

Rugged Mobile Devices: A Supply Chain Necessity

Manage your supply chain in real time. Get the data you need to meet customer expectations through all phases of the supply chain.

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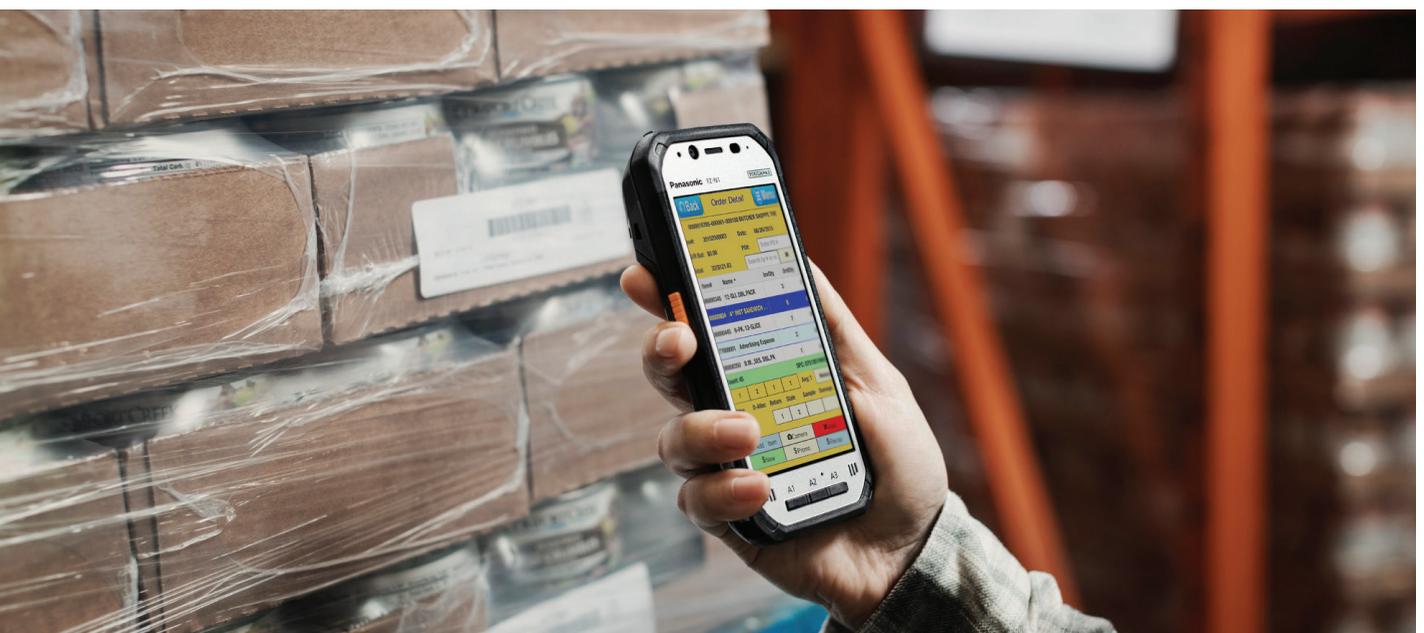
Tablets and handheld devices have become necessary tools for moving goods through the supply chain, increasing efficiency so that manufacturers and retailers can maintain appropriate inventories while helping to ensure on-time deliveries. Mobile devices enable real-time operational visibility, enhance decision-making, and improve order processing and customer service from the warehouse through to delivery.

Mobility Is Critical

Most supply chain activity occurs on “the edge,” – along the perimeter of the central network and reaching into warehouses, on board yard jockeys, over the road, in thousands of retail stores, and at millions of front doors. These are the places where supply chain data can and must be instantaneously collected and updated, accurately and securely. These are also the places where operating conditions can be difficult, if not downright hazardous.

Warehouse staff, truck drivers and retail store clerks need devices that are properly configured to help them make the critical data entries your supply chain depends on. These devices must be tough enough to withstand conditions on the floor or in the field, including drops from a forklift, truck vibration, extreme temperatures, and rainy weather, to name a few.

Despite the challenge of supply chain work environments, almost half of all devices used on the edge are consumer-grade rather than rugged devices, according to a recent survey of 185 managers involved in the purchase and usage of mobile and wireless solutions. It’s not surprising that 55 percent of those same managers identified “providing workers with suitable/appropriate devices” as a significant challenge.



Keeping Mobile Workers Connected

Though supply chain workers' duties and locations vary, here are some key capabilities for their mobile devices:

- Fast 4G LTE connectivity and modern SIM technology
- Dependable wireless and GPS capabilities
- Reliable connections in all types of environments
- Ability to easily switch communication modes
- Vendor-neutral data service and/or multicarrier modems
- High standards of performance testing and low failure rates
- Seamless integration with back-end systems
- Security that protects connectivity, as well as the device and data
- Exceptional warranty plans and tech support
- Potential to tap into developing technologies, such as 5G, FirstNet and other emerging innovations

In the end, you should be investing in reliability, performance and toughness to keep your mobile employees plugged into state-of-the-art communications.

