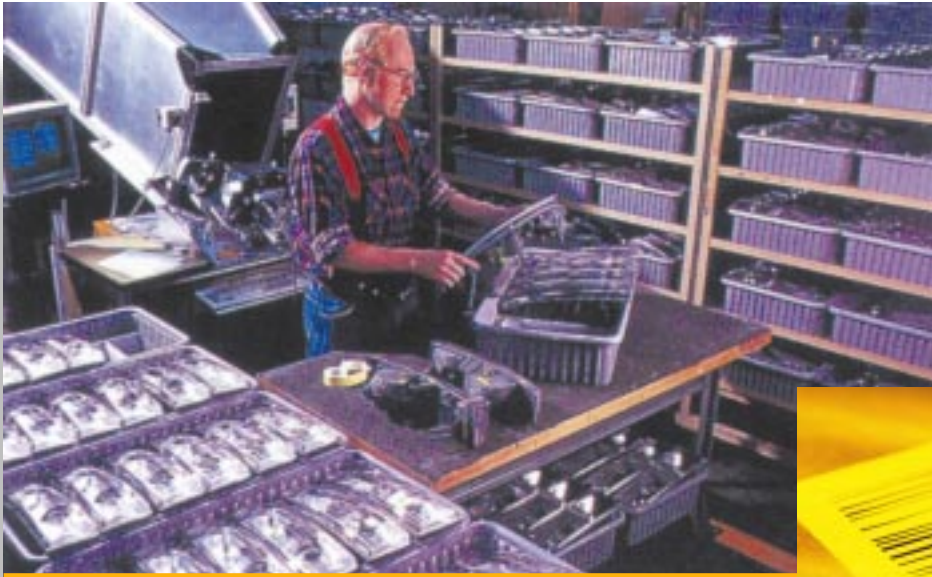


# How To Meet The New Manufacturing Challenge



**A guide to improving  
your ERP, Supply Chain,  
and E-commerce operations**



# For Manufacturers, it's a wave Symbol is here to help.

If you're running a manufacturing operation, you know that things are changing. Fast.

Just a few years ago, your company was probably using a home-grown system to manage your manufacturing operation. Then came the ERP revolution. Just when you were getting the hang of your ERP system (no small achievement), the Internet/E-commerce revolution turned things upside down again.

Which brings us to the present. To what we at Symbol Technologies call the era of "new manufacturing." In the age of new manufacturing, you stop going it alone. Instead, you partner with your materials suppliers, logistics providers, and customers in order to share costs and stay competitive.

New manufacturers work hard to get the most from their investment in ERP. But they're also forward-looking. Some are starting to order components via online auctions, or are finding new ways to facilitate outsourcing. Others are looking for innovative new ways to manage raw materials and master production, packaging, and shipping issues.

Symbol Technologies can help. You see, we can give users the ability to enter and access real-time, accurate data right from the manufacturing or warehouse floor.

Accurate, reliable data capture allows you to make decisions that can reduce the warehousing of raw materials, the accumulation of buffer stock, and the inventory of finished goods.

The bottom line? Real-time data allows the entire production process to be *synchronized*. Which translates into an enormous competitive advantage. By combining the power of Symbol Technologies wireless network solutions and bar code data capture products, and the expertise and experience of our Business Partners, we can put you where you really want to be.

In total control of information.



## Extending the power of ERP.

We understand that your ERP system represents a huge investment. The question is, how can you get the biggest return from that investment as quickly as possible?

Symbol Technologies has answers. You see, we specialize in helping manufacturers like you unlock the full potential of their ERP system by giving users the ability to enter and access real-time, accurate data right from the manufacturing or warehouse floor. But let's get specific.

With a plant floor that uses the latest wireless technology, you can forget about running wires and "tethering" people to bulky equipment. And you won't have to wait around for employees to laboriously (and often inaccurately) enter data by hand. This means that transactions move quickly and error-free from your plant floor or warehouse right into your ERP system. The wireless plant floor is the wave of the future and it's available *now* at an affordable price.

Isn't it time you found out more about how Symbol and its Business Partners can make sure your key business processes execute quickly, consistently, and reliably?

# hole new world.

## **Build a supply chain with no weak links.**

As manufacturers are quickly discovering, competition isn't just between companies these days. It's between supply chains as well.

