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COMBATING
COUNTERFEIT PARTS
with Smarter Packaging and Labeling

CONTENTS August 2025

Combating Counterfeit Parts with Smarter Packaging and Labeling

Anti-counterfeit technologies are advancing as electronics buyers look for better ways to detect and deter fakes.

Counterfeit electronics are a pervasive problem for component buyers who need inventory that they can trust. For them, fake parts are much more than just an annoyance or inconvenience. They can impact product performance, delay production schedules and even trigger product recalls. Unfortunately, the bad actors continue to come out of the woodwork.

To fight back, some companies are turning to smart packaging solutions that both deter and detect counterfeiting. Serialized tracking, tamper-evident seals and radio frequency identification (RFID) tags are just some of the innovations being put to work on the counterfeit front right now. Newer innovations like blockchain integration, Internet of Things (IoT) connected tags and authentication that uses artificial intelligence (AI) are also helping electronic buyers spot and avoid fakes.

The anti-counterfeit market's momentum is showing up in the numbers. According to Archive Market Research (AMR), the global anti-counterfeit electronic tags market is experiencing robust growth, driven by increasing concerns over product counterfeiting across various industries. The market is currently valued at about $5 billion, expanding at a compound annual growth rate (CAGR) of 12% and expected to exceed $12 billion by 2033.

AMR says the expansion is being fueled by several key factors, including the rising adoption of sophisticated authentication technologies like RFID and near field communication (NFC) tags. "Furthermore, stringent government regulations and increasing consumer awareness regarding product authenticity are bolstering market growth," the company points out. "Companies are actively investing in developing innovative and cost-effective anti-counterfeit solutions to meet the growing demand."

What are Anti-Counterfeit Tags?

Anti-counterfeit electronic tags encompass a wide range of technologies, including RFID, NFC and other electronic marking techniques. Often minuscule and integrated into packaging or products, these tags store unique identifiers that can be read with specialized scanners, verifying authenticity and preventing counterfeiting.

AMR says advanced versions incorporate advanced encryption, tamper evidence, and even data logging to track product movement and conditions. "The choice of tag technology depends on factors like application requirements, cost constraints, and the need for data security," the company explains. "Data can be managed through sophisticated cloud-based platforms that provide real-time verification and tracing."

Demand for the tags is growing fastest in developing regions, according to AMR, despite the upfront costs and potential for integration challenges. The need to protect products and brands continues to drive innovation and investment. Most of the current market growth is happening in North America, Europe and East Asia, where strong regulations and rising consumer expectations are pushing adoption.

The Push to Thwart Counterfeiting is on

Some organizations are sticking with familiar tools like RFID tags and QR codes to combat counterfeits, but others are pushing into new territory. For example, they're using light-sensitive materials, AI and advanced printing to make their packaging harder to fake and easier to verify.

For example, a joint research team from National Yang Ming Chiao Tung University (NYCU) and Germany's Karlsruhe Institute of Technology has developed a nanochannel technology that mimics algae's light-sensing ability, providing a novel tool for anti-counterfeiting and smart materials.

The breakthrough replicates phototaxis (i.e., the way green algae respond to light) by using a photosensitive polymer embedded in nanochannels to control ion flow. According to *Taiwan News*, the system can switch its behavior when exposed to ultraviolet light, offering a new mechanism for light-controlled functions. The innovative approach could be used in applications like product authentication, document security and/or high-value packaging.

In another example, Inovar Packaging Group has developed label and packaging solutions that enhance and support the product authentication process. "The counterfeit product market is becoming increasingly sophisticated, with counterfeiters adopting advanced technologies," Inovar's Ashley Stewart told *Tech Explorist*.

Inovar has been working with the RFID Lab at Auburn University to develop its innovative solutions. The company offers "Cast and Cure" for a holographic look plus specialty foils, glitter additives and tactile varnishes that make products harder to replicate. The company also produces "hidden solutions" for anti-counterfeiting, including black light additives that are added to label coatings during production and used to determine label authenticity.

Navigating AI with RingCentral

The meteoric rise of artificial intelligence (AI) is reshaping today's IT paradigms. No longer relegated to the domain of data scientists, AI now stands at the forefront of human- machine interactions, accessible to both the broader workforce and consumers alike. This paper's aim is to shed light onto the evolving landscape of AI.

The meteoric rise of artificial intelligence (AI) is reshaping today's IT paradigms. No longer relegated to the domain of data scientists, AI now stands at the forefront of human- machine interactions, accessible to both the broader workforce and consumers alike.
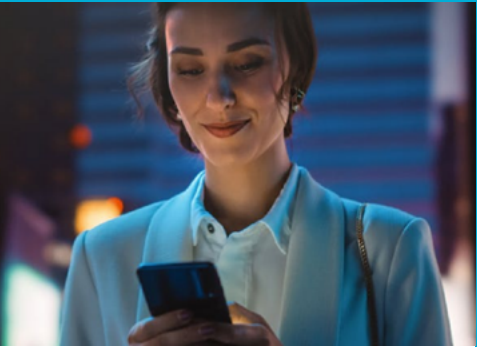
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By **AVERY LARKIN**

6 Steps to More Efficient Supply Chains

Supply chain leaders are turning to smarter tools and tighter processes to stay ahead in an uncertain business landscape.

The modern supply chain is more connected and data-driven than ever, but it can also be harder to manage. For electronics procurement teams, the pressure is constant right now. Tariffs, material shortages, long lead times and rising sustainability demands are all adding complexity to supply chain networks.

Amid this constant change, efficiency is no longer just about cutting costs: It's about building the speed and flexibility to respond when conditions shift. This calls for real-time data, automation, and systems that work together. The good news is that tools have caught up to the complexity that today's supply chain operators and procurement teams are experiencing. Artificial intelligence (AI), cloud platforms and connected devices are just some of the innovations that are helping companies streamline operations, reduce waste and improve decision-making.

Here are six ways organizations can improve operational efficiency in our shifting supply chain landscape:

1. Leverage real-time visibility. Real-time tracking tools and the Internet of Things (IoT) give companies full visibility into shipment location, temperature, humidity and shock exposure. This is especially important for sensitive electronic components. Platforms that combine data from trucks, containers, warehouses and suppliers into a single dashboard allow teams to catch issues earlier and make faster decisions. According to *the American Journal of Transportation (AJOT),* geofencing also brings precision to freight visibility by sending instant alerts when shipments arrive, depart or veer off-route.

2. Use AI for forecasting. AI and predictive analytics help procurement teams anticipate demand, reduce excess inventory and avoid stockouts. By analyzing large datasets ranging from sales history to weather patterns, AI models can flag potential risks and forecast trends with more accuracy than manual methods, AJOT reports. AI-powered forecasting tools allow companies to adjust in real time to shifting customer behavior and reduce costly overstock or missed sales opportunities.

3. Consider blockchain for better traceability. Interest in blockchain has ebbed and flowed over the last few years, but the core technology is still seen as a viable way to improve visibility and trust in complex supply chains. At a high level, blockchain creates a tamper-proof record of every transaction, making it easier to verify sourcing, prevent counterfeits and adhere to regulatory requirements. For example, pharmaceuticals can be tracked through complex supply networks to prevent counterfeit drugs from entering markets. "Beyond transparency," William Alvarez writes in "The Smart Supply Chain: Emerging Technologies Shaping Global Logistics," "blockchain streamlines processes like document verification, customs clearance, and payments, reducing paperwork and eliminating delays."

