

# Manufacturing Snapshot

## Manufacturing Key Messages

Enterprise mobility solutions from Symbol Technologies are helping manufacturers reap the powerful, new advantages of the real-time enterprise:

- **Increased data accuracy**
- **Productivity improvements**
- **Enhanced supply chain execution**
- **Greater asset utilization**
- **Efficient fleet and warehouse management**

...all of which improve customer satisfaction. Whether implementing real-time track-and-trace capabilities...or error-proofing your manufacturing processes...or reducing haul back across your direct store delivery routes...Symbol mobility solutions give you the real-time control that drives inefficiencies out of your business and heightened productivity in.

These comprehensive and integrated capabilities to capture, move and manage mission-critical information represent *all* the key components of enterprise mobility and are amplified by:

- **Deep knowledge of the pivotal role enterprise mobility plays in every aspect of manufacturing** – from shop floor optimization to warehouse, asset and fleet management to field service
- **Integrated mobility systems** including laser bar code scanning, imaging, RFID and other advanced data capture technologies; ruggedized mobile computing systems; and secure, reliable wireless connectivity
- **Comprehensive management tools and capabilities** that address the uniquely dynamic nature of mobility solutions in order to optimize their performance – and that allow you to efficiently and securely manage hundreds or thousands of disparate mobile devices

From receiving dock to shop floor to loading dock, from improved yields to increased uptime to just-in-time inventory, mobility-enabled business applications can streamline and strengthen every function within your enterprise, maximizing productivity gains from every capital investment.

## Manufacturing Functional Pain Points

Waste	Operational Pain Points	Symbol Opportunities
<b>Over Production</b>	Incorrect demand in the supply chain Improperly sized kanban	Up-to-date data/real-time kanban sizing
<b>Waiting</b>	Poor plant scheduling Part shortages	Real-time report capability
<b>Transportation</b>	Improper plant layout and design	Data collection and aggregation
<b>Processing</b>	Manually generated reports	Management dashboard Automated reporting
<b>Unnecessary Motion</b>	Redundant data maintenance Recalculations Reports	Automation of tasks Integration with data systems
<b>Defects</b>	Excess inventory Late shipments/excessive lead times	Increased kanban sophistication More rigorous production scheduling
<b>Inventory</b>	Incorrect kanban size Excess ordering	Real-time kanban sizing Integration with BOM

## Selling Tips

- Know the names and strengths of the largest manufacturers worldwide
- Know the names of the key competitors to the manufacturers that you are supporting
- Connect with your Symbol CAM(s)
- Schedule visits to understand operational practices

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## Top Trends\*

### CPG/Food & Beverage

- Slight slowdown in sales
- Compliance with RFID mandates
- Consolidation in customer base
- Globalization
- Connecting to the shelf at the retailer
- Brand Managers vs. Manufacturers is accelerating

### PetroChem

- Having a great year and spending money
- Asset focused, but few new refineries
- I-safe is key
- Retail is important solution

### Aerospace

- Slight increase after a very bad year
- RFID and Track and Trace is major focus

### Automotive OEMs

- Toyota still dominating
- GM spending is up
- 2D barcode is becoming mandatory
- Lean still the buzzword
- Non-EPC RFID becoming important
- China

### Automotive Suppliers

- Extraordinary cost pressure
- Continued consolidation
- Error-proofing and Lean are hot trends
- Globalization

