



MANUFACTURING

# Optimizing Your Manufacturing Barcode Labeling



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## INTRODUCTION

# Optimizing Your Manufacturing Barcode Labeling

Manufacturing SMBs are growing and want help understanding the equipment for printing barcodes, scanning barcodes, and terminals that can help make business easier.

Barcoding technology helps bring your company into the future with easier fulfillment of orders, greater processing of materials and items, and helping maintain industry compliances.

DecisionPoint Technologies brings decades of experience integrating edge technology for manufacturing companies, pairing deep technical expertise with disciplined processes and people-driven services to help maximize the value of every technology investment.

DecisionPoint is a partner that grows with you, delivering a total, competitively priced solution tailored to your operations. DecisionPoint builds lasting relationships rooted in quality, trust, and accountability and is committed to your long-term success, not short-term wins.

Whether you're just getting started or planning long-term growth, DecisionPoint's specialists help you find the right path for your business and budget. The result is a comprehensive solution that decreases costs, increases efficiency, and improves customer satisfaction.



## PART 1

# Incorporating Barcode Technology Makes Sense

*As a small to medium sized manufacturing business, why would you want to incorporate barcoding technology? Your success is in the details, and those details include accuracy and productivity to meet customer demands. Keeping to a pen and paper system increases opportunities for input error and expends valuable time and energy that can be applied elsewhere in your business.*

Over the past few decades, technology has continually advanced. Moving into the future and growing your business includes embracing this advancing technology.

## Enhance Business Operations

Incorporating barcode technology provides greater accuracy in real-time. You can grow your business with the ability to process more inventory and data to create more orders in less amount of time. Why wouldn't you want to speed up processes to gain more clients and grow your business?

Manufacturing businesses must be able to keep up with the technological advances and increasing omnichannel shopping. In fact, in today's climate, manufacturing productivity and effectiveness are greatly affected by their ability to keep up with the demands of clients and the economy. Barcode technology can be focused for internal or external purposes.

## External Efficiency

A pickle manufacturer gained commercial contracts and needed a better system to create labels with various levels of information for each jar, case, and pallet that shipped to customers. Incorporating barcode technology helped ease their process.

The manufacturer could easily create barcode labels per jar, printing the labels in-house. Each individual jar is then scanned before going into a case, creating one label per case. Each case is then scanned, creating one barcode label per pallet. Each label contains pertinent information for easier processing and tracking of orders all the way to the customer.

## Internal Efficiency

A hummus manufacturer gained a large commercial contract that required immediate hiring to facilitate the demand of that contract. Their company went from 10 employees to 150 employees with that one contract. With that many employees, a manual entry system can quickly become flawed and filled with errors. Incorporating barcode technology can easily manage the data to minimize data entry errors and speed up processing in-house.

## Compliance Matters

While you're growing your business, it's important to know if there are specific barcode label industry compliance standards that your manufacturing company must adhere to. If labels are not done to specific standards, your company can be liable for more than just fines and chargebacks, there is a possibility of legal exposure as well.

The [US Food and Drug Administration \(FDA\)](#) require using a unique device identifier ([UDI](#)) on barcode labels in food, beverage, and medical fields. The United States, European Union, China, and Brazil have specific serialization requirements for pharmaceuticals, with more countries joining to include this requirement. The Automotive Industry Action Group ([AIAG](#)) created industry standards to improve efficiency and accuracy. [ANSI](#) and [ISO](#) are barcode label grading systems based on a letter or a numerical score.



These standards play key roles in identifying, tracking, and tracing products as they move through supply chains across the world.

**Whether it is a simple traceability requirement or a complex regulatory compliance code, incorporating barcode technology can help your manufacturing company minimize fines and exposure.**



## **DecisionPoint has Options to Match Your Needs**

With DecisionPoint, there are affordable options for just starting out, options that provide more flexibility and durability, and options that provide long-lasting solutions. DecisionPoint has a team of specialists that will understand where you are today and where you want to go in the future.