4. Create a digital strategy that endures. Efficiency gains don't come from short-term fixes. According to Gartner's 2025 Future of Logistics Survey, 86% of supply chain leaders now use at least one mainstream logistics technology, but only the top-performing companies take a long-term view. Organizations that align their tech investments with a clear digital strategy are more likely to unlock automation benefits, eliminate manual workarounds and create more agile operations. "Having a solid digitalization strategy in place helps ensure that the function can embrace and enable supply chain and logistics technology and succeed in its transformation efforts," Gartner's Nathan Lease writes in "Unlock Strategic Value in Supply Chain Logistics Management Through Digital."

5. Maximize the value of your existing tools. Many companies invest in technology but don't fully use it. Gartner reports that 40% of logistics leaders struggle to extract real value from their current systems, which makes it harder to justify future upgrades. Lease says teams should focus on improving data quality, eliminating redundancies and simplifying workflows to ensure that tools already in place are driving real operational gains.

6. Use scenario modeling to address trade shifts. Agility matters in an environment where tariffs and trade roles are continuously shifting, sometimes on a daily basis. To address these constant pivots, SAP recommends using scenario-based modeling tools to "test" the impact of potential disruptions (i.e., new tariffs or export restrictions) before they hit. This proactive planning can help companies adjust sourcing, revise contracts or reroute shipments *before* disruptions escalate into real problems. SAP says simulating worst-case scenarios in advance also gives teams a "head start" when the unexpected happens.

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Boost Revenue with Smarter Customer Experience

Great customer service starts with a great employee experience. If we take a look at the top five reasons that lead customers to stop doing business with you, four of the top five can be traced back to a deficiency in employee experience (EX).

1 in 3 consumers say they will walk away from a brand they love after just one bad experience. While there is a road to recovery, in most cases, from a bad interaction, customer retention is still cheaper than customer acquisition. As long as the old rule of thumb holds true that acquisition will cost five times more than retention, it's more than worthwhile to focus on preemptively eliminating bad experiences at the source — the employee experience. In the eBook, you will learn:

- The top five reasons customers stop doing business with a company
- Why great customer experience starts with great employee experience
- The benefits of a unified AI-First approach

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By EMILY NEWTON
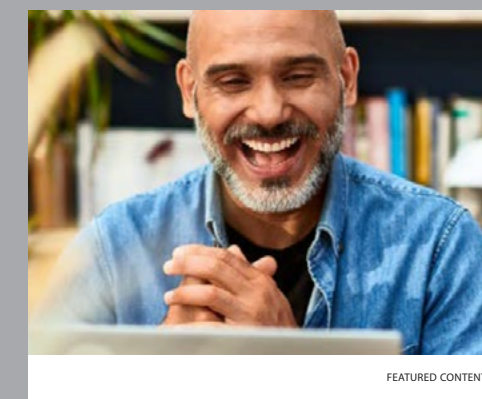
How to Simulate Warehouse Operations for Contingency Planning

Building information modeling improves warehouse design by increasing visibility and information access across teams. How have construction leaders used this technology to succeed?

Building information modeling (BIM) systems generate, manage and store digital files of physical spaces. Users can export, share and manipulate this content with colleagues to streamline projects and avoid errors. The broad adoption of BIM tools across the construction industry has created opportunities to use them when developing or improving warehouses.

BIM improves warehouse design by helping site leaders assess conditions, architectural plans and similar content and make better decisions. Digital tools show users the potential effects of increased demand, higher stock levels and other variable factors. This allows them to create purposeful structures to meet current and future needs. While people cannot predict upcoming events with certainty, proactive contingency planning encourages considering the likeliest outcomes and how a well-designed building elevates responsiveness.

The following case studies examine how real-world companies have used BIM to simulate warehouse operations for contingency planning.

Addressing Unconventional Warehouse Needs

Many warehouses have single tenants. However, such arrangements restrict potential users with small-scale operations. That was the problem faced by Shannon Lerda, an e-commerce entrepreneur whose efforts scaled up so much that they took over her house. She searched opportunities to enter a one-year warehouse lease at locations offering a loading dock and up to 1,000 square feet of space. The business owner

quickly discovered a lack of options, noticing a market gap her husband suggested filling.

Lerda tackled it with a new warehouse model in a four-story structure containing 104 tenant spaces from 80 to 1,200 square feet, which she named Elevator. It also has a shipping section, community workshop rooms and market areas. Occupants can rent monthly for rates as low as $350. Immediate interest in this arrangement filled all available units, encouraging the couple to plan a sister location in another state. The differing needs met by one site create excellent opportunities to use building information modeling for contingency planning.

BIM improves warehouse design by showing users the effects of specific changes or how to overcome known challenges. Addressing the requirements of one tenant is relatively straightforward compared to accommodating over 100. BIM platforms let people visualize traffic flows, layouts and more to raise productivity and functionality.

This technology also aids space management, which can become a larger concern as occupant numbers rise. Financially savvy operators can investigate tax incentives that help them perform reasonably priced upgrades. For example, the first-year bonus depreciation allows a 40% deduction on the expenses of qualifying assets initially used in 2025. Such perks apply to essentials including industrial shelves, assisting business owners who are trying forward-thinking warehouse models or updating existing facilities.

Maintaining Safety and Functionality During Tailored Improvements

Successful construction projects require ongoing collaboration. Because BIM tools provide cloud-based storage of essential files, crews can quickly retrieve the applicable documents and inform themselves of recent changes. This convenient information access reduces rework and eliminates mistakes that may cause buildings to fail inspections.

Builders and related professionals are not always early technology adopters. However, many now recognize building information modeling as essential to their work. As of 2023, 45% of European architects indicated they use BIM, showing its international appeal. Digital files reveal when new decisions clash with existing structures, giving leaders time to adapt.

Boston Dynamics, an Irish construction firm, combined BIM with robotics and got impressive results. After assessing various process needs, decision-makers developed a solution by mounting a laser scanner on a robotic dog. That approach automated information capture and analysis and compared the gathered data to digital models. Leaders determined this method worked best for projects of warehouse sizes or bigger because those enclosed, expansive spaces require the most complicated scans.

Initially, taking them and comparing the results to a BIM model was a manual process that allowed doing about one full scan per week. However, the automated technique grabs at least three scans in the time frame and operates autonomously. Generated reports quickly reveal instances of out-of-specification field installations and recommended resolutions.

The technology collected 100 scans during a trial in 10 hours, helping site managers direct their crews to fix issues faster. Proactively addressing anomalies is an essential part of warehouse contingency planning that reduces the chances of unnoticed problems causing projects to go over budget and finish behind schedule. Besides adhering to its programmed course, the scanner-equipped robot dealt with obstacles by reversing its movement and changing position to capture data, increasing its versatility.

Turning a 133-Year-Old Urban Warehouse Into a Multiuse Complex

Extensive renovations feature many considerations, especially when a goal is to preserve a structure's historical significance while altering it to meet modern needs. That was the challenge for construction crews assigned to a 133-year-old New York City warehouse named the Terminal Warehouse. Workers

relied on BIM and five other building systems during an effort estimated to cost more than $2 billion, which required selecting areas for demolition, planning a six-story addition and reclaiming industrial timber sourced from trees growing 500 years ago.

Teams used BIM modeling, construction surveys and engineering studies to examine the foundation's condition and necessary steps to prevent facade degradation, stress and other failures. Although the original warehouse was a high-capacity facility, these investigations highlighted how engineers needed to implement more support structures and load modifications in a new section.

The warehouse updates included massive columns and a bracing structure impacting old and new sections. Builders collaborated with architects to situate these supports near load-bearing walls, retaining a desired open-plan layout that supported future usability. Teams also needed to minimize the weight of new floors. They achieved that goal through a special system including a cast-in-place voided concrete slab with integrated plastic hollows.

Although this renovation turned a former warehouse into a structure for retail and office spaces, the case study could urge people who require updated industrial spaces to preserve existing ones rather than building from scratch. That approach improves sustainability while reducing dependence on new materials.