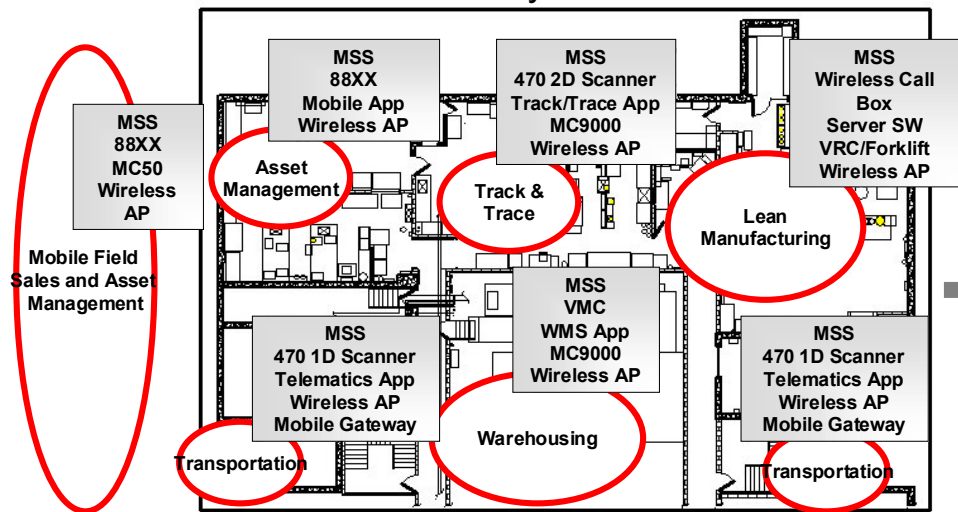
### Pharma

- Another great year and spending money
- Track and Trace is critical
- Lean Manufacturing becoming hot

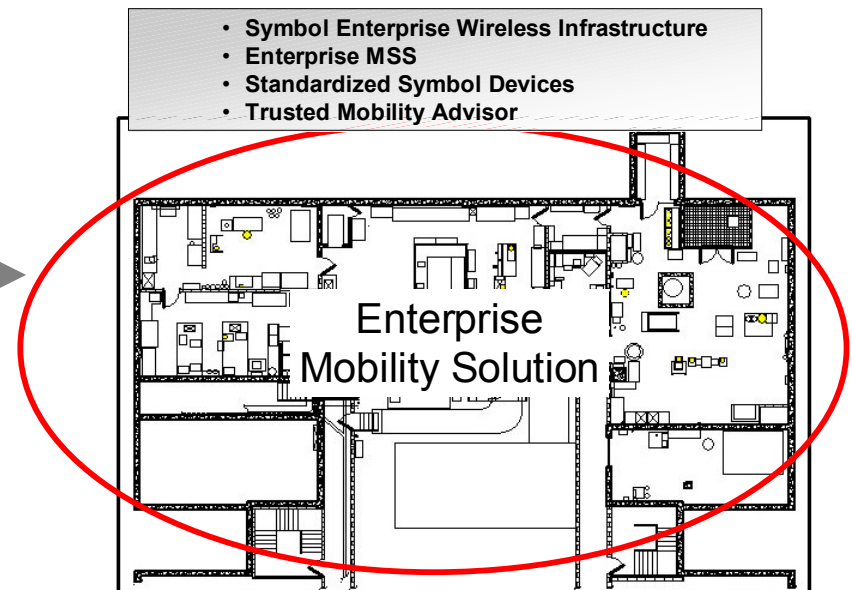
\*As reported by Symbol Industry Experts