*The next few chapters help explain some differences in the parts to barcode technology and options to match your needs.*



## PART 2

### What's Important to Know About Printing

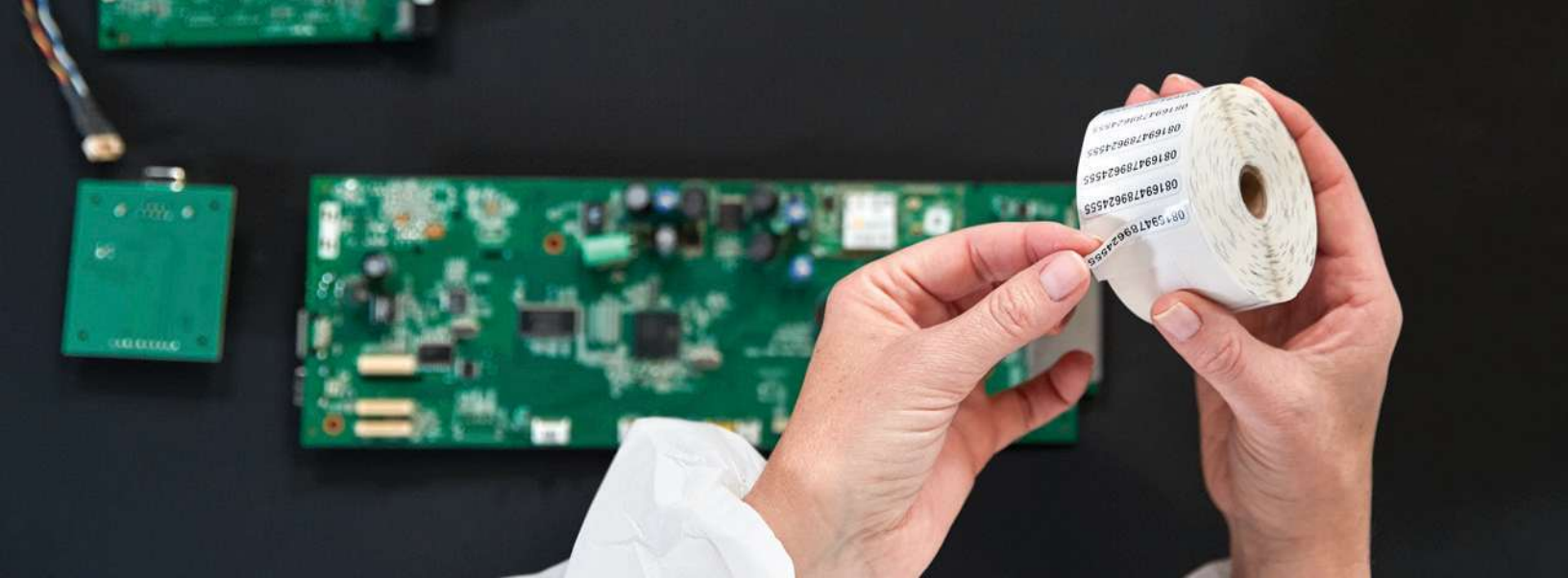
A proper barcode label helps you and your clients ensure compliance standards are met within industry standards.

A barcode label provides information on what a product is and where it goes. Labels are used to track inventory, which is vital to supply chains, inventory management, transportation, sales, asset management, and more.

***When printing your own barcode labels, there are certain factors to consider.***

Printing requirements involve determining the parameters of your barcode printer setup:

- How big of a label do you need to print?
- How many labels do you want or need to print at any one time?
- Will the labels be printed in a centralized method or a distributed method?
- How many work areas will need printer capabilities, or will there be one printer room?



## Font Size Matters

Once you know how your company will be printing labels, the next factors to consider involve the font size on the labels and the size of the barcode itself.

The smaller the font size, the higher the resolution the printhead of the barcode printer needs to be. Printheads come in 203, 300, or 600 DPI (dots per inch). The smaller a label needs to be, the higher the DPI resolution must be to accommodate the size of the label.

## A Printer for Any Function

**Barcode printers** typically come in three varieties: desktop, tabletop, and mobile. Desktop printers are typically smaller and lighter than tabletop printers. Tabletop printers are more durable and can do more functions than a desktop, such as label rewinding and peel and present. If your company needs to print a thousand labels at a time and rewind them back into a roll (label rewinding), then a tabletop printer is the way to go.

**Peel and present label printing** is a method of sending a label job of, for example, a thousand labels to a printer where the job sits in a queue so that one label can be printed at a time, peeled off, and applied. Then it repeats until the queue is emptied.

Another option is using a **mobile barcode label printer** that can print barcodes as employees are walking around working. This is a good option for mobile workflows to minimize interruptions of walking back and forth to a centralized printing location.



## An Option for Any Stage of Business

No matter what stage your business is at, DecisionPoint and Zebra Technologies have the options to support your growth. From just starting out to knowing your business will expand into the future, DecisionPoint can help walk you through Zebra's barcode printer options.