The heritage-filled aspect also increases public interest in the building, especially since many community members oppose demolition. United Kingdom planning officials recently approved demolishing a row of historic buildings to accommodate a new warehouse and housing. However, strategically using BIM tools could preserve structures while meeting new needs.

BIM Improves Warehouse Design Through Information Access

The extensive sizes and carefully planned functionality of today's warehouses require construction teams to work together to accomplish shared goals. Material from building information modeling tools eliminates confusion by bringing clarity through site-specific data. Ongoing access to that content enables positive outcomes on large, complicated and expensive projects, ensuring client satisfaction and optimizing usability.

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The Podcast Channel for Supply Chain Professionals

Supply Chain Connect provides supply chain and purchasing professionals with essential news, information and analysis about the technology and business trends that impact the global supply chain industry.

Mitch Enright
President of
FDH Electronics
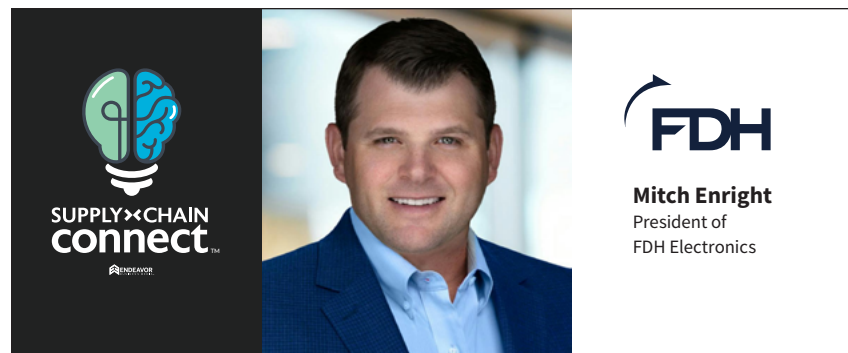
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## Strategic Supply: The Electronic Components Shaping Aerospace and Defense

From navigating global disruptions to emerging opportunities in space and defense technologies, Mitch Enright, President of FDH Electronics, reveals how distributors are becoming strategic partners in an increasingly complex global marketplace.

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Chief Growth Officer
at PortPro
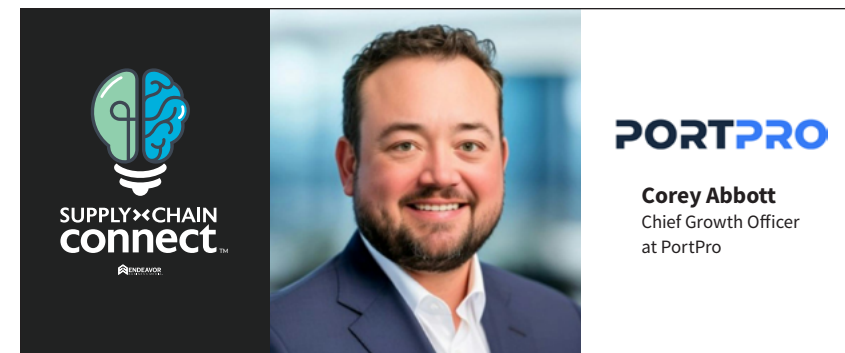
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AI Revolution in Drayage: How Agentic AI is Transforming Container Transportation

The drayage industry moves every container that enters or leaves the U.S., yet it remains one of the most manual sectors in logistics. Today, AI agents are automating the tedious processes that have plagued container transportation for decades.

Frank Cavallaro,
CEO of A2 Global
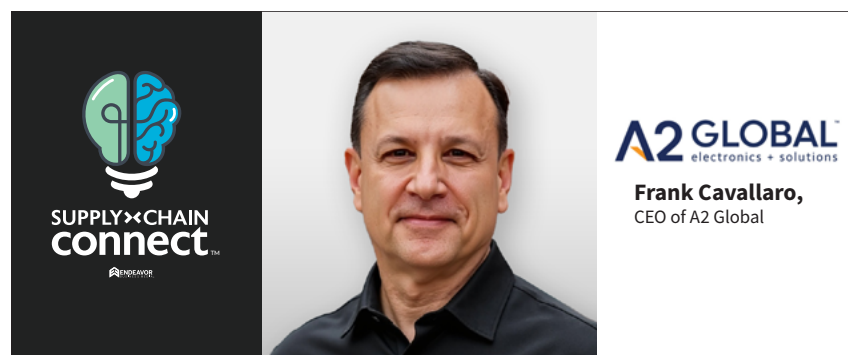
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Tariffs and the Semiconductor Supply Chain – Global Trends, Risks & Opportunities (Part 2)

A2 Global's CEO Frank Cavallaro reveals the high-stakes strategies and hidden challenges reshaping the semiconductor supply chain amid global trade tensions and technological disruption.

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Counterfeit Chronicles: Episode 8 – What Makes a Part Counterfeit-able?

Understanding what makes a part most likely to become counterfeited starts with understanding the circumstances surrounding the counterfeit market—from e-waste to supply and demand and everything in between, learning what can lead to counterfeit activity can help stakeholders avoid falling victim to the criminal practice.

By **AVERY LARKIN**

10 Strategic Technology Trends for Business Leaders

A new report from McKinsey & Co., highlights the top technology trends that companies should be paying attention to right now.

't's no secret that technology is evolving faster than most organizations can adapt. Innovations that once took decades to develop are now completed within months (or less), and are being powered by advances in computing, connectivity and engineering. For supply chain and procurement leaders, the question is not whether to engage but where to focus, how to invest and when to act.

The answers to those questions aren't always easy to pinpoint, and particularly with the number of "shiny objects" now competing for attention. To help, McKinsey & Co.'s new *Technology Trends Outlook 2025* narrows the field to 13 trends with the potential to reshape industries and competitive landscapes.

"The global technology landscape is undergoing significant shifts, propelled by fast-moving innovations in technologies," McKinsey says. "These developments are occurring against a backdrop of rising global competition as countries and corporations race to secure leadership in producing and applying these strategic technologies."

Breaking Down the Latest Tech Trends

The McKinsey report groups the key tech trends into three broad categories: the artificial intelligence (AI) revolution; compute and connectivity frontiers; and cutting-edge engineering. It developed scores for innovation (based on patents and research publications) and interest (based on news and web searches).

"We also estimated the level of equity investments in relevant technologies and rated their level of adoption by organizations," the company says. Here are the top 10 trends (of 13 total covered in the report) that McKinsey says organizations should be paying attention to right now:

1. Agentic AI is an AI system capable of independently planning and executing complex, multistep tasks. These agents can autonomously perform actions, communicate with one another and adapt to new information.

2. Artificial intelligence refers to computer systems designed to perform tasks that typically require human intelligence. These systems leverage algorithms, data and computational power to recognize patterns, make decisions and learn from experiences.

3. Application-specific semiconductors are purpose-built chips optimized to perform specialized tasks. They're engineered to handle specific workloads (such as large-scale AI training and inference tasks) while optimizing performance characteristics.

4. Advanced connectivity covers the evolving technologies that enhance and expand digital communication networks (e.g., wireless low-power networks, 5G and emerging 6G cellular systems).

5. Cloud and edge computing distribute workloads across locations, from hyperscale remote data centers to regional hubs and local nodes. They optimize performance by addressing factors such as latency, data transfer costs, data sovereignty and data security.

6. Immersive-reality technologies like augmented reality (AR) and virtual reality (VR) help improve rendering, tracking and processing capabilities.

7. Digital trust and cybersecurity ensure secure, transparent and trustworthy digital interactions. This includes identity verification, data protection, encryption, threat detection and blockchain-based trust systems.

