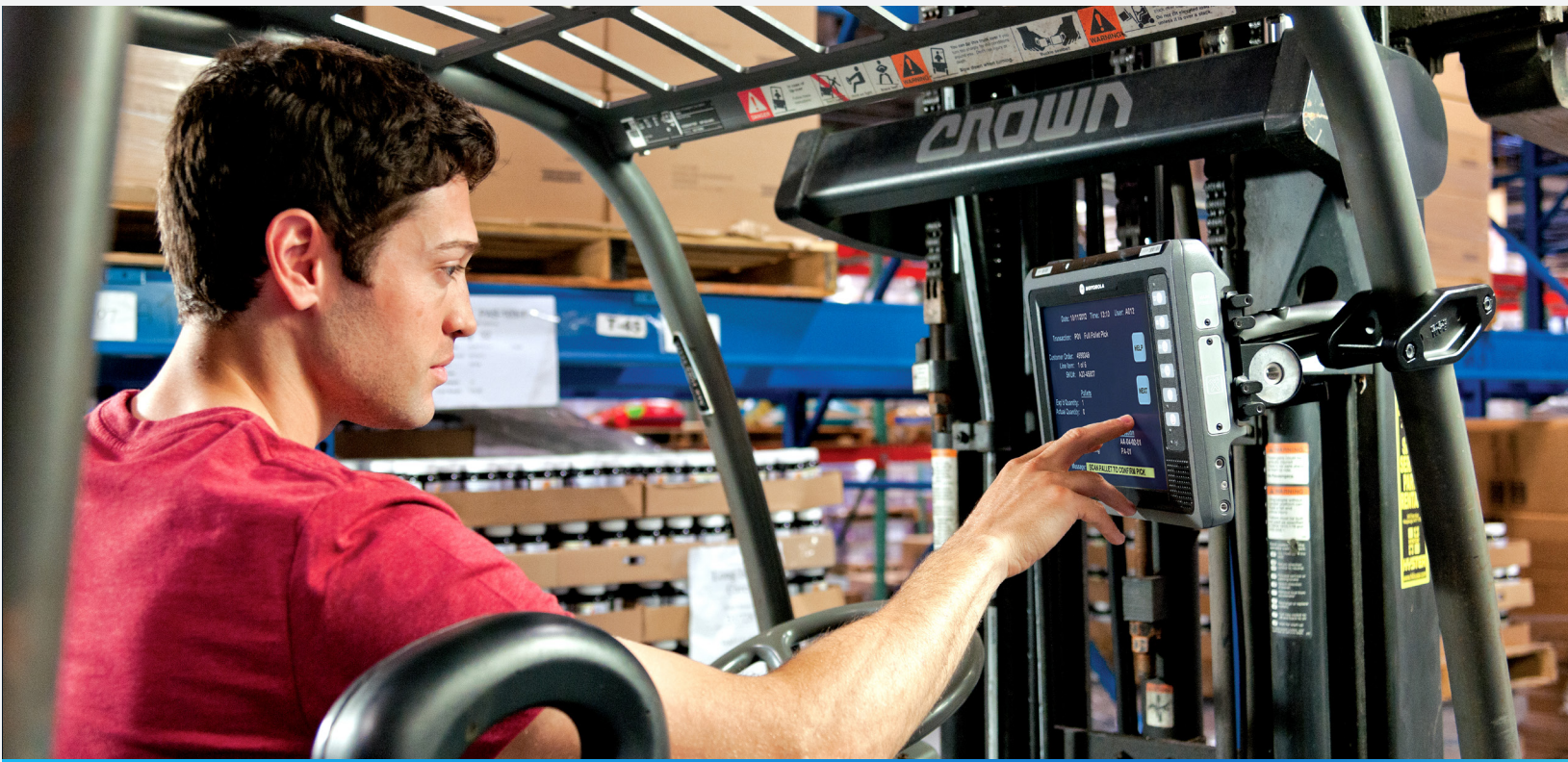


# GENERAL DATA AND MOTOROLA HAVE THE TOOLS YOU NEED TO STREAMLINE FIELD MOBILITY







## CONTENTS:

10 ways to mobilize for a leaner manufacturing operation

Boost productivity with intelligent production

Commercial versus consumer devices: What's the real TCO?

