RFID: Breaking the Bar-Code Mold

Simplifying Software, Inc.

Some auto manufacturers use RFID systems to move cars down their assembly line. At each stage of production, the updatable product RFID tag tells the auto-mated manufacturing system what should be the next step of its assembly. *Simplifying* is applying the same principle to quality-assuring biological detec-tion products throughout their manufacturing and validation protocols.

We are introducing "RF/ID" to our product line. Our expertise in ADC comes primarily from pro-viding our bar-coding solution, "RF/BAR," to our MFG/PRO ADC customers since 1998.

RF/BAR & RF/ID run inside of MFG/PRO, so RF/BAR programs can be used alongside most competition's bar-coding software & hardware (no need to replace assets you may already possess). And we offer our bar-coding solutions at a lower cost than other providers.

Our solutions include helping you understand, integrate, and validate your ADC processes. We also provide continuous improvement of RF/BAR programs after implementation, included as part of our customer services. We help our RF/BAR customers discover, with bar-codes and RFID, even more ways to improve their operations with process improvement enhancements.

Transitioning from Bar-Coding to RFID

If you are introducing RFID into your company by "slapping" pre-printed RFID labels on Walmart-bound shipping pallets, consider the following as your next RFID steps:

1. Why not attach ($0.50) RFID labels to all outbound items, and use stationary RFID readers to gather and validate the contents of outbound pallets automatically? Why not then write the full contents of each pallet on its new, writable (still Walmart-compliant) RFID label?
2. If RFID labels are attached to all finished goods, why not use portable RFID/bar-code readers to perform Cycle Counting and Physical Inventory, by reading the collection (inventory location) of RFID-labeled Items – rather than sequentially reading individual bar-coded items? Scanning Item bar-code labels can provide automated exception activity entry, etc.
3. If your products warrant having a "**Device Master Record**" associated with them, why not include it in the updatable RFID label as the product is being manufactured and validated, so the customer will know, for example, precisely what's being received?
4. When handling RMA's, why not use updatable RFID labels to receive items, record the rework done, and then record the return-ship?

Together, we can come up with many other ways to help you benefit from RFID, and expand the use of your customer-mandated RFID Item & Container Labels.

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Comparison of RFID and Bar-Coding

	RADIO FREQUENCY ID (*RF/ID*)	BAR-CODE ID (*RF/BAR*)
Labeling	RFID Label uniquely identifies the Item, or Container of Items, and much more.	Bar-Code Label uniquely identifies the Item, or Container of Items.
Communications	RFID labels are radio frequency (RF) transceivers that communicate with an RFID reader.	Bar-code labels communicate via an "intentional/aimed" bar-code scan, by a laser beam of visible light.
Reader Mobility	RFID Readers are larger than a bar-code gun, because of the antenna(s) that are used to read RFID labels from a distance (some devices also include a bar-code reader). Many are forklift-mounted.	Small handgun-sized bar-code reader, or stationary readers where conveyor is utilized. Some portable bar-code readers also include an RFID reader/antenna.
Visibility	RFID readers do not require being able to physically "see" the label with a laser beam – only being close enough to communicate electronically with all RFID Labels in vicinity.	Bar-code readers must be able to "see" the bar-code labels by scanning them with their the laser beam.
Info Content	RFID labels can hold up to megabytes of information.	Bar-code labels are limited to about 20 characters (1D) or 256 characters (2D).
Reading Action	Labels must pass within a defined distance of RFID reader to be read.	Labels must be scanned by a portable or stationary laser scanner reader.
Writable Label	Information can be continually added to "dynamic/updatable" RFID label's memory – such as fulfilling the FDA's requirement for a "Device Master Record" of a Medical product – updating as it is manufactured, delivered, and serviced.	Additional Bar-coded labels can be added to an item, making the item cluttered.
Reading Range	From 3-50 feet, depending upon reader, antenna, tag-type, & item materials.	About 12 feet—for High Resolution guns such as AML's M7100/HR.
Standards	Dynamic, fast-changing: multiple standards evolving rapidly to **EPC/Gen 2**.	Stable, well-defined standards, in existence for decades.

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