8. Quantum-based technologies make use of the unique properties of quantum mechanics to execute certain complex calculations exponentially faster than classical computers, secure communication networks and produce sensors with higher sensitivity levels than their classical counterparts.

9. The future of robotics takes a futuristic lens and covers the advancement of robotics capable of performing tasks autonomously or semi-autonomously, adapting to new, real-life inputs with increasing degrees of autonomy and dexterity. This category includes both autonomous mobile robots and humanoid robots.

10. Mobility technologies encompass the autonomous vehicles, electric vehicles, drones and urban air mobility solutions that help improve the efficiency, safety and sustainability of transportation systems.

Focus and Follow-through Matter

Together, these trends represent areas where innovation, investment and talent are already converging, and where strategic action now could have an outsized impact in the years ahead. However, McKinsey notes that keeping pace with these shifts will require focus and follow-through.

"Success will hinge on identifying high-impact domains in which to apply these trends, investing in the necessary talent and infrastructure, and addressing external factors like regulatory shifts and ecosystem readiness," the firm notes. "[Companies that] act with focus and agility will not only unlock new value but also shape the future of their industries."

By AVERY LARKIN

Resetting the Terms: Inside the U.S.–Japan Trade Agreement

A new U.S.-Japan trade framework modifies tariff terms and could influence supply chain decisions in key sectors.

The U.S. and Japan finalized a major trade agreement that resets key terms between two of the world's largest economies. The deal imposes a 15% tariff on Japanese imports (down from the 25% previously on the table) and includes commitments from Japan to expand access for U.S. agricultural goods, ease vehicle import rules and invest $550 billion into U.S. industries like semiconductors and pharmaceuticals.

USA Today says the full details of the $550 billion investment weren't disclosed, but adds that Japan is expected to invest $550 billion into the U.S., which would receive 90% of the profits. "This is a very exciting time for the United States of America, and especially for the fact that we will continue to always have a great relationship with the country of Japan," President Trump said.

How it Will Work

According to the U.S. Census Bureau, Japan is the nation's fifth-largest trading partner. Two-way trade between the two countries totaled $227.34 billion last year, with Japan's trade surplus totaling about $70 billion.

For Japan, this new deal eases some of the pressure on its export-heavy economy and delivers a political boost amid domestic challenges. It also raises the stakes for other U.S. trade partners in Asia, and particularly those that are still negotiating their own deals under the threat of broader tariffs.

"I just signed the largest trade deal in history; I think maybe the largest deal in history with Japan," President Trump said at a reception, CNN reports. "They had their top people here, and we worked on it long and hard. And it's a great deal for everybody."

Specifically, the deal will find U.S. importers paying 15% "reciprocal" tariffs on Japanese goods exported to the U.S. According to CNN, the 15% rate will also extend to automobiles and car parts, putting Japan at an advantage over other major vehicle exporters (which have faced a 25% levy on automotive sector exports since April).

"Mission accomplished," proclaimed Japan's tariff negotiator Ryosei Akazawa in a post on X, noting that this new deal makes Japan the first country to reduce tariffs on automobiles and auto parts without volume restrictions, CNN reports. Japan is now expected to continue discussions with the U.S. on other tariff measures, including steel and aluminum, which remain subject to a 50% levy.

Laying Out a Renewed Framework

Beyond the headlines, the new U.S.-Japan trade agreement introduces some stability in an increasingly complex global supply chain landscape. Lower tariffs on Japanese goods, particularly for vehicles and components, may help reduce sourcing costs and ease pricing pressures for manufacturers and importers. Japan's planned investment in U.S. industries like semiconductors and pharmaceuticals may also help strengthen supply chain resilience in certain sectors.

And while the deal doesn't eliminate ongoing risks or disruptions, it may give both countries a clearer framework to work from. Exactly how everything will play out over the next few months remains to be seen, but in an era of major market turmoil and uncertainty it's being heralded as a potential relief point for global supply chains.

Should the deal suggest a shift toward more predictable trade policy, for example, it may reduce volatility in vehicle pricing and help buoy consumer confidence. "The deal, along with similar agreements in Southeast Asia, helped drive investor optimism, lift global auto stocks, and ease fears of a trade-fueled recession," Colin Fitzpatrick writes in "Trump trade deals ease market fears, boost global auto stocks." "Analysts say the Japan deal could lay the groundwork for a potential resolution with Europe and China, offering a stabilizing signal to industries most exposed to tariff risk."

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By AVERY LARKIN

The U.S.-EU Trade Agreement Sets New Tariff Terms

The new agreement avoids broader conflict, but introduces new tariffs that may influence trade and supply chain decisions.

After months of uncertainty over escalating tariffs, the U.S. and European Union struck a framework deal that imposes a 15% tariff rate on most EU goods. This new agreement replaces a potential 30% tariff and is being positioned as a "step toward stability" between two of the world's largest trading partners.

The deal includes exceptions for aircraft parts, semiconductor equipment and certain pharmaceuticals, but the auto, steel and life sciences sectors could face new cost pressures as a result of these new developments.

Here's the Framework

Reuters says the agreement mirrors key parts of the framework accord reached by the U.S. with Japan, but that it also leaves "many questions open," including tariff rates on spirits. The deal also calls for $750 billion of EU purchases of U.S. energy in the coming years and hundreds of billions of dollars of arms purchases.

"German Chancellor Friedrich Merz welcomed the deal, saying it averted a trade conflict that would have hit Germany's export-driven economy and its large auto sector hard," the publication reports, noting that German carmakers, VW, Mercedes and BMW were hit hard by the current 27.5% U.S. tariff on car and parts imports.

According to the White House, the deal also includes these terms (among others):

- **Tariff barriers.** The EU will work with the U.S. to eliminate tariffs in various sectors and will provide meaningful quotas for other products.

- **Non-tariff barriers for U.S. industrial exports.** EU will work to address a range of U.S. concerns related to various EU requirements that are burdensome to U.S. exporters.

- **Non-tariff barriers for U.S. agriculture exports.** The U.S. and the EU intend to work together to address non-tariff barriers affecting trade in food and agricultural products.

- **No free riders.** The two entities will establish strong rules of origin to ensure that the benefits of this agreement flow directly to and from one another (not to third countries).

- **Barriers for digital trade.** The U.S. and the EU intend to address unjustified digital trade barriers. For example, the EU won't adopt or maintain network usage fees.

- **Military equipment.** The EU agreed to purchase more U.S. military equipment.

Establishing a New Baseline

The fine details of this new deal are still being ironed out, but its impact on the manufacturing sector and supply chains as a whole are already being dissected and discussed. In "How will the EU-US Trade Deal Impact Manufacturing?," Matt High discusses the deal's likely impacts to the manufacturing landscape on both sides of the Atlantic.

"This shift has direct consequences for manufacturers, exporters and policymakers. While the White House claims it ensures fairer trade, European businesses face higher costs and changing supply chain demands," High writes. "Across industry sectors, from automotive to pharmaceuticals, the effects are immediate and concrete."

At the heart of the agreement is the introduction of a 15% flat tariff on goods entering the U.S. from the EU. This replaces a threatened 30% rate, High writes, but is still more than double the levels applied before 2024. "The new rate affects a broad cross-section of goods, prompting concern from key European manufacturers," he says.

European manufacturers may now have to adapt to higher costs and altered market access without parallel gains. "The immediate financial hit is already being felt," High writes. "Volkswagen reports a €1.3 billion ($1.5 billion USD) drop in first-half profits, citing the new tariff regime."

The new U.S.-EU trade deal may circumvent a larger conflict, but it also adds pressure to global supply chains. Key sectors like autos, steel and life sciences may face higher costs, for example, and manufacturers will have to reassess their sourcing and production plans. While some industries received exemptions on this round, the broader impact of the 15% tariff is still unfolding.