Motorola solutions for Manufacturing

TC55 Enterprise Touch-screen Computer

MC45 Enterprise Mobile Computer

MC65 Enterprise Mobile Computer

MC67 Enterprise Mobile Computer

MC75A Enterprise Mobile Computer

MC9500-K Industrial Mobile Computer

EP10 Enterprise PDA

Workabout Pro 4 Enterprise Handheld Computer

OMNII XT15 Enterprise Handheld Computer

ET1 Enterprise Tablet

# 10 WAYS TO MOBILIZE FOR A LEANER MANUFACTURING OPERATION

Today's businesses are faced with an increased number of tougher challenges than ever before. The globalization of markets, economic downturn, heightened competition, faster product lifecycles, and demand for more customization have forced manufacturers to look at every aspect of their operation to increase efficient functioning.

Mobilization delivers a powerful solution to working smarter, not harder. The power to connect with the people and real-time data you need—whenever and wherever you are—gives you a competitive advantage.

## HERE ARE 10 WAYS TO UTILIZE MOBILITY TO IMPROVE YOUR OPERATIONAL EFFICIENCY.

### 1. Reduce inventory costs in the warehouse.

Streamline order fulfillment and improve order turnaround times with the use of Motorola's rugged, handheld mobile computers. With this electronic data collection capability, you can replace paper across your warehouse processes—receiving, quality control, put away, replenishment, picking, and packing. You also transmit data in real-time, automatically updating your enterprise, which reduces stocking inventory levels and storage costs.

### 2. Increase line-side uptime and protect yield.

Unplanned downtime is costly to a manufacturing operation. Using Motorola's eKanBan solution, a call for inventory can be wirelessly transmitted via a forklift-mounted mobile computer. This single mobility application results in a dramatic 90 percent decrease in response time, as well as an equally significant increase in operator productivity. In addition, operators no longer need to leave the machinery and go to a wired workstation to update critical machine status, and engineers are not tethered to the control room to monitor these reports. As a result, equipment issues can be reported and addressed instantly, relieving bottlenecks.

**3. Track and trace materials to achieve cost-effective compliance.** Adhering to regulations demands the visibility of real-time tracking. Using



a mobile solution for data collection means you are just one click away from accurate track and trace capability that is essential to any manufacturing entity—particularly food and beverage, pharmaceutical, automotive, and other industries that are regulated. This level of tracking and traceability allows for targeted recalls to be conducted quickly and efficiently, protecting consumer safety, brand equity, and revenues.

### 4. Improve asset utilization, extend asset lifecycle, and reduce capital requirements.

Keeping track of the broad spectrum of assets in a manufacturing facility requires attention to detail—which is time-consuming. Mobile data collection replaces error-ridden inventory counts with more accurate, timely information. In turn real-time asset visibility reduces the capital and carrying costs of excess asset inventory levels. The mobile solution also enables more efficient work order processing and visibility of future maintenance needs and schedules.



**5. Validate process accuracy and improve customer satisfaction.** Efficiency is essential to producing quality products at top speed. When you deploy mobility in manufacturing, you extend quality beyond the production line. Automated data capture virtually ensures that your customer receives the right product, manufactured the right way, and delivered at the right time. Accuracy, responsiveness, and quality span the enterprise!

**6. Improve labor cost management with expanded visibility.** Labor costs contribute to the overall cost of your products. When you can better track time spent on non-productive tasks, you improve the cost efficiency. An automated time and attendance system with mobile functionality enables workers to clock in their time from any workstation, and allows management to more accurately gauge job costs.

**7. Increase field sales revenue and productivity.** Your field sales force drives revenue, so you need to equip them with the tools they need to be more efficient and productive. A mobile computer, payment card reader, and scanner enable your field sales and direct store delivery staff to complete more transactions on the road, and then transmit the data automatically to your enterprise. Place orders, capture signatures, check inventory, and even process payments. Your field sales people will avoid making phone calls and use the mobile connectivity for faster service.

