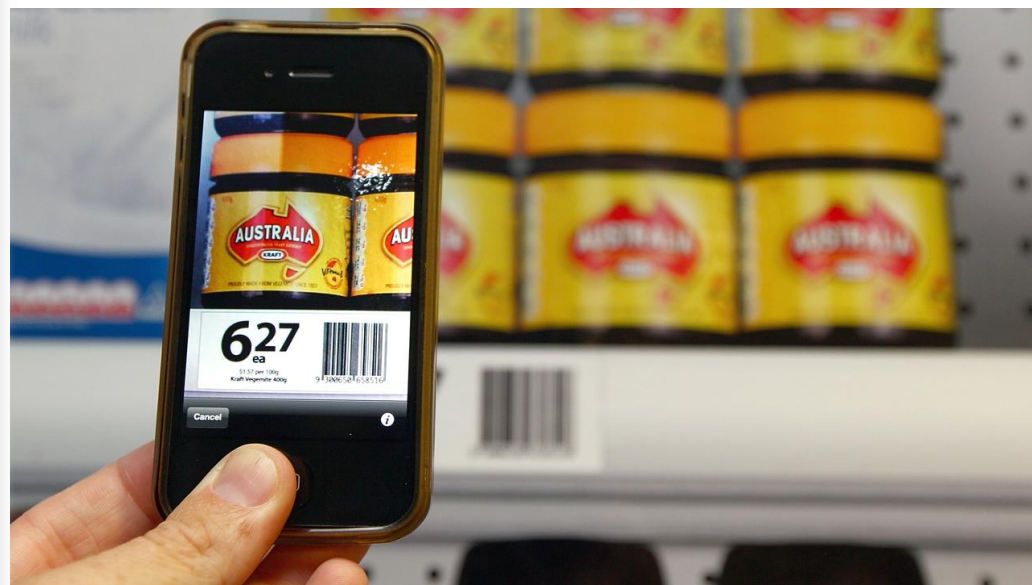


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# As it turns 50, how the barcode changed our lives



The standard 13-number system can create a thousand billion different variations. Picture: Getty Images

By **LOUISE ECCLES**

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Many of us have cursed barcodes as we stand at a supermarket self-checkout trying and failing to scan groceries in a hurry.

Yet we hold in our hands one of the most underrated inventions of all time: a linear representation of Morse code first dreamt up in the sand on a Miami beach, which has revolutionised everything from shopping to healthcare.

The barcode celebrates its 50th birthday today.

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Millions of times a day, shop scanners send out a laser to detect the black-and-white parallel lines in the barcode.

The standard 13-number system can create a thousand billion different variations, used to retrieve information such as the price and description of the product. Every consumer sees a barcode about 20 times a day on average.

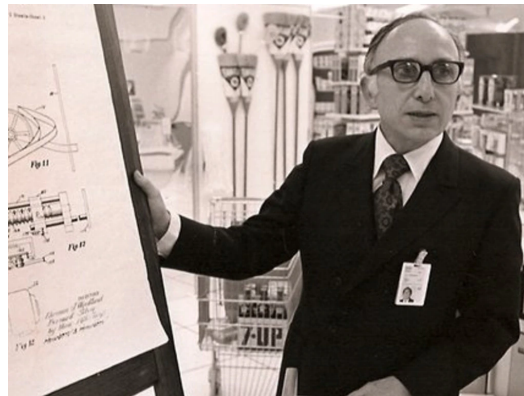
“The barcode is an iconic, beautiful piece of work,” said Ben Clarke, 44, a training manager for GSI, the global non-profit barcodes regulator.

“The fact that it hasn’t changed in 50 years shows how absolutely amazing they are.”

Inspired by his training in the Boy Scouts of America, the inventor, Joe Woodland, drew dots and dashes in the sand in 1949. He pulled them downwards with his fingers to produce thin lines from the dots and thicker lines from the dashes.

The aim was to find a code that could be printed on groceries and scanned to allow supermarket checkout queues to move faster. It would be decades before technology would catch up with his idea.

On April 3, 1973, a variation of Woodland’s original design was agreed upon by industry leaders. A year later, in Ohio, a pack of Wrigley’s chewing gum became the first product in the world to be scanned at the till.



Barcode creator Joseph Woodland.

Only GSI is authorised to produce the unique numbers powering most barcodes to ensure a jar of Vegemite sold in one supermarket will have the same barcode “fingerprint” as an identical product sold in another.

Beyond the checkout, barcodes play a crucial – and often overlooked – role in medicines and hospital equipment. They even appear on patients’ wristbands to ensure doctors perform the right operation on the right person.

Clarke said: “With the PIP (Poly Implant Prothese) breast implant scandal, where women were given implants prone to rupturing, they couldn’t identify which patients had which implants. Now there are barcodes on medical devices and medical equipment. We’re even putting barcodes on beds so you can track where patients have been, which is really handy during a pandemic.”

This bastion of modern life is unlikely to survive another 50 years in its current form, however. Trials are under way to merge barcode technology with its trendier friend, the QR code, which stands for quick response.

The two data codes currently fulfil different roles. While a barcode is one-dimensional and ensures customers are sold the right product for the right amount

of money, a QR code takes smartphone users to a website or app for more information.

For example, a can of beans has a barcode for till sales and stock checks but customers scan a QR code on the label to read about dietary information and ingredients.



Ed Sheeran fans sisters Lilly, 22 and Ivy Blacker, 18, with tickets ready to be scanned. Naomi Jellicoe

However, trials are now looking into whether GSI's bank of barcodes could be incorporated into the QR square. The technology to scan QR codes at the checkout already exists in shops because many loyalty cards are using the format.

In October 2021, in the Brazilian city of Recife, an upmarket delicatessen became the first retailer in the world to use the new dual-purpose QR codes by scanning a tray of mozzarella cheese at the checkout.

American stores believe the technology will be in use by 2027. But where does that leave the barcode, a work of art even immortalised in a Banksy?

For Clarke, its integration into a QR code will be a bittersweet moment. "It will be with a pang of regret if it gets replaced but it would have done its job. Time cannot stand still."

Those left cursing at the self-checkout, he said, may have fallen foul of a couple of things that can go wrong with the barcode. "It might be because the manufacturers haven't followed our guidance on the size or the spacing, or the ink has spread. But the barcode itself should work every time."

*The Sunday Times*