## Where Mobility Matters in Manufacturing

### Inefficient Mobility Architecture

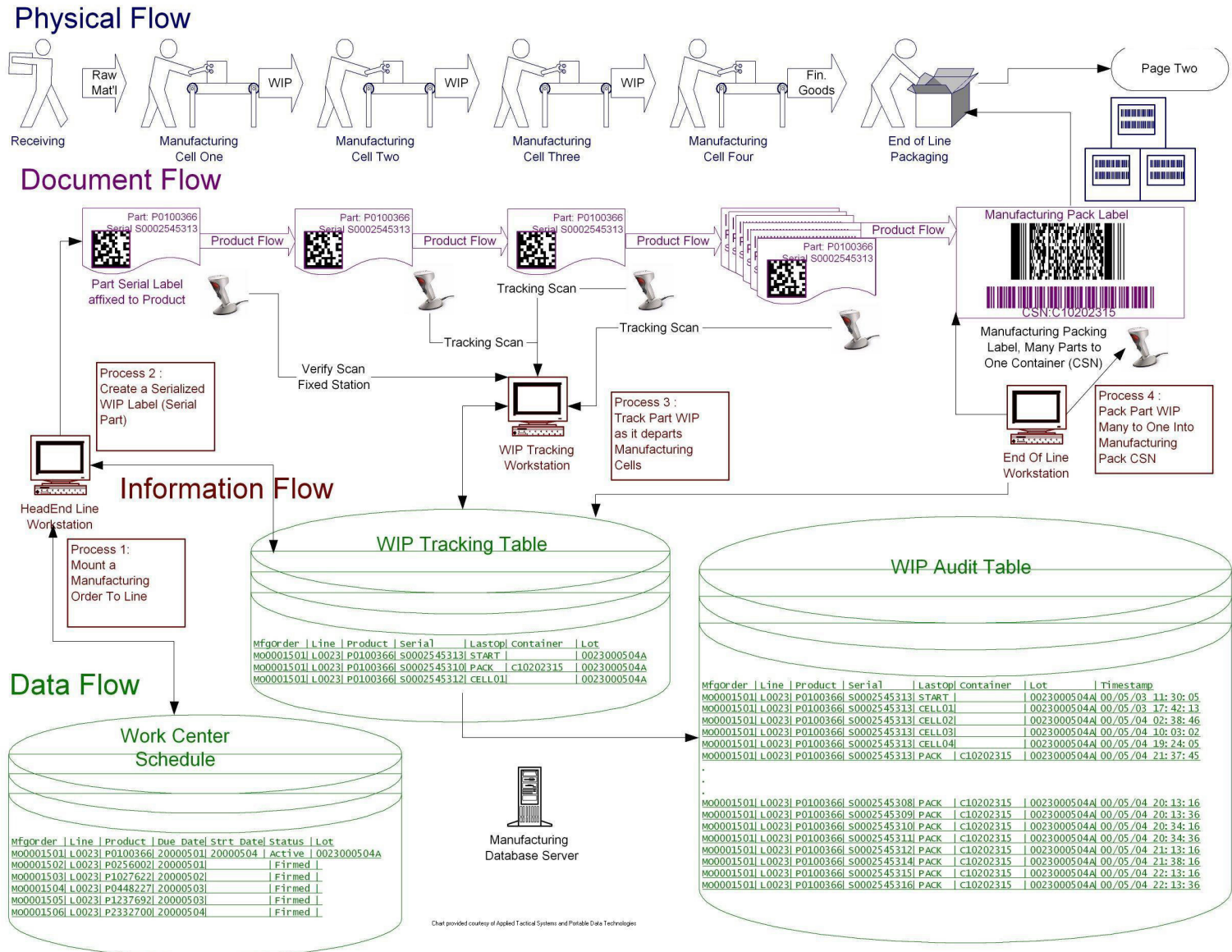


### Enterprise Mobility for Manufacturing



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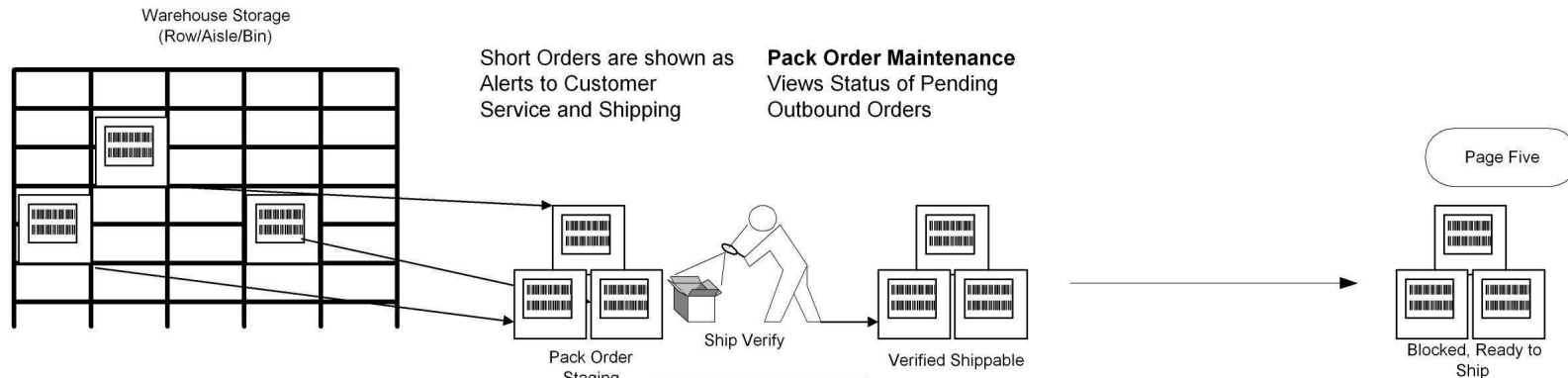
## Error-Proofing the Shop Floor with Mobility