**8. Increase revenues, reduce order-to-cash cycle times, and improve cash flow.** Field workers are the face of your business. When they're prompt, organized, and efficient, that reflects on your business. A mobile solution keeps them connected wherever they go. Processing work orders, invoices, and payments in the field enhances their productivity. With heightened communication and knowledge, these field agents not only improve efficiency and drive more revenue, but also increase customer satisfaction, cash flow, and inventory management.

**9. Reduce truck rolls and vehicle-related costs.**

The investment in your fleet and your drivers represent a substantial cost. Maximize the return with mobile solutions, like vehicle-mounted Motorola mobile computers that increase productivity. Real-time location prompts more efficient routing, which reduces trucks rolls, fuel costs, and wear and tear on the vehicle. Integrated GPS and telematics provide valuable insight to better manage your fleet operation with up-to-the-minute, real-time data.



**10. Improve decision-making and manager effectiveness.**

Good decisions are based on good information. With a mobility solution, managers can stay on the plant floor where they are most effective. They can easily access accurate, timely data, which enables them to make informed decisions—leading to tighter inventory management, increased inventory turns, reduced inventory holding costs, and better labor scheduling to prevent overtime costs.

The mobile workforce is on the rise because it delivers a new dimension in more effective, efficient manufacturing practices. Mobility allows you to easily extend lean initiatives throughout your operations, as well as amplify the impact of those initiatives. Talk to us about your challenges and we can show you how to deploy a mobile solution to effectively address them.

# BOOST PRODUCTIVITY WITH INTELLIGENT PRODUCTION

Automated data collection is essential for more accurate, efficient manufacturing operations. Freeing up your workers by incorporating mobility dramatically increases that benefit. It is critical to have real-time visibility of the data you need when you need it.

Intelligent production practices are based on reliable connectivity that delivers business-critical information to plant floors, helps workforces collaborate in real-time, and respond to unpredictable supply chains, equipment, and customers—from anywhere, at any time.

## DYNAMIC SERVICE

Evolving market forces and accelerating technology cycles are presenting new challenges to manufacturers' field-based workers. Customers have never been more demanding and competition has never been more fierce. Oftentimes, field operations personnel are solely responsible for ensuring customer satisfaction and representing your company's brand. As the stakes rise even higher in the field, mistakes are increasingly devastating; however your opportunities to differentiate from the competition are even greater.

### OBSTACLES IN THE FIELD



#### 2.3% OF SALES ARE LOST

FROM OUT-OF-STOCK PRODUCTS ON RETAIL SHELVES WITHIN THE FOOD & BEVERAGE AND CONSUMER PACKAGED GOODS INDUSTRY<sup>1</sup>



#### 50%-70% OF POTENTIAL SERVICE REVENUE MISSED

ON AVERAGE BECAUSE OF POOR RECORD-KEEPING AND MANAGEMENT WITHIN MANUFACTURING COMPANIES<sup>2</sup>

## MOBILITY DELIVERS RESULTS

Around the world, Motorola is partnering with manufacturers to help them succeed. Our solutions help deliver business-critical intelligence in the field, enabling workforces to collaborate in real-time so they can anticipate and respond to competitive threats, unpredictable supply chains, critical equipment failures and urgent customer requests.

### MOBILE TECHNOLOGY ENHANCES PERFORMANCE



#### ~2X MORE TIME SPENT MERCHANDISING

IN STORES BY EFFICIENT, TECHNOLOGICALLY-EQUIPPED DSD PERSONNEL AVERAGING 50% VS. 27% BY INEFFICIENT LAGGARDS<sup>3</sup>



#### 20% FASTER REPAIR COMPLETION

BY BEST-IN-CLASS FIELD SERVICE OPERATORS<sup>4</sup>

1. "A Comprehensive Guide To Retail Out-of-Stock Reduction In the Fast-Moving Consumer Goods Industry," Thomas W. Gruen, Ph.D., University of Colorado at Colorado Springs and Dr. Daniel Corsten, IE Business School Madrid

2. AMR Research, via Zebra Technologies, Saving Time and Money with Mobile Printing in Field Service

3. GMA – Grocery Manufacturers of America

4. The Aberdeen Group, "Mobile Field Service Update 2007 and Beyond," 2007

# COMMERCIAL VERSUS CONSUMER DEVICES: WHAT'S THE REAL TCO?

Smartphones and tablets have transitioned to the enterprise. In some cases, employees are utilizing their personal mobile devices in the workplace, while others are company-issued. These devices are familiar to the users, making it easy to integrate into a work environment. The price can seem enticing when compared to commercial grade mobile equipment.