That's because, in this challenging new era, competitive advantage can be gained by connecting a company's key systems to those of its suppliers, partners, and customers. Tight integration of the supply chain is proving an effective way to speed time-to-market, reduce distribution costs, and get the right products to the right place at the right time.

Of course, the strength of an integrated supply chain depends on the quality of the data in the system. That's where Symbol comes in. You see, a Symbol-based wireless data collection system can help you avoid the inevitable human errors inherent in a manual system, and provide real-time information that your supply chain can put to use immediately.

If you're looking for innovative new ways to slash manufacturing costs, increase productivity, and dramatically boost profits, take a close look at what Symbol Technologies can do for you and your supply chain.

## **E-commerce is just a buzzword without manufacturing behind it.**

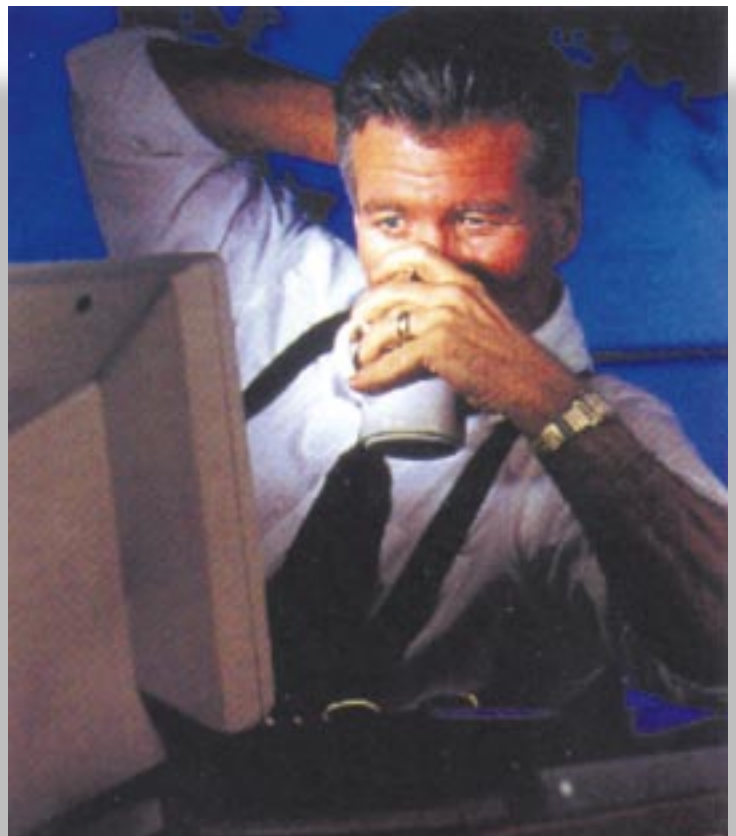
E-commerce and the Internet are at the forefront of the "new manufacturing" revolution. But behind all the headlines and the hype lies a stark reality — without a strong manufacturing/warehousing/distribution operation supporting the total enterprise, serious problems can arise.

Today, a successful Business-to-Consumer or Business-to-Business "dot com" company needs to master *many* challenges. For example, accurate merchandise order-picking and rigorous inventory control can have a huge impact on the bottom line.

Symbol and its partners offer a wide range of solutions that can make your E-commerce operation profitable. For example, using the latest bar code and wireless technology, you can create a computerized warehouse management system — one that runs on a wireless network using a system based on a hands-free, wearable computer. The computer is comprised of a ring bar-code scanner, or a back-of-the-hand wearable scanner, that's tied to a radio-equipped, battery-operated computer.

As the merchandise is prepared for shipment, the bar-code data is scanned for inventory recording and transferred to the wrist computer. The data is then instantly relayed to the computer center via a wireless LAN radio in the wrist unit.

No matter what the E-commerce manufacturing challenge, Symbol has proven, cost-effective solutions you can use *now*.



# Symbol Technologies helps manufacturers every s

**From receiving raw materials to delivering your product, we can give you a competitive edge.**

**Raw Materials Receiving** - When you're analyzing your manufacturing process and are taking a look at how bar code data capture systems can make your operation more efficient, the logical place to start is raw materials receiving.

Whether incoming materials are bar coded or not, it's the place you verify items, quantities, and ship dates, and make certain that they conform to the terms established with your vendors. Receiving must also notify Production, Purchasing, Incoming Inspection, and Accounts Payable of the receipt.

Bar code data capture streamlines all the steps above. That's because manually matching shipping documents against purchase order records is *extremely labor-intensive*. Bar coding shipments at the source makes the task much more efficient and far less time-consuming.