### For SMBs just starting out

Zebra's desktop thermal printer family offers durable, premium-quality printing in a compact form factor — many models include full-color touch displays, remote management with security features, and the ability to print user-defined fonts, graphics, and custom logos. Direct thermal and thermal transfer modes are typically available, with print speeds suitable for low- to mid-volume label runs and multiple connectivity options to fit existing IT environments.

### For SMBs that need greater flexibility and durability

Zebra's mid-range industrial printer family steps up speed, ruggedness, and connectivity. Expect easy integration and backwards compatibility with prior Zebra deployments, printer emulation capabilities, faster print speeds at standard resolutions, and richer connectivity (USB, Serial, Ethernet, USB Host). Optional 300 DPI resolution and RFID capability are available on select models, and many can pair and print with compatible mobile devices.

### For SMBs wanting professional, long-lasting solutions

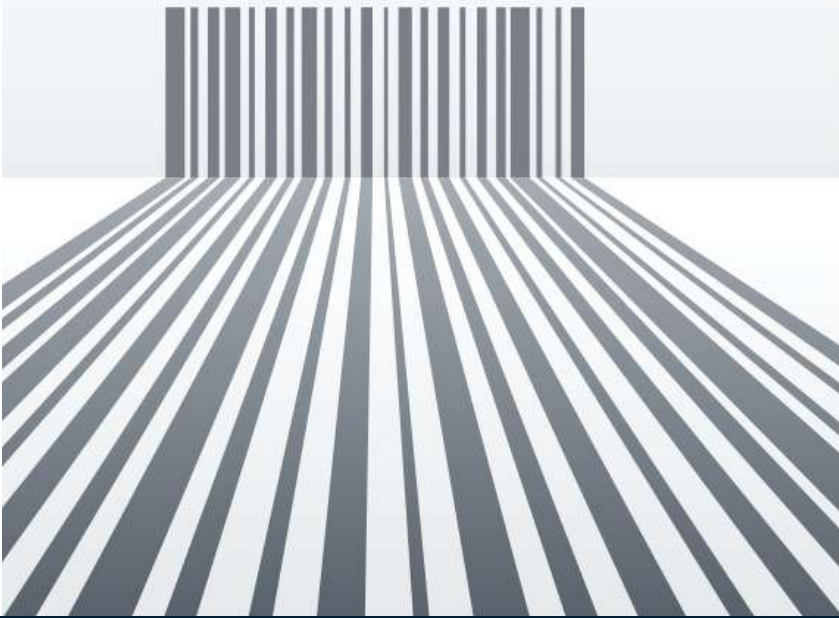
Zebra's heavy-duty industrial printers are built for harsh environments, with metal frames, full-color touch displays, faster print speeds, larger print widths, and an expanded set of connectivity options including Bluetooth and Dual USB Host. RFID is available across the lineup, and industry-specific configurability supports tightly regulated or high-throughput operations.

### **Best practice:**

*match the printer class to your label volume, label size, environment, and growth horizon.*

***DecisionPoint's specialists can help you size the right family from desktop, mid-range industrial, or heavy-duty industrial without overspending on capacity you won't use.***

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## PART 3

# What's Important to Know About Scanning

It's important to know what kind of barcodes your manufacturing SMB is needing to scan to determine what kind of scanners are best suited to your needs.

There are different forms of barcodes, depending on the product it is placed on and the lifecycle requirements of the barcode itself.

- 1D, or linear, barcodes can only hold approximately 20-25 characters.
- 2D barcodes can have a higher data density in a smaller space.
- 2D barcode labels use patterns, shapes, and dots to encrypt more data information and can include images, website addresses, and binary data.

Once you know what kind of barcodes you will be scanning, it's important to determine if you will need tethered scanners or cordless scanners.

- Tethered scanners are typically connected to a host computer via USB cable, which powers the scanner.
- Cordless scanners are portable and typically connect via Bluetooth or Wi-Fi to host computers.

## An Option for Any Stage of Business

From just starting out to facilitating a growing demand, DecisionPoint can help walk you through Zebra's barcode scanner options.

### For SMBs just starting out

Zebra offers handheld scanners and imagers built for everyday operational use. Entry-level models scan 1D barcodes from useful distances and carry IP42 sealing, while step-up handheld imagers add 1D/2D capability, tethered or cordless options, high-resolution imaging sensors, and Zebra's exclusive PRZM Intelligent Imaging technology with IP52 sealing, which is a strong fit when you need broader code support without industrial-grade ruggedness.



