

2D Barcodes are coming: What Australian food & beverage suppliers need to know

Nov 03, 2020 by [Mark Dingley](#)

Barcodes have been named one of the top 50 inventions that changed the modern economy. The EAN-13 barcode is easily the most recognisable barcode to consumers, appearing on tens of millions of products around the world.

But just like everything else in the business world, barcodes are evolving.

Last year Woolworths started trialling 2D barcodes at retail point-of-sale to cut product recall food waste, improve traceability and make products easier to manage throughout the supply chain.

As [Woolworths general manager of business enablement, Richard Plunkett](#) said: “We’re proud to be the first Australian supermarket to invest in this technology, and hope it can help us further reduce food waste. 2D barcodes have immense potential and we’re excited to see how they will improve food safety, traceability and stock management.”

Even though they are still in the implementation phase, 2D Barcodes were awarded the [Innovative Technology of the Year](#) award at the 2020 Food & Beverage Industry Awards. The judges recognised the technology for its potential to shape the future in much the same way the original barcode had done all those years ago.

The bottom line? 2D Barcodes are coming, so it’s worth understanding exactly what they mean for you.

Here’s what you need to know.

What are 2D Barcodes?

2D Barcodes are two-dimensional barcodes used on packaging that enable multiple data elements to be embedded and can be scanned at point-of-sale.

One-dimensional codes, such as the EAN-13 barcode, are the barcodes that most food and beverage suppliers rely on to identify products at

2DBarcodes look like a square symbol made up of individual dots or squares.

To understand how they work, take a look at a 1D barcode:



retail POS. The EAN-13 contains one piece of information– a Global Trade Item Number (GTIN). This is the 13-digit unique number assigned to the product by the brand owner using the numbers allocated to them by GS1 Australia, the not-for-profit standards body.

Now, the 2D code:



Woolworths is using the GS1 DataMatrix symbol for its 2DBarcodes.

Unlike the one-dimensional EAN-13, the GS1 2DBarcode contains much more data than just a product identifier. In fact, it can contain over 3,000 digits in both alpha characters and numbers, such as:

- Batch and serial numbers
- Best before or use-by dates
- Pack weights and variable dimensions
- Variable quantities

This saves on valuable packaging space too, because 2D codes enable all this information to be stored in a smaller space than 1D codes.

Like the EAN-13 code, the [2DBarcode is also managed by GS1 Australia](#). It has certain specifications (such as size, border, etc) to ensure it scans first time, every time at the checkout.

Advantages of 2DBarcodes

The biggest benefits of 2DBarcodes are around giving retailers more control in store. And when retailers have more control, suppliers and consumers benefit too.

[Maria Palazzolo, CEO of GS1 Australia](#) said: “2DBarcodes can help solve many of today’s retail business problems in the areas of meat, seafood, deli, dairy, bakery, as well as packaged fruit and

vegetables because one small barcode can reveal a wealth of information that just can't be squeezed onto a traditional linear barcode.” Here are 3 key advantages:

- **Suppliers and retailers can more easily manage stock rotations based on use-by dates**

One reason Woolworths is trialling 2D Barcodes at POS is to prevent sales of expired products, especially meat. Because the 2D Barcodes can include use-by dates, retailers can apply automatic mark-downs for any products approaching expiry – no more manual coding by retail staff. This helps stock liquidation without the added expense of remarking products on the shelf.

- **Recalls can be managed by batch**

Instead of pulling a complete product line from the shelves, the 2D code enables the recalled or expired food to be identified more accurately within the supply chain. It can then be isolated and quickly removed from warehouses and supermarket shelves before reaching the consumer. This is massive advantage for retailers and suppliers.

- **Stops products at the checkouts**

The 2D Barcode helps customers by stopping expired or recalled products at the checkout. If the product is scanned at the point of sale, the information in the 2D Barcode can trigger the checkout to alert the customer and prevent the product from being purchased.

How to transition to 2D Barcodes

For 2D codes to work, food and beverage suppliers need to implement dynamic coding, rather than pre-printed coding. In other words, you need to move to in-line printing or labelling.

This may require additional infrastructure and validation on the production line to maintain the high print quality of barcodes and achieve a high level of scanning at point of sale.

Work with your equipment supplier or print partners as early in the process as possible, so you can transition smoothly without any issues in-store. They will be able to help you test and trial your solution so you can ensure data is consistent across the packs.

Over to you

2D Barcodes are coming. From fresh produce to [drinks](#), the future of barcodes is two dimensional. Don't leave it too late – now is the time to understand what you need to do to the transition from 1D barcodes to 2D barcodes.

Find out more by talking to our team. We can help you transition to 2D Barcodes using in-line printing and labelling.