**Incoming Inspection** - Once it's received, production material must be inspected before it can be inducted into raw material stores or issued to the production floor. A formal inspection procedure should exist for each item, and should include the parameters for accepting and rejecting production material.

All too often, inspection results are recorded on a clipboard or manifest which is keyed into a database at a later date. However, by using a bar coded menu of inspection criteria and results, it's easy to associate the results of an inspection with the item being inspected.

By quickly scanning the item's "license plate" and the results of the inspection, all information is captured quickly and accurately. The identity

of the inspector can also be captured by scanning a bar coded identification badge as part of the inspection process. This accountability can increase inspection accuracy, fast!

## Manufacturing Floor:

**Work In Process (WIP)** - Once material is issued to the production process, it may be difficult to track how much material is actually in WIP. However, when materials are pulled from a bar coded pick list, and are issued against a bar coded work order, total control is maintained. When you bar code all the operations, work centers, and control points of the manufacturing process, you can be sure of accurate WIP tracking.



# step of the way.

**Quality Assurance, Test Reporting, Scrap, Reworks, SPC** - As material and sub-assemblies move through the manufacturing process, quality assurance tests must be performed and the results recorded. By applying bar coded labels to each sub-assembly, and later to the final product, progress can be tracked throughout the quality assurance process.

Should an assembly fail, the reason for the failure can be instantly tracked to the assembly itself. This information can be used to track yields and efficiently direct the rework efforts.

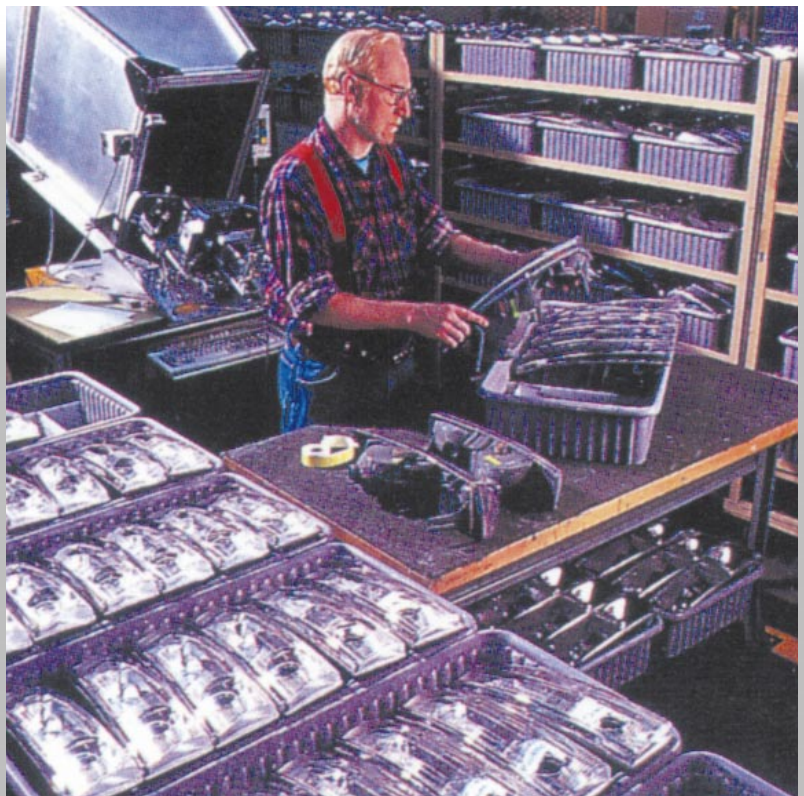
**Packaging** - The packaging function involves boxing individual products with collateral materials. A mispacked product becomes a D.O.A. However, by scanning bar coded products and collateral materials, you can be sure you achieve accurate packaging inspection during the entire packaging process.

**Finished Goods** - Finished goods inventory management demands that inventory be made available by part number, location, quantity, serial number, and date of manufacture. The database(s) created through the use of bar code data capture can be used to automate the management of your entire finished goods inventory.

Finished goods put-away and order picking can also be automated to allow interactive management of these functions. Interactive inventory management allows your inventory clerks and forklift drivers to work with your warehousing system every step of the way. Part numbers, quantities, and locations are verified, which ensures that the correct item, in the exact quantity, is stored or picked from the correct location.