But there are various factors that contribute to the total cost of ownership (TCO) of your mobile solutions. The “hard costs” of the device—the device itself, the software, accessories, training, and deployment expenses—may account for less than 10% of the TCO over a typical, five-year life cycle. The bigger cost comes after the device is launched in the enterprise.

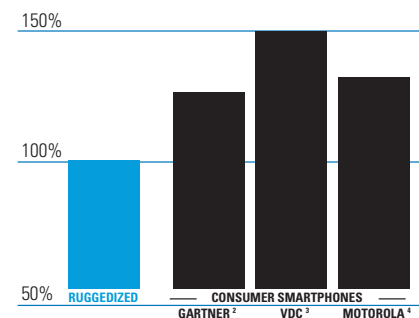
**Before you make the decision and invest in a mobile solution for a challenging environment, like manufacturing and warehousing, consider these “soft costs”:**

- Non-ruggedized product failure: Consumer devices are not designed for a harsh, industrial environment. Drops and exposure to water can destroy a consumer device, which causes a loss in productivity. From production, to shipping, to field service, lost time is lost revenue.
- Product replacement: Consumer devices may be less expensive than commercial grade at the outset, but when you need to replace a damaged device you'll pay a higher price.
- Refresh cycles: Consumer mobile devices are frequently updated, as often as every six months. So, your IT Department is tasked with managing a growing array of devices.
- Software training: With more versions to manage, your IT Department must also adjust the software that goes along with each device—and provide the additional training as well.

## LOWER TCO THAN A SMARTPHONE

When you add up all the factors that contribute to TCO, a rugged hand held device costs less than half that of a non-rugged consumer smartphone.

**CONSUMER  
SMARTPHONES  
INCREASE TCO  
BY UP TO 50%  
COMPARED TO  
RUGGED DEVICES**



	Non-rugged smartphones	Rugged handheld devices
Annual failure rate	23%	5%
Annual TCO \$	4,500	2,100 <sup>1</sup>

<sup>1</sup> Mobility in Manufacturing and Logistics: Investment Acumen for Next Generation Mobile Solutions, VDC Research, August 2013

<sup>2</sup> Troni, Frederica. "Total Cost of Ownership of Mobile Devices 2012 Update". March 20, 2012, Gartner

<sup>3</sup> Krebs, David. "Mobile Device TCO Models for Lone of Business Solutions". Volume 1 | Track 7: Enterprise Mobility Mobile Device TCO. March 2013. VDC research.

<sup>4</sup> Motorola Solutions. "Motorola Solutions TCO Calculator". Average result for common applications in field sales and service. Q3 2013.

# CALCULATE YOUR ROI

While you're weighing the cost of ownership, also consider the return on investment. Use [Motorola's ROI calculator](#) to determine how mobile warehouse technology can reap long-term rewards.



## MOTOROLA SOLUTIONS FOR MANUFACTURING

### TC55 Enterprise Touch-screen Computer

The TC55 offers smartphone ergonomics and good looks with the durability to operate continuously in the enterprise environment. And with the enterprise functionality to support a wide range of applications the TC55 is a perfect balance of form and function to help your teams work smarter, improve productivity, and enhance customer service.

### MC45 Enterprise Mobile Computer

The MC45 integrates the key features your teams need to support a wide range of field service applications in a compact, rugged device that's very competitively priced. With all of the Total Cost of Ownership (TCO) benefits of an enterprise-class product, the MC45 offers great value with no compromise in performance.

### MC65 Enterprise Mobile Computer

The MC65 is a rugged and versatile mobile computer with everything you need to optimize your field team's productivity. It builds on the capabilities of the MC45 by adding a larger screen, enhanced data capture capabilities, longer battery life, and expanded keyboard options.