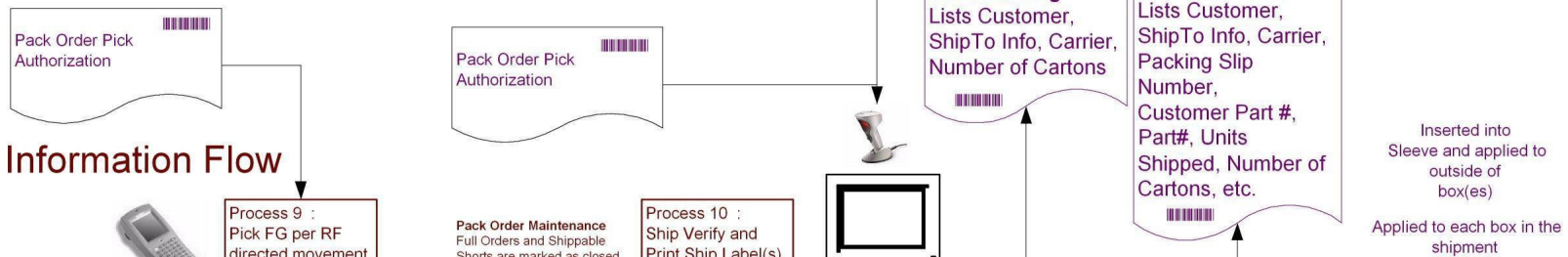
# Manufacturing Snapshot

## Error-Proofing the Warehouse with Mobility

### Physical Flow



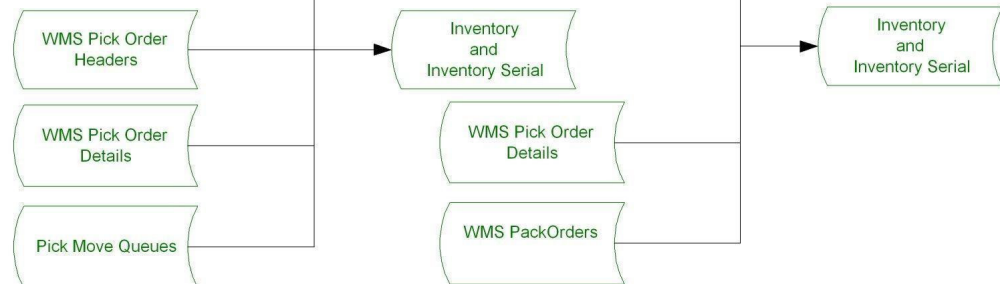
### Document Flow



### Information Flow



### Data Flow



**GM 1724A Shipto Label**

FROM: GRAND TRAVELER PLASTICS 5780 HOORE RD. MELLDSBURG, HI 49690 (231) 267 5221 MADE IN THE USA

TO: FORT WAYNE ASSEMBLY PLANT 12200 LAFAYETTE CENTER RD ROANOKE, IN. 46783

PLANT: FW JJJ

SHIP NUMBER: 12561486

72 PCS REV: 001

REFERENCE: JE37A05

NEW DATE: 24Mar2000

UN 043352038 200171473

CONF #: C1D0001N LOT #: 83358 PD # 17611

TEST Z13 EMPTY: XXXXXXXX S

TEST Z16 SHIELD ASM

FORT WAYNE (30501)