**Packing & Shipping** - During the order packing process, verification of each customer's order can be done in a similar manner. A customer's manifest, built by a serial number, can also be used by Accounts Receivable and Field Service to facilitate customer billing and the warranty process.

The same manifest can be used to estimate the total weight of a customer's order. By capturing the shipment's actual weight from an electronic scale, another level of verification is built into the shipping process.



# Proven Symbol Products can help you meet any manufacturing challenge.

This should come as no surprise. Symbol Technologies is the world leader in rugged wireless network solutions and bar code data capture technology. Our broad line of products are suited to a wide range of tough, demanding industrial environments.

Working with our Business Partners, we offer solutions that can help you cut costs and inventories, fast. Here's a quick introduction to just a few of the most important underlying technologies that can help you gather vital information for your manufacturing system. We'd be delighted to help you decide which product, or mix of products, can best meet *your* company's unique needs.



**WSS 1000 Wearable Scanning System** - This breakthrough system lets users achieve totally new levels of productivity and accuracy. Never before could scanning, portable computing, and wireless networking be performed while the user's hands remained totally free for handling packages, products, inventory, or materials. The WSS 1000 consists of an RS 1 Ring Scanner worn on the index finger and a lightweight computer worn on the forearm.



**VRC 6900 Vehicle Radio Computer Series** - The heavy-duty VCR 6900 computers mount directly to forklift trucks, allowing operators to wirelessly collect and transmit data to the host from the factory or warehouse floor.

These truck-mounted computers facilitate real-time management of materials, work-in-process, and finished goods. The heavy-duty VRC 6900 is precision-engineered to withstand extreme temperatures and the harshest manufacturing environment.



**PDT 6800 Series of Portable Data Terminals** - The PDT 6800 Series are rugged, lightweight, portable data terminals that combine mobile computing and optional wireless communications with comfortable, well-balanced "forward-scanning" ergonomics. Designed for harsh environments, the PDT 6800 is small enough for scan-intensive applications in receiving, inventory management and replenishment, and more.



**NetVision® Data Phone** - The NetVision Data Phone combines voice communication, data capture capabilities, bar code scanning, embedded thin client, and a radio card into a single, lightweight device. And while the NetVision Data Phone looks like a cellular phone, it employs Symbol's Spectrum24 industry standard wireless LAN to collect and transmit data and voice. When you start using the NetVision Data Phone, you'll find it's easy to increase productivity, improve service, and cut costs.



**PPT 2700 family of rugged, Windows® CE-based computers** - This pocketable, compact computer combines ruggedized mobility, bar code scanning, and wireless LAN connectivity with the widely popular Microsoft Palm-size PC platform. Designed to fit comfortably in either hand, the PPT 2700 operates by touch or pen input and allows the user to navigate applications through the familiar Windows-based environment. Because it's an "Extreme Environments" product, it can stand up to rain, dust, frequent drops, and a lot more.

# We're the source for what you really need. A complete solution.

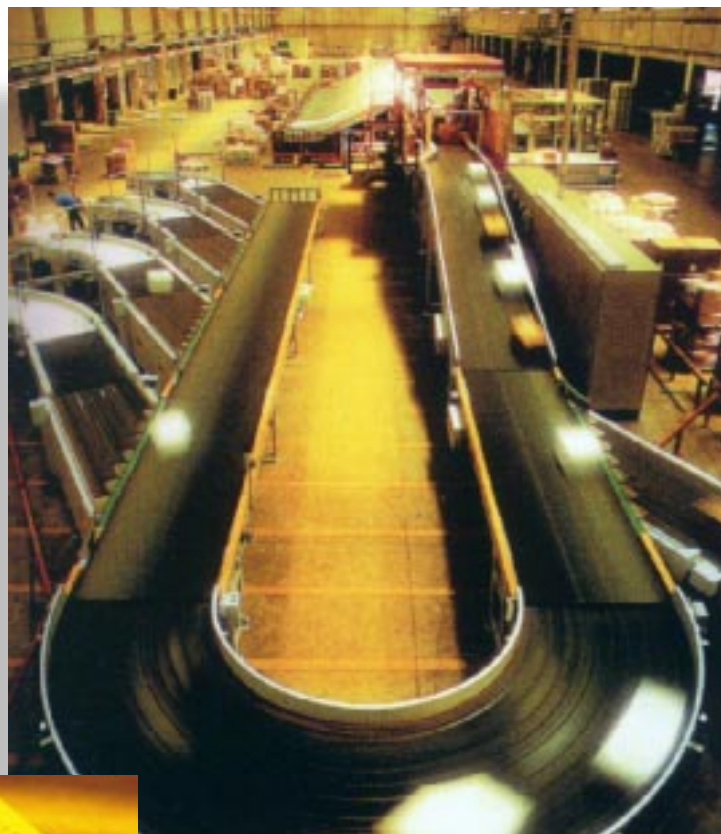
We know that you're not looking for piece-meal answers.

