy features that ensure uninterrupted operation, even during power fluctuations. By leveraging PoE-powered panel PCs, manufacturers can achieve a more efficient, flexible, and cost-effective computing infrastructure across their production environments.

The space-saving potential of panel PCs can be amplified by pairing PoE technology with smart mounting solutions designed specifically for compact environments. Wall-mounted, swing-arm, or flush-mounted panel PCs minimize intrusion into valuable work areas, freeing up floor and counter space for essential equipment and processes.

These combined approaches allow manufacturers to install and operate essential computing equipment in even the most space-constrained locations, without compromising functionality or accessibility.

By reducing cable, eliminating separate power sources, and offering flexible mounting options, PoE-enabled panel PCs become an ideal choice for manufacturers looking to maximize both their available space and operational efficiency.

“Manufacturers are increasingly adopting Power over Ethernet to enhance flexibility in panel PC

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deployment. This allows panel PCs to be seamlessly integrated with Human-Machine Interfaces (HMIs) in various mounting configurations, maximizing space efficiency and adaptability across production environments,” says Shu.

As an example, when operator workstations are required within tight confines, highly flexible stainless steel pendant arm designs can save a significant amount of space, according to Shu. With the screen and connected keyboard suspended by a pendant arm mounted to a wall, the user can extend, rotate, and swivel the workstation into the ideal position. After data entry is completed, the workstation can be pushed back against the wall, out of the way.

When installing workstations in hallways or other space-constrained areas, wall-recessed units are the perfect solution. According to Shu, 15-, 17-, 19-, and 21.5-inch touchscreen displays can be fully recessed into a wall to allow greater clearance. There is also an option for a 55-inch large-format 4K display workstation with Quad View display so operators can visualize KPIs and take full control of the production data.

With flexible mounting options, scalability is further enhanced since plants can easily add new PoE panel PCs to the network without the need for additional power outlets, facilitating system expansion as required.

For industrial manufacturers, combining compact panel PCs, PoE (Power over Ethernet), and versatile mounting offers far more than space savings. With smaller footprints, fewer cables, and flexible placement, manufacturers free up valuable floor space while gaining agility to reconfigure lines as needs evolve.

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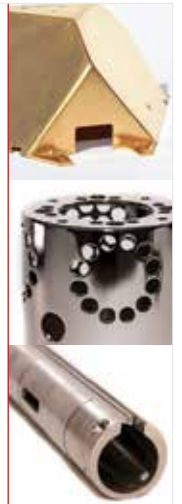
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Solar Atmospheres Announces New Facility in Berlin, Connecticut

Berlin, CT, May 19, 2025 – Solar Atmospheres, the largest family-owned heat treating company in the United States, is proud to announce the opening of its seventh U.S. heat treat operation – an existing industrial facility located in Berlin, Connecticut, slated for completion in 2026.

The 28,000-square-foot facility is located in the Spruce Brook Industrial Park and will further expand Solar Atmospheres’ footprint and capabilities in the Northeast region.

“We are excited to establish a new presence in Connecticut,” said Jamie Jones, President of Solar Atmospheres of Eastern PA and Connecticut. “This strategic location allows us to better serve our growing customer base and continue supporting the aerospace, medical, and commercial manufacturing markets throughout New England.”

This expansion reinforces Solar Atmospheres’ commitment to providing innovative, high-quality vacuum heat treating solutions across the country while maintaining the personalized service and reliability that has made the company a trusted partner for decades.

Stay tuned for updates as we build our newest state-of-the-art facility!

For additional information about Solar Atmospheres of Connecticut, contact Tim Steber at 1-855-934-3284 x1216 or email at tim@solaratm.com, and visit us at solaratm.com.

For additional information about Solar Atmospheres, contact Mike Johnson at 855-934-3284 x2223, email at mikej@solaratm.com, and visit us at solaratm.com.



TRUMPF Opens \$40M Connecticut Smart Factory

The new facility will demonstrate automated and connected manufacturing capabilities while producing sheet metal parts for TRUMPF machines.

TRUMPF, a global technology company specializing in machine tools and laser technology, has opened a new Smart Factory in Farmington, Connecticut. The company, which produces fabricating equipment and laser systems, invested \$40 million into the project and created new jobs as part of its continued expansion in the United States.

The 55,800-square-foot facility expands TRUMPF’s local production capabilities and showcases real-world applications of automation, connectivity, and data-driven manufacturing. The Smart Factory produces thousands of different sheet metal parts for TRUMPF machines manufactured in the U.S., which are used across various industries including automotive, aerospace, agriculture, and data infrastructure.

Visitors to the Farmington campus can explore how TRUMPF’s technologies streamline production, improve process adaptability, and enhance product quality. The factory is part of TRUMPF’s “local-for-local” strategy, supporting domestic manufacturing and the reshoring of production.

The company also announced three additional initiatives to strengthen its U.S. operations over the next year: a new press brake production line launching in 2026, an expanded Training Center to serve more than 4,000 students annually, and the formation of an apprenticeship consortium supported by AdvanceCT and the German-American Chamber of Commerce.

To support these efforts, the state of Connecticut is providing \$2.5 million in financial assistance through its Strategic Supply Chain Initiative.

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“You can’t change the past, but you can shape the future.” – George Wendt

Flex Announces Collaboration with MIT to Advance the Future of Manufacturing with AI and Automation

AUSTIN, Texas, June 5, 2025 /PRNewswire/ -- Flex announced a strategic collaboration with the Massachusetts Institute of Technology (MIT) on its new Initiative for New Manufacturing (INM) — a bold, Institute-wide effort to reimagine industrial production, drive innovation through advanced technologies, and strengthen U.S. manufacturing competitiveness.

As a founding member of the INM Industry Consortium, Flex will work closely with MIT researchers, educators, and fellow industry leaders to support cutting-edge projects that apply AI, machine automation, and new system-level approaches to manufacturing.

“Flex is proud to collaborate with MIT on this important initiative to shape the future of manufacturing,” said Cameron Carr, chief strategy officer of Flex. “Together, we aim to innovate and advance manufacturing by focusing on areas that increase resilience, productivity, and sustainability — while helping to build a stronger industrial base in the U.S. and beyond.”

The MIT Initiative for New Manufacturing focuses on four core pillars:

1. Reimagining manufacturing technologies and systems
2. Elevating productivity and the human experience of manufacturing

3. Scaling new ventures and resilient supply chains
4. Transforming the global manufacturing base with a focus on sustainability and economic opportunity

INM will also establish new labs to develop advanced manufacturing tools and techniques. Through an MIT “factory observatory” program, students will gain hands-on experience by visiting Flex production sites. Separately, Flex will be hosting MIT faculty, researchers and Masters of Engineering (MEng) students at its Sorocaba, Brazil, site, where they will have the opportunity to work with FIT (Flex Institute of Technology), a nonprofit research and development institute focused on developing technological solutions for electronics manufacturing and related end products.

“We’re excited to collaborate with companies like Flex that are already shaping the next generation of industry,” said Professor John Hart, Head of the MIT Department of Mechanical Engineering and INM faculty co-director. “This collaboration aligns our shared vision of creating more resilient, human-centered, and technologically advanced manufacturing ecosystems.”

Learn more about the Initiative for New Manufacturing and Flex’s role in shaping the future of global manufacturing at flex.com and inm.mit.edu.



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