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More Than Efficiency: Why Automation Is Reshaping Electronics Procurement

Automation enables procurement teams to move beyond reactive, day-to-day tasks and focus on proactive, strategic planning.

The electronics industry is undergoing a profound transformation. With increasingly volatile supply chains and shrinking product lifecycles, procurement is no longer a back-office function—it's a core driver of operational success. In this environment, automation is emerging not just as a useful tool, but as a strategic imperative.

The growing urgency around procurement automation is being driven by several converging pressures facing electronics manufacturers today, including:

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Q&A

What new market trend are you seeing so far in 2025?

In 2025, there is a significant acceleration in the adoption of artificial intelligence (AI) across industries. This trend encompasses more than just automation and AI-powered processes in business areas such as production, logistics, human resources, and marketing; it involves rethinking core business models. AI influences everything from product development to customer service, and more companies are actively implementing AI agents and preparing to scale them enterprise-wide. Additionally, digital transformation remains a top priority, with businesses investing heavily in cloud infrastructure, cybersecurity, and data analytics to maintain a competitive edge.

At Rutronik, we are actively shaping the shift towards AI-driven transformation and platform-based thinking in electronics distribution and logistics. In 2024, Rutronik acquired a 30 percent stake in COMI, an AI specialist with strong expertise in AI-powered vision technologies. One initial application is integrating AI into Rutronik's logistics processes with the Vision AI Document Reader and Vision AI Label Reader, developed jointly with COMI. These two readers automate the scanning of delivery notes and product labels, respectively, significantly reducing manual errors and increasing processing speed. Rutronik emphasizes that AI is used to support, not replace, employees, enabling them to focus on higher-value tasks. This reflects a broader trend in which AI is becoming a practical tool for operational excellence.

More information: Get to know the Vision AI Document Reader and the Vision AI Label Reader

What other challenges are you working through and how are you overcoming them?

Rutronik navigates a highly complex distribution environment characterized by the movement of over 100 billion components annually, 1.5 million order lines, and over 50 million forecast changes. The Rutronik experts address challenges such as long lead times, volatile markets, and geopolitical tensions by collaborating closely with the customers. Rutronik provides them with transparent reporting, proactive planning support for goods flow, and expert guidance in optimizing logistics

and supply chain processes. Rutronik is also undergoing an internal digital transformation that includes rolling out a new ERP system integrating AI-based processes from demand planning to invoice verification. This transformation enhances efficiency and transparency while reducing repetitive tasks. Furthermore, Rutronik's utilization of EDI data transfer ensures a 99.76% success rate in digital communications with customers and suppliers, minimizing manual intervention and maximizing data integrity.

More information: Insights into Rutronik's development and into Rutronik's linecard

Where do the opportunities lie right now and how is your company leveraging them?

Rutronik sees major opportunities in evolving from a broadline distributor to a technology and service provider. This shift is exemplified by the establishment of the Research & Development department under the umbrella of "Rutronik System Solutions". In May 2025, the Rutronik Adapter Board RAB7 was launched to the market. This sensor fusion developer board has integrated AI-enabling components. Designed for use in smart farming, building automation, and HVAC (heating, ventilation, and air conditioning) applications, the RAB7 allows customers to quickly prototype and deploy intelligent sensor solutions.

Thanks to its Arduino interface, the RAB7 can easily be combined with other base boards and adapter boards from Rutronik System Solutions. The modular concept allows for various approaches to implement development projects quickly, inexpensively, and simply yet technically sophisticatedly. This flexibility simplifies the development process and enhances the potential for innovation by allowing for various combinations and configurations. Whether you are working on a simple project or a complex application, the stackable design provides the necessary tools for success.

More information: Learn more about the Rutronik Adapter Board RAB7 – Sensorfusion
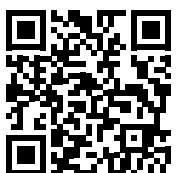
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By EMILY NEWTON

Will Your Fulfillment and Distribution Pass the Test this Back-to-School Season?

Summer's end is coming. Is your facility ready to handle the massive influx of orders? If not, school is in session.

A back-to-school (BTS) peak that once felt like a sprint now resembles a stadium relay—multiple waves of demand, channel shifts by the week and geopolitical curveballs mid-race. Networks that aced last year's rush can still stumble if they overlook new tariff risks, social-fueled "must-have" items or a warehouse crew stretched thin. The following playbook shows where distribution, fulfillment and transportation teams must tighten bolts before the homeroom bell rings.

Market Reality Check—Bigger Class Size, Tighter Hallways

Global BTS purchasing will top $172 billion in 2024 and is tracking toward $230 billion by 2030 — a compound clip that refuses to slow even as consumers hunt value. In the United States, 65.1% of spending still happens in stores, yet e-commerce's share jumped from 31.5% in 2021 to 34.9% in 2024, compressing back-to-school fulfillment lead times while adding parcel volume at upstream DCs.

Retail decisions now start in living rooms—9 of 10 parents say their child already has a must-have item, and 62% admit their requests can push budgets higher. Those numbers force supply chains to balance depth in store replenishment and breadth in direct-to-home variety.

Five Stress Tests Every Inventory Network Must Pass

A quick pre-season audit uncovers brittle links before they crack.

1. ABC Velocity vs Channel Mix

Re-grade SKU velocity after last season's e-commerce shift. Items moving online at a 40% faster clip deserve forward pick faces, not reserve slots, and should trigger dynamic reorder points that update with every weekly demand pulse.

2. Safety-Stock Shock Absorber

The mid-August expiration of the U.S.-China tariff détente could snap duties from 55% to 145% overnight, throttling Asia-source replenishment and dumping unexpected expense into cost-of-goods sold. Procurement can blunt the impact by pre-configuring auto-replenishment rules that pivot to near-shore suppliers when landed cost breaks a predefined ceiling.

3. Cycle-Count Cadence

Drop blind counts to weekly for electronics and premium apparel—the categories most prone to theft and return swaps. Frequent counts also surface data-entry errors before they snowball into mispicks during peak week.

4. Facility Hygiene

Warehouses that keep aisles clear and spills cleaned show lower incident rates and smoother slotting. Consistent housekeeping also shortens travel paths, clawing back precious seconds from every pick cycle.

5. Return Dock Capacity

Install rapid triage stations so returned goods either reenter stock or route to refurb within 24 hours, keeping dock doors free for inbound BTS freight.

Technology and Visibility—Data Wins When the Bell Rings

Digitally mature shippers replaced whiteboards with real-time insight and cut late deliveries by double digits. A Midwest carrier that layered 14 live data feeds onto its route planners trimmed late deliveries by 34% within six months. Predictive ETA engines reroute trucks before a thunderstorm, sparing customer service teams from after-the-fact apologies. Inside the warehouse, data analytics and automation minimize the chances of human error, which reduces product defects while enabling stricter quality gates—critical when laptop shortages turn minor damage into out-of-stocks.

Scenario-modeling AI isn't slideware anymore. Companies that stitched digital-twin simulations into purchase-order workflows shortened purchase-order-to-distribution-center cycle time by 30%, according to a May 2025 industry case study. Faster cycle times mean fewer fire-drill airfreight bills when a TikTok trend spikes demand for pastel notebooks. Visibility also pays at the gate — dock scheduling tools synced to predictive ETAs cut idle driver hours and reduce demurrage fees in multiple port pilots.

Last-Mile and Reverse Logistics— The Parental Experience

Parents measure retailers on arrival promises and hassle-free returns, not procurement heroics. Hybrid last-mile models—mixing in-house vans, parcel carriers and gig fleets—dominate because they slash cost per delivery and let carriers flex zones on demand. In FarEye's 2023 Eye on Last-Mile Delivery survey, 62% of logistics providers ranked cost-per-delivery improvement as their top performance KPI.