### For SMBs that need greater flexibility and durability

Zebra's mid-range scanner series captures laser-etched direct part marks, high-density and low-contrast codes, and wider barcodes (up to 4 inches). Combined with stronger processors, megapixel sensors, PRZM Intelligent Imaging, and IP52 sealing, this tier handles light industrial and high-variability scanning demands without jumping to ultra-rugged pricing.



### For SMBs wanting professional, long-lasting solutions

Zebra's ultra-rugged scanners, available in tethered or cordless configurations, scan 1D/2D barcodes at distances up to 5 ft, read damaged barcodes via high-resolution imaging, and survive 8 ft drops to concrete with thousands of tumbles. IP67 sealing, extreme temperature ratings, and (for cordless) sealed rugged cradles with IP65 sealing make these the right choice for harsh industrial environments and outdoor or freezer use.





## PART 4

# What's Important to Know About Terminals

Terminals can be a vital component to your wireless infrastructure because of their mobility and ruggedness. Terminals are used when your employees need mobility to perform a function, scanning through a workflow for real-time information and data.

Imagine your employees are picking orders. Using a mobile device that enables access to a host interface provides immediate interaction with a database. The employees can see in real-time what orders need to be pulled and what items need to be scanned to the order. As the data is scanned, the host updates the inventory. Inventory problems can be minimized with real-time data.



## An Option for Any Stage of Business

Whatever stage your manufacturing business is at, starting out or planning for long-term future growth, DecisionPoint specialists can help you understand the differences with Zebra's terminals.

### For SMBs just starting out

Zebra's entry-level mobile terminals offer Wi-Fi or cellular connectivity, capacitive touch displays, durable scanner windows, numeric keypads, and Android OS. PRZM Intelligent Imaging technology is included in selected models, and ruggedization is suitable for general business use, including 5 ft drops to concrete and IP65 sealing on covered configurations.

### For SMBs that need greater flexibility and durability

Mid-range terminals add longer-range data capture (with appropriate engines), configurable physical forms (pistol grip, turret with rotating head, straight shooter), broader Wi-Fi support, IP54 sealing, and backwards-compatible accessories — making it easier to refresh the device without replacing chargers, holsters, and other peripherals.

### For SMBs wanting professional, long-lasting solutions

Zebra's ultra-rugged terminals deliver hardened construction, larger capacitive touchscreens, durable scanner windows, IP67 and IP65 sealing per applicable specifications, and operating-temperature ranges that include cold-storage configurations. Android with LifeGuard™ for Android extends OS support and security maintenance, which matters when devices have to last across multiple years of capital cycles.





