



THREE STEPS TO A SUCCESSFUL DATA COLLECTION SYSTEM IMPLEMENTATION

Software salespeople tend to try to convince you that the path to the inventory/traceability system of your dreams is to simply buy and install their system and watch all the wonderful reports spill out daily. But those of us who have lived through that “dream” understand that there’s more to the successful implementation of a data collection system than pure installation and training alone.

We have found that there are three steps to a successful barcode project:

- Identify
- Collect
- Report

Before you can report on data, you have to collect it. And before you can collect data on any given item, you have to identify it. Here is a brief breakdown of the three steps:

Identify

Although this appears to be obvious, this is actually the hardest step of all. Think about every part or item that you would want to identify for purposes of scanning and tracking. Now think about how you can identify that item. Here are some questions to ponder:

- If it’s an individual item, can you label it, embed an RFID tag in it, or mark it?
- If it’s a container, can you put a paper label with a barcode on it? How about an RFID label? What barcode symbology should you use (one-dimensional like Code 128 or Code 39, or maybe two-dimensional like PDF417 or Data Matrix)?
- If it’s a pallet, consider the fact that wooden pallets generally won’t support paper labels or RFID tags. Can you even put a label on it at all?
- What if the item is produced in a liquid/chemical batch, or loose like ground beef and moved on a conveyor or through tubes?
- How should you apply the identification? Is a label applied by hand or via automated applicator? If part marked, is it laser etched or dot peened?
- How do you create a barcode label? Is it controlled through a central labeling system or directed via a PLC or scale (using a Smart Printer)?
- How do you maintain identification of an item if loose individual items are picked out of a labeled container and transferred to a production cell or supermarket?
- Do you create unique serial numbers for each item/container/pallet or do you track by item number and lot number only?

These are just some of the kinds of questions that must be answered in order to give the next step (Collect) a chance to succeed.

Collect

Once you have every item identified in some form, you're ready to collect the data on that item. This is the second hardest step. In the barcode world, this is typically done via scanning. But you also can utilize other data collection technologies like RFID readers or vision systems.

First you have to determine the physical and logical places where the data collection needs to occur. These are commonly referred to as Reporting Points. Once that is completed, there are several methods you can use to record data about an item:

- Handheld scanner/terminal
- Fixed scanner/terminal
- RFID reader
- Vision camera
- Sensor
- PLC
- Keyboard entry

Each of these technologies must be evaluated case-by-case to make sure it can reliably and accurately record information about an item at any given Reporting Point.

Report

Once all the data is collected, you have to use that information to provide valuable and accurate feedback to both operators and management so that they can make informed decisions. Since this is where most business systems step in, this is the easiest of the three steps. But there are still some factors to consider:

- Do reports need to be made available via different delivery mechanisms (i.e. Internet, local network, PDF, export to Excel)?
- How flexible do the sort and selection criteria need to be, and how does this affect how you'll organize your database?
- What types of devices will the reports be viewed on (i.e. PC/laptop, smart phone, tablet)?
- Is there a need for a more interactive report module or dashboard that management can use to access and retrieve information in real time?

Once you have created the road map for these three steps, you will be much better prepared to evaluate the various technologies and solutions available in the marketplace.

