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Distributors Unite on 2D Barcode Use

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May 25, 2016



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By Barbara Jorgensen



It is rare in the highly-competitive electronics distribution industry that companies quickly agree on anything that might make them a bit less unique. But 2D barcoding may be the exception.

Distributors offer customized barcoding services to customers to differentiate themselves from the pack. But barcoding may be more of headache than a strategic edge. The common 1D barcodes used today are rife with data-input errors, resulting in wasted time and mislabeled stock. A significant portion of the distribution members of the [Electronic Components Industry Association \(ECIA\)](#) agree 2D barcoding will not

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only eliminate waste but provide the basis for a standard practice across the channel.

Barcoding in the supply chain isn't as simple as it seems. When distributors receive a shipment from suppliers they often affix a barcode label to inventory for in-house use. When an order is ready to be shipped, the distributor's barcode may be changed to one that's specified by the customer. Distributors are also called upon to break down bulk orders and repackage parts in kits that may require yet another unique barcode. The likelihood of error multiplies.

According to ECIA, commonly-used 1D barcodes may take as many as 9 scans to get right. 1D barcodes also hold only 20-25 characters; a typical electronic component part number may have as many as 12. "The amount of bad data that has been pushed across the industry is tremendous," said Andy Verb, president of Bar Code Graphics. "Manual data entry means errors can be introduced."

[Bar Code Graphics](#) is partnering with the ECIA to facilitate 2D barcode adoption across the industry. 2D barcode labeling is the latest technology for machine readable information on shipping labels and documents. The 2D symbologies can hold 2,000 characters compared with 1D barcodes holding only 20-25 characters. 2D barcode is already being used in applications, such as the identification of medical devices, and provides a basis for standardizing labeling and packing slips within the distribution industry.

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Linear barcodes

(P) Customer Part Number: 596-777A1-ND



(1P) Supplier Part Number: XAF4444



(Q) Quantity: 3



(10D) Date Code: 1452



(1T) Lot Code: BF1103



(4L) Country of Origin: US



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2D barcode



Linear (1D) vs. 2D barcodes

The key, said Verb, is a mix of common and custom data that can be accommodated in a 2D barcode. There are numerous data fields within a 2D barcode that can be standardized, Verb explains. The ANSI and ISO standards organizations already provide specifications on formatting for common data fields. Once an industry agrees on a set of data fields used by every trading partner – manufacturer, part name, part number and similar information-- other fields can be utilized for customization.

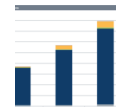
“What we did was to develop [a practice guideline] based on ISO and ANSI data fields,” Verb explained. “The ECIA wanted to make sure its specifications worked in harmony existing standards. We also want a consistent flow of information down to every trading partner, so a supplier can add as many trading partners as they see necessary.”

Minus a standard, suppliers have to certify and maintain proprietary labels for each of their trading partners. Bar Code Graphics, active in similar initiatives for the automotive and retail industries, can reduce this to a single ECIA format certification. Each partner can still bring in its own set of customized data fields,

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Verb explained. “This is a specification — not a standard. We are relying on existing standards so each trading partner can add their own requirement [to a barcode or label] for differentiation.”

According to the ECIA, the advantages of a standard 2D barcode system include:

- Faster
- Accurate information
- One scan loads all information
- Eliminates proofing
- Eliminates human error
- Cuts cost
- Reduces training time

For distributors:

- Increased participation from manufacturer community
- Confidence in supplier provided labels and pack slips
- Eliminates the need for internal testing

For manufacturers:

- Industry-wide commitment is both incentive and imperative to convert to 2D
- Single testing process eliminates duplicate efforts with each distributor

ECIA published the EIGP 114.00 document for 2D Barcode Labeling in 2015. Categorized as an ECIA guideline, the EIGP 114.00 was drafted for the sake of the manufacturer community to enable them to more easily convert from linear to 2D bar code labeling. Some large distributors have already implemented 2D requirements to realize benefits within their own supply chains, [ECIA said in a release.](#)

Moving to a 2D barcode systems is not cost-prohibitive.

The printers and scanners used for 1D bar codes are easily adapted for 2D. There is some software configuration needed for packing slips, Verb said, but nothing that hasn't been dealt with in other industries.

Right now the ECIA Supply Chain Council has agreed on about 99 percent of the common relevant data fields. Once they are finalized they will go up for public review. It would be possible to have the specification issued by July, Verb said -- roughly 6 months from the start of the process.

Another possible use for 2D barcodes could be tracking data that has become increasingly important to customers, and that's compliance information. Regulations such as RoHS and more recently the Conflict Minerals Act in the U.S. require that certain elements and materials contained in components and end-products be identified, declared and/or tracked. Most of the relevant data begins with suppliers; distributors pass it through to end-customers; then end-customers have to compile the data to demonstrate compliance. While the onus for compliance rests with end-customers, suppliers and distributors have dedicated a lot of time and resources toward managing and preserving the required data.

With a barcode standard in place, distributors can free up assets that can be directed toward real differentiation. "The customer has to be the focus with everything," Verb observed. "That's what's important and that's why getting to the end point in getting a deliverable spec for the industry in a pretty rapid time frame is an achievement."

"We've gotten a lot of collaboration with the distributors; they are working together and recognizing that what is important is the data and that the data—whatever it might be – should be pushed out to the

industry in a consistent manner,” Verb added. “When we start testing this—it’s not a hard requirement – we hope manufacturers will jump in. We’re ready to roll up our sleeves and get to work. We hope all distributors and suppliers see this as a positive development.”

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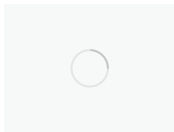


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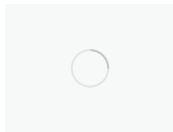


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