## PART 5

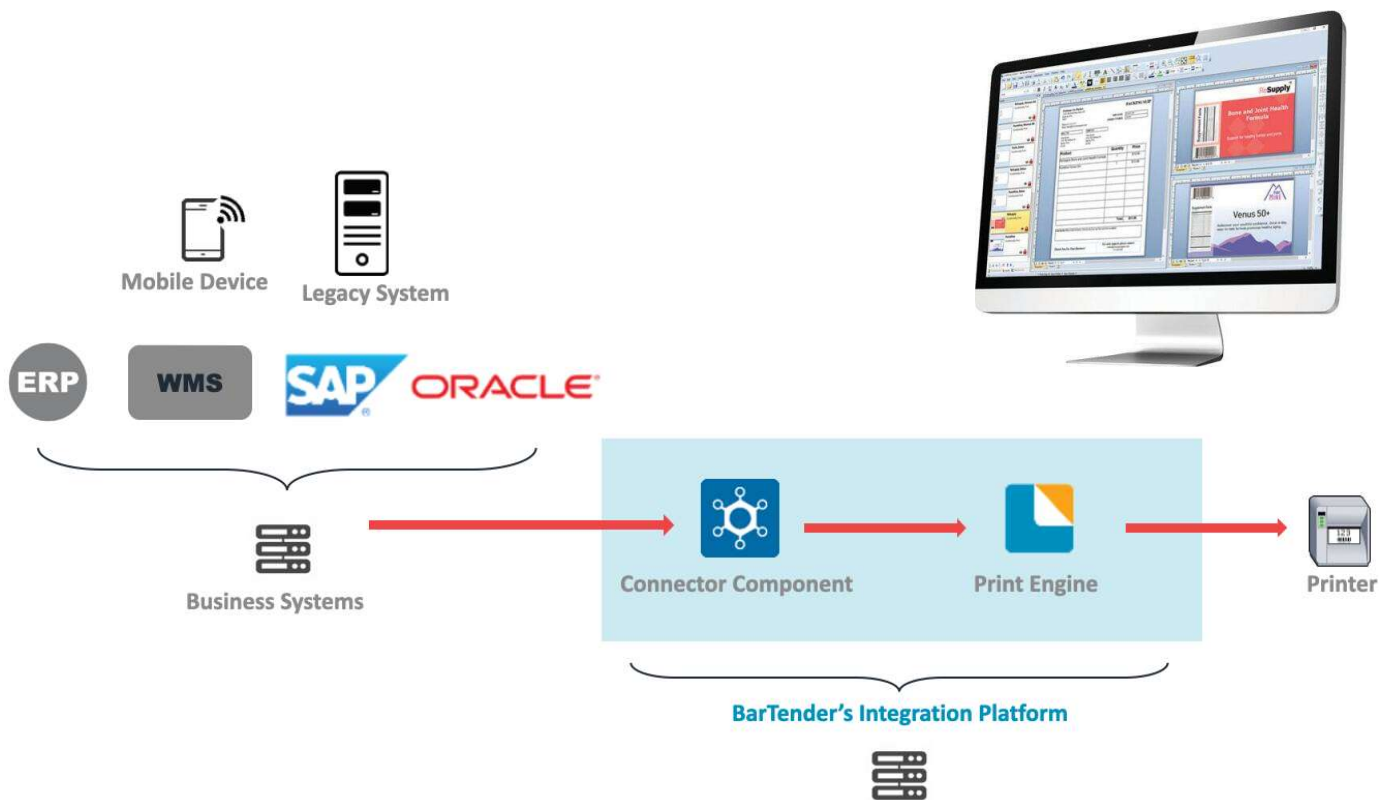
### Integration Components for Success

Each section of the barcode scanning technologies is part of a greater whole. It is an entire system that feeds into each other. If you only invest in one part, the whole system will not properly function. It's a matter of the quality of your barcode labels that are printed out, the quality and function of the scanning and terminal equipment, and the information storage system.

#### Information Management Systems

When you create barcode labels and scan barcodes, the information they contain must go somewhere. Where that somewhere is, is a matter of preference. Starting out, SMB's have been known to use simple spreadsheets created manually, or scan barcode data into a QuickBooks software.

Manually inputting data can lead to erroneous information, which hinders effectiveness. It's also time-consuming to manually input all the data. Creating a company that will be functional for years to come has simple solutions that are integrated with barcode labeling technologies. These systems can store all the data in a centralized location, from inventory to work orders to item locations.



### ERP Systems

Connecting and using an Enterprise Resource Planning (ERP) system can provide a direct interface between the barcode labeling system and the ERP system. Your business operations can benefit with real-time inventory information while maintaining the look and feel of your current systems and keep production flowing smoothly.

### Inventory Management Systems

Inventory management affects a company's profitability and productivity. To process orders, employees need to know where items are, if there's enough to fill an order, and have accurate data. Linking your inventory management system to your barcode system provides real-time information that is accurate and reliable.

### Warehouse Management Systems

Creating a smarter warehouse for your future will help your manufacturing business keep up with customer demands and your growing needs. When you look around at your warehouse, do you have a highly efficient system? Installing smart labels for easy scanning and enhancing the visibility of your signs will boost productivity and expedite order fulfillment.



## CONCLUSION

### **Barcode Labeling is an Interconnected System**

When you incorporate a complete barcode labeling system, the process becomes simpler which enhances operational efficiency. Every aspect of barcode labeling technology, from barcode label printers to scanners to terminals, creates an interconnected system that can help your company thrive and grow into the future.

With decades of experience and product knowledge, DecisionPoint is an industry-leading provider and a Premier Solution Partner for Zebra Technologies barcode printers, scanners, and terminals. Some clients have been with DecisionPoint from the start of the company. Every client is about building a lasting relationship to facilitate client growth and future sustainability.

#### **Servicing helps maintain the integrity of your barcode technology.**

Service contracts are available to make sure your equipment, and products are working and ready to go. Mobile and desktop printers are designed to be service at depots, while the bigger tabletop printers are serviced within your facility.

**[Contact us](#) today to see what we can do for you.**