About two-thirds of companies surveyed by Peerless Research Group expect to increase their investment in mobile devices—most notably to include handhelds and tablets—and their expectations are for a continued shift away from consumer-grade to rugged equipment. The investment in rugged devices may be higher up front, but over the lifetime of the devices, this will pay off in significantly lower failure rates.

According to the survey, “Improving Supply Chain Efficiencies,” the primary applications for which mobile devices will be deployed, upgraded, refreshed or expanded are:

- Barcode scanning for inventory management and tracking (59%)
- Inventory tracking and management (56%)
- Picking, packing, and sorting (56%)
- Shipping and receiving (56%)
- Restocking and put-away (39%)
- Item, pallet, or container-level tagging and management (37%)
- Quality control (28%)
- Asset management (27%)

The Importance of Reliable Connectivity

The ability of mobile workers to access critical data they need requires reliable connectivity. In a recent executive study, “Critical Mobile Connectivity” by Panasonic Research, 94 percent reported that constant connectivity and 24/7 data access is important for their employees, with 43 percent saying it's critical. Yet, 69 percent of that group said the organization only relies on basic connectivity capabilities.

While connectivity is dependent on the quality of the network—it's also dependent on the quality of the mobile device. There is no shortage of rugged devices on the market, and many meet basic established standards. Where many fail, however, is in maintaining reliable, always-on connections for remote workers—those who support and protect the supply chain, work in challenging environments, or face difficult natural or industrial conditions. The ability to make and maintain strong, uninterrupted connections is an important consideration for selecting the right solution for your workforce.

Security on the Edge

The availability of mobile technology at the far reaches of your supply chain brings tremendous new opportunities to improve efficiency, relieve staffing and capacity constraints, and improve customer satisfaction and loyalty. Those same advantages, though, also create potential security risks, providing a much larger number of points for unauthorized access and misuse of highly sensitive data. The risks are already significant for supply chain disruption, but an even greater liability is presented with the potential for financial malfeasance, including theft and hacking of consumer personal and credit information.

Every business has unique security issues, so there isn't a "silver bullet" solution. This is why it's important to carefully review the specific risks, physical facilities, customer sensibilities, and other unique factors when developing mobility solutions. Above all, the mobile technology deployed must build on industry standards and security practices that integrate with the enterprise systems already in place.

The Future: The Connected Supply Chain

Today's supply chains are more global and digitally interlinked than ever before. The business world has evolved into a massive digital network, and with the added complexity of IoT-connected devices, RFID chips, GPS tracking and other modern technologies, this trend is about much more than the