Reverse logistics must mirror that precision. With first-day-of-school outfits ranking as a top splurge, back-to-school fulfillment exchanges need 48-hour turnaround standards or drop-ship inventory buffers. Use the same visibility rails to trigger vendor return or refurbish flows when a carrier scans a pickup.

DHL's 2024 Online Shopper Trends report shows 76% of global shoppers track parcels inside a retailer's app, while 68% use the carrier's app. Nearly 90% deem full tracking essential for high-value items, and 60% say delivery speed matters less if they receive reliable delivery estimates.

Sustainability also shapes loyalty. Shorr's 2025 Sustainable Packaging Consumer Report found that 73% of U.S. consumers would switch to a brand offering more eco-friendly packaging. Retailers that pre-print return labels on recycled mailers curb carbon and smooth re-stock cycles, advancing customer experience and circular-economy goals.

Workforce and Safety—People Are the Permanent Constraint

Robots may stretch capacity, yet labor still decides throughput. Turnover in U.S. warehouses remains high, and the fastest way to stabilize teams remains clarity and cleanliness. Workers must operate each piece of equipment with safety features engaged, clear spills as soon as they occur, and keep aisles free of clutter to lower injury rates and sustain task flow.

Gamified pick-rates and incentive pay boost engagement, but only when rooted in safe, ergonomic processes. Pair lift-assist devices with training refreshers so seasonal hires match veteran productivity without driving workers' comp claims.

Navigating Tariff Snapbacks and Demand Whiplash

If negotiators fail to extend the Geneva-brokered tariff truce, U.S.-China duties could revert to eye-watering peak rates just as new school-year inventory hits ports. Add potential Gulf hurricane disruptions and labor negotiations on the East Coast, and the risk register looks more demanding than any scenario test. Leaders can hedge by:

- Placing split POs across Mexico, Vietnam and near-shore U.S. assemblers.
- Pre-booking intermodal capacity through October before spot rates spike.
- Leveraging duty-deferral zones and postponement packaging to delay final country-of-origin decisions.

Those that pass each stress test enter the season with optionality instead of overtime.

Passing Grade or Summer School?

Distribution networks that master data visibility, inventory agility, and workforce discipline will glide through the BTS rush and exit with healthy margins. Those that ignore tariff clouds, cling to manual ETA guesses or accept cluttered aisles may spend autumn in operational "summer school," relearning lessons the market already taught. The bell is about to ring—make sure every network node is ready for roll call.

By **DAMIR AKHOUNDOV**

ERAI's Annual Counterfeit Parts Report

Global Electronics Council says its 2025 EPEAT® Purchaser Award winners collectively cut 1.3 million metric tons of greenhouse gas emissions.

Key Takeaways of the 2024 Annual Report

- *A year-to-year increase in the number of suspect counterfeit and nonconforming parts reported to ERAI continues in 2024.*
- *Active parts that are available through authorized distribution channels are not significantly less likely to be suspect counterfeit.*
- *Counterfeiters are constantly adding components from less common manufacturers to their "portfolio," likely indicating more flexibility and a quicker response to market demands.*
- *Roughly 50% of suspect counterfeit and nonconforming part reports originated from international (non-U.S. based) organizations.*
- *Participation of OEMs, OCMs and CMs in reporting suspect counterfeit and non-conforming parts remains low, accounting for just under 6% of all reports.*

The 2024 ERAI Annual Report shows an overall continuation of trends observed in recent years. 2024 showed a moderate increase in the total number of parts reported to ERAI, Inc.

with no major unexpected changes to statistical trends. Notable findings from 2024 continued to demonstrate that parts readily available from authorized distribution channels are nevertheless targeted by counterfeiters. Additionally, counterfeiters are expanding their portfolios by targeting parts from a broader range of manufacturers' brands.

Total Number of Parts Reported to ERAI

In 2024, ERAI reported a total of 1,055 suspect counterfeit and nonconforming parts, a 25% increase over the previous year and the highest number of parts reported by ERAI since 2015.

This marked increase is due to two factors: An increase in reporting correlating to an increase in global semiconductor sales from 2023 to 2024 ($588 billion in 2024 vs. $526 billion in 2023) and one batch of parts (248) reported by the U.S. Government in May of 2024. When excluding the batch report, a 3% increase from 2023 to 2024 is seen. This 3% increase mirrors the increase in reporting from 2022 through 2023.

Types of Parts Reported to ERAI in 2024

We examined the types of parts that were reported to ERAI in 2024 and compared it to the last 5 years as well as the last 10 years. In 2024 the top reported type was "Other" which was the result of the 248 counterfeit fan assemblies reported by the U.S. Government in May. If we look at the reported parts type excluding this, we observe the usual distribution seen in the last 5 and 10 years with Analog IC, Microprocessor IC, Memory IC and Programmable Logic IC comprising the largest segment of suspect counterfeit and non-conforming parts reported to ERAI in 2024.

When examining the trend chart of the most targeted component types over time, we observed that Analog ICs remained the most reported component type. Microprocessor ICs, Memory ICs and Programmable Logic IC reporting remained roughly unchanged from 2023. The decline in reporting of suspect counterfeit and non-conforming capacitors continued with only 6 reported in 2024 (please note: ERAI reported 165 capacitors during the capacitor shortage of 2019).

Manufacturer Brands of Parts Reported to ERAI in 2024

When examining the manufacturers' brands of parts reported to ERAI, a new brand has occupied the top position, 3ON Systems. However, this once again reflects the 248 counterfeit fan assemblies reported by the U.S. Government in May. If we examine the data without this datapoint, we can see that the top positions in 2024 were occupied by the same brands that have accounted for the majority of suspect counterfeit and non-conforming parts reported to ERAI over the last several years. One interesting observation was the decline in the number of Xilinx-branded parts. When observed over a 10-year period, Xilinx was the most targeted brand; however, the incidence of Xilinx-branded parts reported to ERAI has declined over the last 5-year period and subsequently became the fifth-most targeted brand in 2024. The overall list of manufacturer brands most frequently targeted by counterfeiters remains largely unchanged.

In 2024 we also observed an increase in the number of new manufacturer brands. 21% of all brands reported to ERAI in 2024 were reported for the first time. 29.40% of all parts reported to ERAI in 2024 belonged to brands that have never been previously reported to ERAI.

It is worth noting that most parts branded with manufacturers never previously reported to ERAI were classified as suspect-counterfeit parts. It therefore suggests that counterfeiters are

not only targeting products of commonly known manufacturers but are also counterfeiting less common component brands.

Manufacturer Brands Reported by ERAI for the First Time in 2024

BEIJING MICROELECTRONICS TECHNOLOGY
BEL POWER SOLUTIONS
BOSCH SENSORTECH GMBH
CADDOCK ELECTRONICS INC
CIT RELAY & SWITCH
CONNOR WINFIELD CORP
DIONICS INC
FRONTIER ELECTRONICS CO LTD
ISABELLENHUTTE HEUSLER GMBH & CO KG
LEM HOLDING SA
NINGBO KLS ELECTRONIC CO LTD
PEAK-SYSTEM TECHNIK GMBH
PICKER COMPONENTS
PICKERING ELECTRONICS LTD
SCHAFFNER EMV AG
SILICONIX
SMAR RESEARCH CORPORATION
SPRINGFIELD RESEARCH CORP
TUSONIX INC
U-BLOX AG
VPT INC
ZETTA
3ON SYTEMS INC

Availability Status of Parts Reported to ERAI

We continued tracking the availability status of components at the time a nonconformance was observed. The objective was to determine if parts were more likely to be counterfeited if designated as obsolete (no longer available via authorized sources), EOL (End of Life) or NFND (Not for New Designs), or allocated (active parts with long manufacturer lead times). It is a common misconception that parts that are active and readily available in the market are less likely to be counterfeited as counterfeiters target mostly obsolete parts. Looking at the numbers for 2024, it appears that while obsolete parts continued to be the most often counterfeited (42.75%), active components (Including readily available, long lead time, and unknown lead time active components) together accounted for 27.2% of reported parts. Interestingly, active components that were readily available via authorized sources were reported more than twice as often as active components

with long lead times. This may suggest that availability does not play as large a role in the likelihood of a component being counterfeited.