### MC67 Enterprise Mobile Computer

The MC67 works as hard as your staff. It's loaded with features, has a super-fast processor and is tough and rugged with the capability to withstand thousands of drops (of up to 8 ft) and knocks.

### MC75A Enterprise Mobile Computer

The MC75A offers more features and functionality, in a field-proven rugged form factor, than any comparable device. It includes a fast processor, application flexibility, versatile data capture, and connectivity options in a powerful yet compact and rugged solution optimized for field mobility.



### **MC9500-K Industrial Mobile Computer**

The MC9500-K is designed to support the most demanding field mobility applications. This premium industrial-class mobile computer raises the bar for rugged key-based field mobility applications. It offers a modular field swappable keypad, extensive data capture options, and versatile connectivity.

### **EP10 Enterprise PDA**

The EP10 is a durable enterprise PDA that packs all the features of a full-sized industrial computer and into a compact form. With full telephony features, an intuitive touch-screen optimized for industrial applications and a competitive price, the EP10 is an affordable and powerful productivity partner for field teams.

### **Workabout Pro 4 Enterprise Handheld Computer**

The WORKABOUT PRO™ 4 is a premium rugged handheld computer with unparalleled versatility; with a wide range of bolt-on modules, the WORKABOUT PRO™ can be tailored to any role from the manufacturing plant to the yard, and depot and beyond into the field.

### **OMNII XT15 Enterprise Handheld Computer**

The versatile Omnii™ XT15 handheld computer offers a range of optional modules to configure it to any supply chain application. It's one tough device — including a condensation-free Arctic version for operating in -22°F/-30° C freezers – reducing TCO while also enabling new capabilities to be added to drive further value from the device.

### **ET1 Enterprise Tablet**

The ET1 enterprise tablet is as elegant as any consumer device. Behind the looks is a tough, durable tablet designed to work all day, every day. The Android enterprise operating system delivers robust security, versatility, and manageability over local and wide area wireless networks.







Smarter Technology. Exceptional Results.

1-844-643-1129

General Data Company Inc  
4354 Ferguson Drive  
Cincinnati, Ohio 45245

[www.general-data.com](http://www.general-data.com)

## A BUSINESS BUILT ON INNOVATION

General Data is recognized as an expert resource for all aspects of labeling and identification, barcode data collection, field mobility, equipment service, fixed asset management, and managed print services. Our “total solutions” approach enables customers to utilize our expertise in all area - planning, equipment specification, label media, printer consumables, system integration, customization and professional services.

General Data’s corporate headquarters in Cincinnati, Ohio USA is home to our label manufacturing and converting operation, as well as our research, development and testing lab. This facility is certified to the ISO 9001 international standard for quality management.

## PRODUCTS AND SERVICES

It doesn’t matter what industry you’re in - all businesses have four things in common: they all need to work smarter, reduce costs, increase productivity, and better serve their customers. At General Data, our mission is to provide the best-in-class products and services, backed up by exceptional customer service, that produce maximum return on investment for our customers.

### Products

- Barcode Labels & Tags
- Thermal, Laser & Inkjet Printers
- Barcode Scanners
- Mobile Computing Devices
- Mobile Workstations
- Software
- Thermal Transfer Ribbons
- Toner, Ink & Printer Supplies
- Histology Equipment
- Histology Reagents & Supplies

### Services

- Custom Barcode Labels
- Barcode Scanning & Data Collection
- Labeling & Identification Systems
- Enterprise & Field Mobility
- Wireless Network Infrastructure
- Custom Application Development
- Printer Repair Service
- Printer Supplies Replenishment
- Managed Print Choices

# GeneralData

General Data Company, Inc.  
4354 Ferguson Drive  
Cincinnati, OH 45245  
Phone: 844-643-1129  
[talktous@general-data.com](mailto:talktous@general-data.com)  
[www.general-data.com](http://www.general-data.com)



**MOTOROLA SOLUTIONS**

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners. ©2014 Motorola, Inc. All rights reserved.