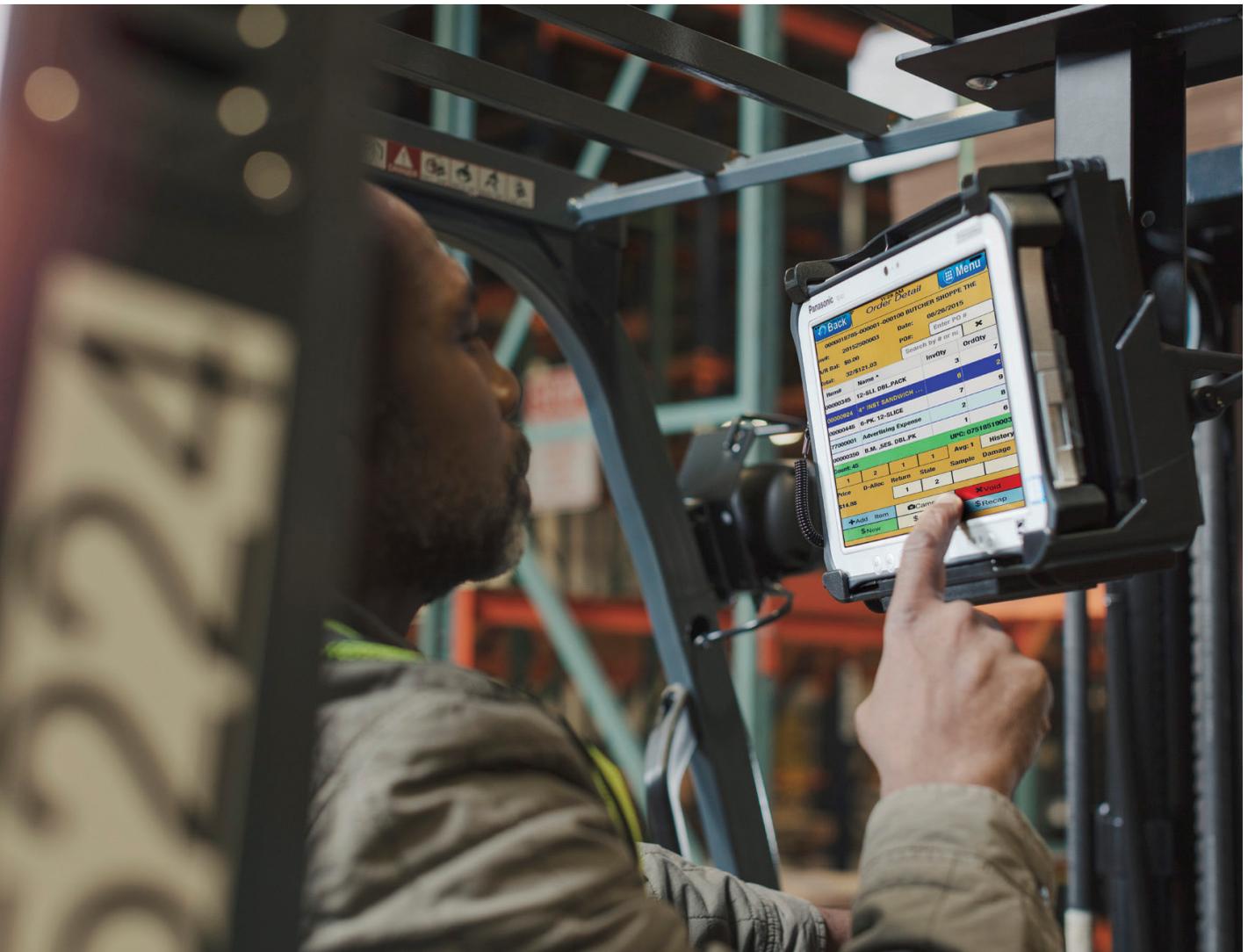


use of individual devices. It's about organizations staying connected and in communication with their trading partner networks for even greater supply chain visibility and efficiency.

Mobile devices will continue to play an important role as organizations continue to digitally transform the entire supply chain — at every point of intersection between the workers and the goods they are moving.

Making the Right Choice

Managing your supply chain in real time is all about having access to the right data via secure, uninterrupted connections. To keep your workers productive and goods moving quickly and accurately through the supply chain, find a provider that can customize a solution for a specific job application today and can flex with evolving business condition.





Mobility Opens New Markets

Mobile devices can do much more than help make your business more efficient. They can open new markets.

In one case, a regional retailer found its business was threatened when its customers started staying home and ordering goods online. The retailer transformed the in-store shopping experience by developing an integrated mobile solution across its entire enterprise, including warehouses, transportation and stores. The result was greatly improved, personalized service in stores, providing consumers with social interactions with store employees and better choices at lower prices.

An online grocer approaches its market differently, bringing its supply chain close to customers' homes by placing mobile "warehouses" in the form of trucks loaded with a range of food products at key locations throughout the city. Neighborhood runners make customer deliveries on foot, bicycle or motorized carts. Inventories are managed in real time using an integrated network of mobile devices. When items are being depleted from the truck "warehouse," they are restocked from traditional warehouse locations. Thus, the grocer can provide same-day delivery at competitive prices, successfully contending against larger rivals.

Motor Carrier ELD Mandate

In addition to the strategic, long-range imperatives for implementing new mobility solutions, shippers are facing an immediate, significant tightening of trucking capacity that can be offset with technology.

Plus, late last year, the mandated use of Electronic Logging Devices (ELDs) forced transportation and logistics companies to reconsider the technology their drivers use to make sure they were in compliance. Both of these challenges provide an opportunity to consolidate applications into a single, flexible, high-performing mobile solution.

Currently many trucks are equipped with bolt-on dashboard telematics devices, which provided basic tracking, including road taxes and tolls, hours of service, vehicle utilization, fuel costs, and machine health. Now, more flexible mobile devices can perform all of those functions, plus others that are performed outside the cab, such as bar code scanning, inventory control and signature capture.

Also, mobile devices can be handed to law enforcement, eliminating the need for an officer to enter the truck to retrieve vehicle data.



Overall, today's mobile technology makes it possible for motor carriers and supply chain service providers to know precisely how many, what size, and what shape packages will be available for shipment at a given location at a given time. This information enables the proper selection of motor carrier service, including LTL, TL, regional, etc., so that scarce carrier capacity can be used and capacity waste eliminated. This ability has become critical for shippers who simply can't find enough trucking capacity, particularly as ELD mandate enforcement has begun.

Most Important Mobile Device Characteristics

These criteria for evaluating mobile device acquisitions are from a survey of 185 managers involved in the purchase and usage of mobile and wireless solutions.

Characteristics considered most important when evaluating mobile devices for purchase