Parts Previously Reported to ERAI vs. Parts Reported for the First Time

An analysis of parts previously reported to ERAI revealed that once again, the majority of parts reported in 2024 (85.2%) were new occurrences that had not been previously reported to ERAI. A total of 8.4% of parts had been previously reported once to ERAI and 6.27% of parts were reported to ERAI multiple times before. This trend seems to have endured over the last several years. Therefore, it is important to keep in mind that a part is not less likely to be counterfeited if it has not been previously reported. All parts sourced outside of the authorized supply chain should be subjected to the same level of scrutiny.

Entities Reporting Parts to ERAI

We began by looking at the geographic distribution of organizations reporting parts to ERAI in 2024. 51% of parts were reported by organizations located in the U.S., while 49.7% of reports originated from international sources.

A closer look at the reporting organizations shows that in 2024 the largest segment of reporting was made by third party test labs (37.35%), closely followed by independent distributors (31.85%). Reporting by manufacturers (OEMs, OCMs and CMs) comprised only 5.78% of all reports. 23.51% of parts reported in 2024 were counterfeit fan assemblies reported by the U.S. Government.

Summary

In summary, the 2024 results continued the trend started in 2022's "post-COVID transition year" with an increase in the total number of parts reported to ERAI with no significant changes in the reported parts statistics.

As always, we would like to thank those organizations that share data with ERAI. We highly encourage all companies to report nonconforming parts to ERAI to ensure all organizations in the electronics industry are aware of potential threats.

How to Report a Part

Parts can be reported to ERAI by any organization, regardless of ERAI membership status. To report high risk or suspect counterfeit parts to ERAI, please e-mail a copy of your internal failure report or third-party test report (supplier or customer information can be removed at your discretion) to report-parts@erai.com. The ERAI staff will extract the required data and protect your anonymity. You can also submit reported part information through our online reporting interface.

If you have any questions or would like to see any statistical data that has not been covered in this report, please contact Damir Akhoundov at damir@erai.com and we will do our best to provide the information to you.

Ford Rewrites its Assembly Line Playbook for EVs

The automaker unveils a new "assembly tree" process for EV production that promises to boost production efficiency and support a wider range of EV designs.

When Henry Ford introduced the moving assembly line in 1913, this "new way" of building automobiles turned the industry on its head. Cars that were taking 12+ hours to build were suddenly rolling off the assembly line in just 90 min. This made the Model T more affordable for everyday drivers, and the car's mass production reshaped manufacturing worldwide.

For more than a century, this "one line, one car" method has been the backbone of how Ford builds vehicles. Now, the automotive giant is rewriting its own playbook. For its next generation of electric vehicles (EVs), the company is replacing the iconic linear line with what it calls an "assembly tree," whereby three sub-assemblies are built in parallel and then joined together.

The shift over to this new assembly process helps speed up production and reduce complexity. "Instead of one long conveyor, three sub-assemblies run down their own lines simultaneously and then join together," Ford explained in a recent announcement about the new production strategy. "Large single-piece aluminum unicastings replace dozens of smaller parts, enabling the front and rear of the vehicle to be assembled separately."

Parts travel down the assembly tree to operators in a kit. Within that kit, all fasteners, scanners and power tools required for the job are included, and in the correct orientation for use. Ford says that the integration between the Ford Universal EV Production System and Platform means midsize electric truck assembly could be up to 40% faster than Louisville Assembly Plant's current vehicles.

The company says some of that time will be reinvested into insourcing and automation to improve quality and cost, ultimately netting a 15% speed improvement. "We put our employees at the center and recreated the factory from scratch," said Ford's Bryce Currie, in the announcement.

"We live and breathe continuous improvement, but sometimes you need a dramatic leap forward," Currie continued. "We

expect ergonomic breakthroughs and complexity reduction—through elimination of parts, connectors and wire—will flow through to significant quality and cost wins."

Getting Deeper into the EV Game

According to *TechCrunch*, the new EV factory will make midsized pickup trucks with a base price of $30,000. These models are slated to launch in 2027. It says the automaker's willingness to shake up the century-old system that made Ford a household name reflects the "high-stakes juggling act of selling a line of affordable EVs that could be made in the United States faster, more efficiently, and with fewer parts, all while preserving profit margins."

A change is definitely in order: TechCrunch says Ford's EV division posted a loss of around $1.3 billion in the second quarter of 2025 and that sales of its top two EVs (the F-150 Lightning and the Mustang Mach-E) are both dropping. It also says Ford has developed a universal EV platform that will use lithium iron phosphate batteries using tech licensed from China's CATL and manufactured at its new $3 billion BlueOval Battery Park factory in Michigan. That factory is expected to come online in 2026 and will employ 1,700 hourly workers.

Competing with the Best in the World

The Verge says Ford's new universal production platforms will be "scalable and adaptive to a variety of vehicle types," including trucks, vans and SUVs. The new EVs will have operating systems that can improve over time through over-the-air updates and the batteries will have lithium iron phosphate (LFP) chemistries that are more durable, faster charging and more affordable than its current lineup of EVs.

"The new vehicle platform and manufacturing process are the product of Ford's three-year-old Silicon Valley-based 'skunkworks' project that the company empowered to throw out all the old processes and create something new from scratch," *The Verge* reports.
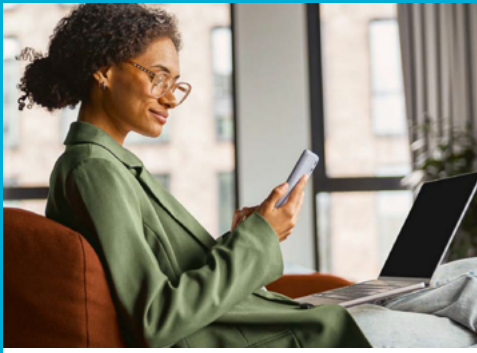
"This is a bold and difficult undertaking to compete with the best in the world," Doug Field, Ford's chief EV, digital and design officer, said in a widely-reported briefing on the new development. "We started with a blank sheet to fight complexity and do something truly new."

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By AVERY LARKIN

July Supply Chain News Wrap Up

Tariffs, a tech deal and a major rail merger shaped July as supply chain leaders prioritized resilience, efficiency and domestic growth.

July was another eventful month for supply chain operators as new tariffs were negotiated, economic news was announced and companies shifted to second-half planning. Trade tensions dominated the headlines, with the U.S. administration threatening new tariffs on semiconductors, pharmaceuticals and imports from China, Canada and other countries.

In the electronics space, Samsung and Tesla inked a major artificial intelligence (AI) chip deal tied to Samsung's Texas fab. Apple announced a substantial rare earth magnet investment with MP Materials to strengthen domestic sourcing. On the transportation front, Union Pacific and Norfolk Southern confirmed merger talks that could create the first U.S. coast-to-coast freight rail operator. Despite the volatility, companies across the supply chain are clearly making bold investments and moves with the goal of boosting resilience and stoking new innovation.

