

THE CONNECTED SUPPLY CHAIN

How mobile solutions at the edge track assets, improve visibility and help companies meet compliance regulations across complex systems



Companies and their supply chains need to prepare for anything, especially in today's global environment. Among security attacks on critical infrastructure, continued fallout from the COVID-19 pandemic, devastating time loss from events like the Ever Given's block of the Suez Canal and ongoing shipping disruptions, companies are under increasing pressure to accurately track resources at each point they travel through. Learn how mobile solutions at the edge can track assets, improve visibility and help companies meet compliance regulations across complex systems.

Supply chains, especially in heavily regulated industries, face increasing transparency, safety and security pressures. And regardless of how many regulations they face, companies need to comply with various levels of tracking and reporting requirements. Mobility solutions coupled with powerful supply chain management applications can help companies manage compliance and security while boosting visibility into all points of the supply chain.



** Looking beyond the Horizon: Preparing Today's Supply Chains to Thrive in Uncertainty, Deloitte (December 11, 2020)*

Critical materials initiative

As part of the White House critical materials initiative, the Defense Department has leveraged its digital mapping tool, Strategic Materials Assessment and Risk Topography (SMART), which includes domestic and international sites within strategic and critical materials supply chains along with their output, capacity and processing abilities. The tool also includes relationships among the sites and manufacturers, and the DOD can update the SMART database with information from government and business sources to help understand critical materials supply chain vulnerabilities.

In addition, the federal government wants better data and supply chain transparency into the tracking of active pharmaceutical ingredients, the majority of which are sourced overseas. The Department of Health and Human Services will be responsible for making recommendations for tracking ingredient sourcing and production and for requiring that ingredients and final dosages are labeled on all pharmaceuticals sold in the US.

Quality, transparency and capacity are driving incentives to develop a better pharmaceutical supply chain in the United States. Companies need to be sure of their suppliers' quality—or face potential product rejection by federal regulators. And given the recent global disruptions in supply chains, companies are looking for better ways to avoid disruptions and meet delivery schedules. When companies can take a proactive approach to ensuring that their supply networks are staying on track, their supply chains become more resilient.

Federal regulators hope to build a more resilient regional supply chain and bring drug manufacturing closer to home.

87% of generic active pharmaceutical ingredient sources are located overseas.*

90% of all pharmaceuticals consumed in the US are generic drugs.*

*“The resilience of national supply chains is only as good as the resilience of supply chains at the firm level. Harnessing and unleashing the power and ingenuity of the private sector to improve resilience will lead to stronger national supply chain resilience.”**

— White House



Michelle Connolly-Capate

Director of Sales for the Enterprise and Utility & Energy teams, US Panasonic

Michelle has been with Panasonic for 20 years and has been selling Panasonic products for over 28 years. Previously, Michelle led teams in transportation and logistics and the education space and worked with Panasonic distribution and reseller partners in the US.

* *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth*, The White House (June 2021).

Mobile solutions in the supply chain

All companies face the need to comply with some regulations, no matter how stringent, and the need for enhanced supply chain performance. At the heart of visibility and resilience is data—robust, accurate data that can be transformed into real-time, actionable information. Mobile tablets and handheld devices power the software that can help ensure that data is being captured in ways to foster compliance and visibility. What is most critical is capturing that data where it's being used—at the edge.

Connecting digital tools, physical infrastructure and data is the future of the supply chain. Using automated processes through IoT, cloud computing, machine learning and artificial intelligence (AI) to analyze data will help companies make better operational and business decisions, even in the face of supply disruptions. Companies can get deeper intelligence on everything from truck routes and carbon emissions to how much vibration manufacturing machines can tolerate to help them determine the best outcomes.



Jason Lewis

National Sales Manager, Transportation and Logistics team, US Panasonic

Jason has been with Panasonic for 20 years and has 23+ years of experience in rugged mobile technologies. Prior to his current role, Jason led teams in the healthcare and education spaces for Panasonic in the US.

Give supply chains a smart edge

Data security and regulatory requirements can have a dramatic impact on overall supply network design. How companies collect, store and share this data drives a company's digital roadmap.

With the ever-increasing speed of commerce and pressure on supply chains, companies starting on digital transformation can take a methodical approach to their design. Business leaders should start with a solid smart edge plan, then move on to network design, data storage, and finally, retention and visibility designs. With effective planning and deployment of digital supply chains, companies can better maintain and adapt to regulatory requirements while also improving their margins and growth through more efficient operations.



Jim Dempsey

Director, Mobility Business Development and Xcelerate ISV program, US Panasonic

Jim has been with Panasonic for 10 years and has 25+ years of rugged technologies experience, with a specialty in supply chain operations. Formerly, Jim led Panasonic's entrance into the US rugged handheld space and launched the EDGE channel program, growing Panasonic's rugged handheld business from startup to industry leader.



How mobile devices help collect and store required data to meet regulations

Enterprise-class smart edge devices can ensure that day-to-day transactions are captured, time-stamped, stored and shared.



Farm to table—Data capture at every point to ensure food safety.



Food Safety Modernization Act (FSMA 2011)—Each touch point in food production must have detailed documentation, and companies must keep those records.



Farm, fields and produce location—Identify the exact fields produce was grown in. Label the fertilizer and other products used in farming.



Harvesting—Companies trucking produce from the farm.



Packaging and distribution centers—How produce is packed, who is doing it and where it's going.



Retail store—Barcodes, backroom storage, shelving, time stamps, etc.