# Manufacturing Snapshot

## Manufacturing / Production

Application Components	Symbol Components	Value Proposition
<ul style="list-style-type: none"> <li>Lean</li> <li>Production Data Collection</li> <li>Error-Proofing</li> <li>Shop Floor/Line Sequencing</li> <li>Machine Monitoring</li> <li>Mobile Automation</li> </ul>	<ul style="list-style-type: none"> <li>Handheld Mobile Computer(s)</li> <li>Vehicle Cradle(s)</li> <li>WLAN / WWAN / PAN</li> <li>Wireless Switch</li> <li>BT Printer(s)</li> <li>Cradles</li> <li>MSS</li> <li>Service</li> </ul>	<ul style="list-style-type: none"> <li>↑ Management Visibility</li> <li>↑ Operating Cost</li> <li>↑ Productivity</li> <li>↑ Asset Utilization</li> <li>↓ Cycle Time</li> <li>↑ Product Quality</li> <li>↑ Perfect Orders</li> <li>↑ Data Accuracy</li> <li>↑ Delivery Reliability</li> </ul>

## Fleet Management

Application Components	Symbol Components	Value Proposition
<ul style="list-style-type: none"> <li>Automated Vehicle Location (AVL)</li> <li>Vehicle/ Driver Performance Monitoring</li> <li>Driver Hours of Service Logs</li> <li>Fuel Tax Reporting</li> </ul>	<ul style="list-style-type: none"> <li>Handheld (s)</li> <li>Vehicle Cradle(s)</li> <li>In-Vehicle Computer(s) / J1708</li> <li>WLAN / WWAN /GPS</li> <li>Wireless Switch</li> <li>Access Ports</li> <li>BT Printer(s)</li> <li>Charging Cradles</li> <li>MSS</li> <li>Service</li> </ul>	<ul style="list-style-type: none"> <li>↑ Vehicle Utilization</li> <li>↓ Out of Route Miles</li> <li>↑ Driver Productivity</li> <li>↓ Operating Cost</li> <li>↓ Cycle Time</li> <li>↑ Stops/ Hour</li> <li>↑ Data Accuracy</li> <li>↓ Mis-Ships</li> <li>↑ Order Fill Rates</li> </ul>

## Quality Management

Application Components	Symbol Components	Value Proposition
<ul style="list-style-type: none"> <li>Production Track and Trace</li> <li>Mobile Forms</li> <li>Real-time SPC</li> <li>Six-Sigma Data Capture</li> <li>Environmental Compliance and Waste Management</li> </ul>	<ul style="list-style-type: none"> <li>Handheld Mobile Computer(s)</li> <li>Scanners</li> <li>WLAN / WWAN / PAN</li> <li>Wireless Switch</li> <li>Access Ports</li> <li>BT Printer(s)</li> <li>Cradles</li> <li>MSS</li> <li>Service</li> </ul>	<ul style="list-style-type: none"> <li>↑ Visibility</li> <li>↓ Operating Cost</li> <li>↑ Product Quality</li> <li>↑ Perfect Orders</li> <li>↑ Data Accuracy</li> <li>↑ Delivery Reliability</li> <li>↓ Capital Outlay</li> <li>↓ Data Entry</li> <li>↓ Warranty/Liability</li> </ul>