Key Moves and Market Signals

Samsung has inked a $16.5 billion chip manufacturing deal with Tesla to produce the automaker's next-generation AI6 processor, according to *Tom's Hardware* reporter Anton Shilov. The chips will be made at Samsung's new fab in Taylor, Texas and are expected to power Tesla's self-driving systems starting in 2029. The agreement runs through 2033 and is expected to help Samsung Foundry compete more effectively with TSMC.

According to *Tom's Hardware*, Tesla engineers will work alongside Samsung to help improve production efficiency, a rare move in chip manufacturing. Samsung previously produced Tesla's AI3 and AI4 chips; TSMC is handling the AI5. The AI6 processor may be built using 2nm-class technology, although specific details have not been disclosed.

Equipment installation at the Taylor site is expected to begin in 2026, with test production and evaluation scheduled for late 2027. The deal secures a key customer for the Texas fab and is expected to strengthen the momentum behind domestic semiconductor manufacturing.

Rare Earth Magnet Production

Apple is investing $500 million in MP Materials to produce rare earth magnets at a new facility in Fort Worth, Texas. The magnets will be used in Apple products, and the deal is part of a larger effort to bring more of the company's supply chain operations to the U.S.

The two companies will also build a recycling facility in Mountain Pass, Calif. to recover rare earth materials from used electronics and manufacturing scrap. "Rare earth materials are essential for making advanced technology," said Apple CEO Tim Cook in a press release, "and this partnership will help strengthen the supply of these vital materials here in the United States."

The project is expected to increase U.S. capacity for rare earth magnet production and support new manufacturing jobs. It's also expected to give Apple a more stable domestic supply of critical materials used in its devices. The investment is part of Apple's larger pledge to spend $500 billion in the U.S. over the next four years.

Rail Merger Talks Advance

Also in July, Union Pacific and Norfolk Southern confirmed they are in advanced merger talks that could create the first U.S. freight railroad with coast-to-coast service, according to the *AP*. The deal would combine the largest and smallest of the six major freight railroads. If approved, it could streamline long-haul operations, improve network efficiency and offer more consistent service for domestic shippers.

Industry analyst Tony Hatch told the AP the announcement suggests the companies have likely identified potential benefits (i.e., efficiency gains) that could help secure the deal's approval. However, past mergers have caused disruptions, and the Surface Transportation Board (STB) now requires clear evidence that any deal will enhance competition. Large shippers like Amazon, Dow and U.S. Steel are expected to weigh in as the process unfolds.

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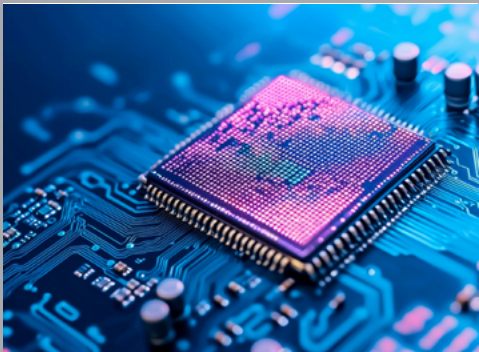
2025 TOP ASIA PACIFIC
Distributors

	Company	Locations	Employees	Founded	Headquarters	2024 Global Revenue
1.	Win Source Electronics	13	318+	1999	Shenzhen	$568,000,000
2.	Amble Electronics Asia Limited	18	280+	2010	Hong Kong	$450,000,000
3.	Shenzhen Unibetter Technology Co.,Ltd.	7	244	2009	Shenzhen	$240,000,000
4.	Shenzhen Shengyu Electronics Technology Ltd.	4		2016	Shenzhen	$235,211,831
5.	LCSC Electronics			2011	Hong Kong	Publisher Estimate
6.	ARS Electronics Company Ltd.	10	220	1998	JiNing	$200,000,000
7.	Flyking Technology Co., Ltd.	10	270	2010	Hong Kong	$150,000,000
8.	Icsole Technology Limited	3	95	2016	Shenzhen	$135,000,000
9.	Cytech Systems Limited	6	120	2013	Shenzhen	$125,000,000
10.	Özdisan Elektronik A.S.	6	315	1980	Istanbul	$118,000,000
11.	Chip Source Co., Limited	2	50-100	2007	Shenzhen	$100,000,000
12.	Ample Solutions	8	253	2008	Singapore	$95,000,000
13.	THJ(HK) Technology Limited	3	30+	2012	Shenzhen	$52,000,000
14.	DGT Technology (HK) Co., Limited	4	105	2010	Shenzhen	$50,000,000
15.	Supreme Components International Pte Ltd.	14	75	2001	Singapore	$44,995,406
16.	RX Electronics Limited	2	30+	2004	Hong Kong	$36,000,000
17.	Ersa Electronics	4	80-90	2012	Singapore	$32,570,000
18.	All True Tech Electronic Co.,Ltd.	4	50+	2011	Shenzhen	$30,000,000
19.	Compo Electronics Asia Limited	16	375+	2003	Shenzhen	Publisher Estimate
20.	Digisino Electronics Limited	3	85	2018	Kowloon	$24,244,523
21.	RYX Electronic (HK) Limited	4	50-60	2010	Shenzhen	$23,000,000
22.	Lixinc Electronics Co., Limited	2	20-50	2018	Shenzhen	$20,000,000
23.	JAK Electronics		20-50	2018	Hong Kong	$18,000,000
24.	AI Chiplink Limited	4	96	2017	Shatin, N.T.	$17,772,917
25.	Utmel Electronic	2	200+	2017	Kowloon	Publisher Estimate
26.	Bison Technologies Limited	1	10+	2006	Shenzhen	$12,000,000
27.	Hantech		20+	1973	Shenzhen	Publisher Estimate
28	Heisener Electronics			2014	Hong Kong	Publisher Estimate
29	Finestock Electronics			2015	Hong Kong	Publisher Estimate
30.	Kehuite Technology Dev. (HK) Ltd.			2004	Hong Kong	Publisher Estimate
31.	Bonase Electronics Co., Ltd.	2	87	2006	ShenZhen	$5,000,000
32.	CH Global Co.,Ltd.	3	15	2005	Pusan	$5,000,000
33.	Fairstock hk limited	3	106	2013	Hong Kong	$4,070,000
34.	New Strength Electronic Co., Limited			2005	Shenzhen	Publisher Estimate
35.	Chipmall Electronics			2006	Shenzhen	Publisher Estimate
36.	Fixchips Technology			2011	Singapore	Publisher Estimate
37.	CJJ HK Technology Limited			2013	Hong Kong	Publisher Estimate
38.	Interine Comonents Co., Limited			1987		Publisher Estimate
39.	Fly-Wing Technology (HK) Co., Ltd.			2012	Hong Kong	Publisher Estimate
40.	Fudatonghe Limited			2017	Hong Kong	Publisher Estimate
41.	Shenzhen Augswan Electronics			2019	Shenzhen	Publisher Estimate
42.	Perceptive Components Limited			2019	Hong Kong	Publisher Estimate
43.	Bostock Electronics (HK) Limited			2015	Hong Kong	Publisher Estimate
44.	Pneda Technology			2009	Hong Kong	Publisher Estimate
45.	Nova Technology (HK) Co., Ltd.		Less than 20	2000	Hong Kong	Publisher Estimate
46.	ODG (Origin Data Global)			2011	Shenzhen	Publisher Estimate
47.	IC Components Limited	2	35	2001	Hong Kong	$2,850,000
48.	Ariat Technology Limited	2	30	1996	Hong Kong	$2,500,000
49.	Smart Pioneer Electronics Co.,Ltd.	2	12	2021	Hong Kong	$1,800,000
50.	China Golden Sun Technology Ltd.			2015	Shenzhen	$1,000,000