DRUG QUALITY & SECURITY ACT (DQSA) OF 2013

Tracking and tracing to make sure the supply chain is clean and free of contamination and counterfeit drugs



“ The DSCSA (Drug Supply Chain Security Act, Title II of DQSA) requires wholesale distributors and third-party logistics providers to report licensure and other information annually to FDA. Additionally, to further enhance the security of the drug supply chain, manufacturers, repackagers, wholesale distributors, and dispensers are required to notify FDA and other trading partners within 24 hours after determining a product is illegitimate.* ”

—The United States Food and Drug Administration

* Drug Supply Chain Security Act (DSCA), U.S. Food and Drug Administration [January 19, 2022].



Active pharmaceutical ingredients—Trace how drug ingredients are collected and labeled.



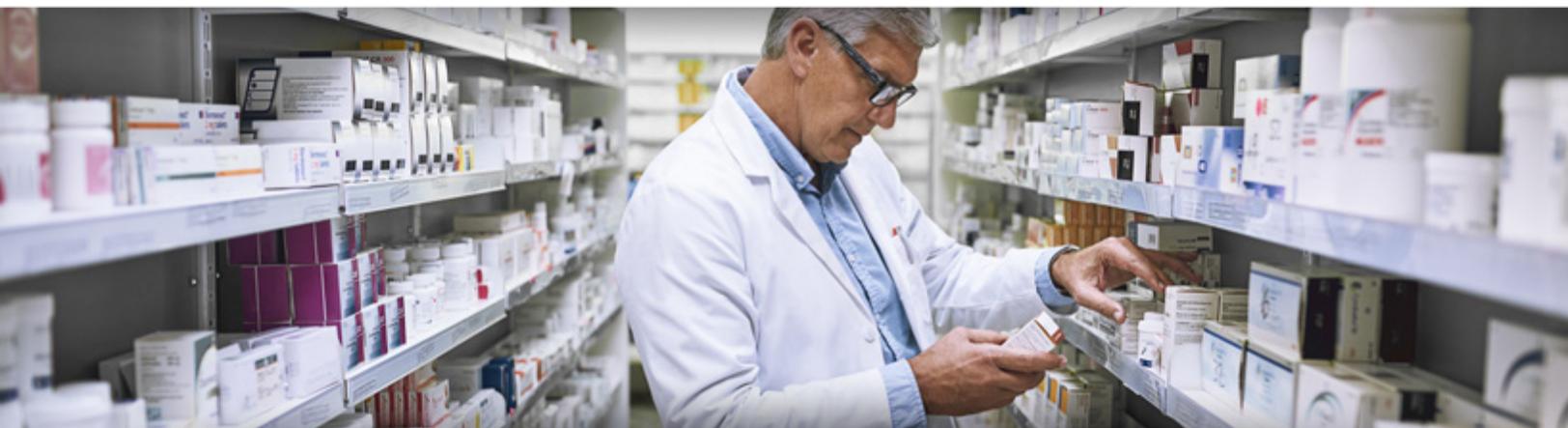
Manufacturing labs—Track compounds, who is involved in development and how drugs are finalized and packaged.



Transportation & distribution—Ensure that packages are sealed properly, stored according to temperature requirements and remain untampered with.



Pharmacy—Confirm that drugs are untampered with and placed on the correct shelf.



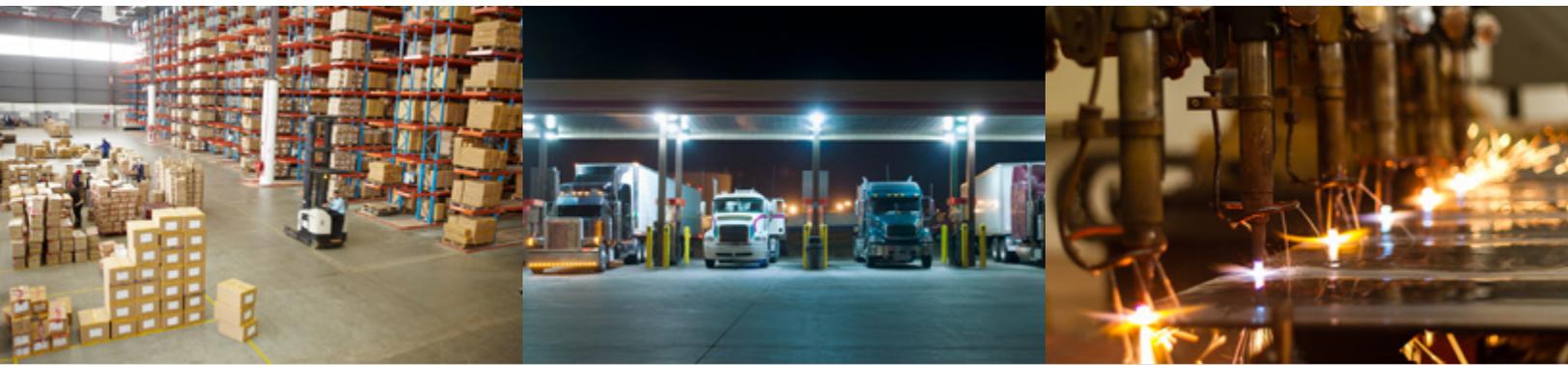
How business intelligence, machine learning and artificial intelligence can help mitigate disaster preparedness

Inventory stuck/not moving—ID where inventory is stuck and engage the connected network.

Warehouse—Determine current supplies and update distribution availability to weather initial supply concerns.

Trucks—Stock already in transit? Use real-time data from trucks to reroute or reschedule labor as needed to mitigate immediate supply concerns.

Manufacturing—Automatically generate orders for follow-on inventory based on data collected from the point of concern.



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