## Warehouse Management

Application Components	Symbol Components	Value Proposition
<ul style="list-style-type: none"> <li>Warehouse Mobility</li> <li>Receiving</li> <li>Put-away</li> <li>Storage</li> <li>Picking</li> <li>Packing</li> <li>Shipping</li> <li>Material Tracking</li> <li>Raw Material Sequencing</li> <li>VMI</li> </ul>	<ul style="list-style-type: none"> <li>Handheld(s)</li> <li>Vehicle Mount(s)</li> <li>Scanners</li> <li>WLAN / VOIP</li> <li>Wireless Switch</li> <li>Access Ports</li> <li>Charging Cradles</li> <li>MSS</li> <li>Service</li> </ul>	<ul style="list-style-type: none"> <li>↓ Cost</li> <li>↑ Inventory Accuracy</li> <li>↑ Labor Productivity</li> <li>↓ Cycle Time</li> <li>↑ Throughput</li> <li>↑ Asset Utilization</li> <li>↑ Storage Efficiency</li> <li>↑ Order Fill Rates</li> </ul>

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## Field/Industrial CRM

Application Components	Symbol Components	Value Proposition
<ul style="list-style-type: none"> <li>• Equipment Field Service</li> <li>• Mobile Field Sales</li> </ul>	<ul style="list-style-type: none"> <li>• Handheld Mobile Computer(s)</li> <li>• Scanners</li> <li>• WLAN / WWAN / PAN</li> <li>• Wireless Switch</li> <li>• Access Ports</li> <li>• BT Printer(s)</li> <li>• Charging Cradles</li> <li>• MSS</li> <li>• Service</li> </ul>	<ul style="list-style-type: none"> <li>• ↑ Management Visibility</li> <li>• ↓ Operating Cost</li> <li>• ↑ Field Productivity</li> <li>• ↑ Asset Utilization</li> <li>• ↑ Customer Service</li> <li>• ↑ Service Quality</li> <li>• ↑ Perfect Orders</li> <li>• ↑ Data Accuracy</li> <li>• ↑ Service Delivery Reliability</li> </ul>

## Enterprise Asset Management

Application Components	Symbol Components	Value Proposition
<ul style="list-style-type: none"> <li>• Work Order Management</li> <li>• Parts Inventory Management</li> <li>• Tool Crib Management</li> <li>• Real-time Access to Tech. Resources</li> <li>• Mobile Asset Management</li> <li>• Mobile Asset Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Handheld Mobile</li> <li>• Handheld(s)</li> <li>• WLAN / WWAN</li> <li>• Wireless Switch</li> <li>• Access Ports</li> <li>• Charging Cradles</li> <li>• MSS</li> <li>• Service</li> </ul>	<ul style="list-style-type: none"> <li>• ↓ Cost</li> <li>• ↑ Inventory Accuracy</li> <li>• ↑ Productivity</li> <li>• ↓ Mean-time to Repair</li> <li>• ↓ MRO Inventory</li> <li>• ↑ Asset Utilization</li> <li>• ↓ Downtime</li> <li>• ↑ Accuracy of Maintenance Records</li> </ul>

## Opportunity Priorities in Manufacturing

Vertical	T&L/Fleet	Warehouse	Sales Force Automation	EAM	Lean	Track & Trace	Wireless Automation	Penetration Potential
CPG (F&B)	1	1	2	2	3	1	2	15%
Automotive	1	1	2	1	1	1	1	20%
Life Science	3	2	1	1	2	1	1	11%
High Tech	3	2	2	2	1	3	1	12%
PetroChem	1	2	3	1	3	3	1	15%
Aero/Defense	3	2	3	2	3	1	2	7%
Other	2	2	2	2	3	2	2	10%

1 = Highest Priority, Immediate Opportunity

2 = Medium Priority, Company-by-Company Opportunity

3 = Lowest Priority, Isolated Opportunity in Certain Companies

### About Symbol

Symbol Technologies, Inc., The Enterprise Mobility Company™, is a recognized worldwide leader in enterprise mobility, delivering products and solutions that capture, move and manage information in real time to and from the point of business activity. Symbol enterprise mobility solutions integrate advanced data capture products, radio frequency identification technology, mobile computing platforms, wireless infrastructure, mobility software and world-class services programs under the Symbol Enterprise Mobility Services brand. Symbol enterprise mobility products and solutions are proven to increase workforce productivity, reduce operating costs, drive operational efficiencies and realize competitive advantages for the world's leading companies. More information is available at <http://www.symbol.com>.