You want complete solutions to the new manufacturing problems you face. That's why it's important to know that Symbol's point-of-activity solutions support ERP-certified data collection solutions from every major provider — solutions that mesh with your Management Execution Systems, Manufacturing Resource Planning, and Warehouse Management Systems.

Symbol and its business partners provide everything you need, from networks, to printers, to warehouse and logistics solutions for real-time data capture, all along the supply chain.

We can help . . .

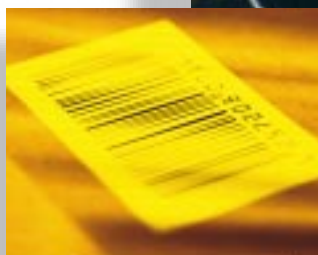
- Capture and transmit data the instant it changes, anytime, anywhere.
- Error-proof data and processes for better accuracy.
- Design efficient "just-in-time" manufacturing procedures that pull materials and products through the supply chain.



## We'll protect your investment in the years ahead.

Investment protection is built into every Symbol solution. In fact, Symbol provides a clear road map for development strategies. This allows you to develop well-defined product and operating system migration plans that let you take full advantage of technology developments.

If you're looking for innovative ways to improve your bottom line and meet the tough competitive challenges you face, take a close look at what Symbol Technologies can do for your organization.



# Team up with the global leader. Symbol Technologies.



**"Want to find out what wireless network solutions and bar code data technology can do for**

**your business or organization? Consider this a personal invitation to give us a call. We'd be delighted to learn about your manufacturing operation and then give you some practical ideas that could save you a lot of money. Please remember that we're not a sales unit. Our only job is to introduce forward-looking manufacturers like you to exciting technologies that are proving themselves every day. We hope to hear from you soon!"**

*Peg Haigy, Symbol Response Center*

Symbol Technologies, Inc. is a global leader in wireless and Internet-based mobile data management systems and services. Symbol provides its customers unique value with innovative solutions utilizing application-specific information appliances, data and voice wireless networks, and bar code data capture systems.

## **We're ready to help whenever you need us.**

Have a question about how wireless network solutions and bar code data capture technology can help you get the most from your manufacturing system? Give our Symbol Response Center a call. This unique Symbol unit does not make sales and does not take orders. Its only purpose is to help you determine how the power of wireless network and bar code data solutions can be harnessed by your business or organization. Our team is always at your service to:

- Discuss your specific application requirements.
- Introduce you to new technologies that can increase productivity.
- Determine how much money wireless network solutions and data capture technology can save you.
- Answer any questions you may have about specific products.
- And that's just for starters!



*Symbol Technologies, Inc.*  
**Corporate Headquarters**  
One Symbol Plaza  
Holtsville, NY 11742-1300  
TEL: 1-800-722-6234/1-631-738-2400  
FAX: 1-631-738-5990

*For Europe, Middle East and Africa*  
**Symbol Technologies**  
**EMEA Division**  
Symbol Place, Winnersh Triangle  
Berkshire, England RG41 5TP  
TEL: 44-118-9457000  
FAX: 44-118-9457500

*For Asia Pacific*  
**Symbol Technologies Asia Inc.**  
**(Singapore Branch)**  
Asia Pacific Division  
230 Victoria Street #04-05  
Bugis Junction Office Tower  
Singapore 188024  
TEL: 65-337-6588/FAX: 65-337-6488

*For North America and Latin America*  
**Symbol Technologies**  
**The Americas**  
One Symbol Plaza  
Holtsville, NY 11742-1300  
TEL: 1-800-722-6234/1-631-738-2400  
FAX: 1-631-738-5990

**Symbol World Wide Web Internet Site**  
For a complete list of Symbol subsidiaries and Symbol Business Partners worldwide contact us at:  
<http://www.symbol.com>  
E-mail: [webmaster@symbol.com](mailto:webmaster@symbol.com)

