



2D barcodes case study

7-Eleven Thailand boosts consumer safety and satisfaction with next generation barcodes

Because they can hold a lot more information while still going “beep” at the register, next generation barcodes powered by GS1 are providing consumers in Thailand a better experience at their local 7-Eleven



Challenge

7-Eleven stores in Thailand wanted to ensure that expired products were not being sold to consumers.

Solution

Across Thailand, 7-Eleven began labelling products and upgrading equipment to be compatible with next generation barcodes powered by GS1.

Benefits

Faster, simpler and more efficient operations, better stock management and most importantly, no more products sold past their “best before” dates.

Like any retailer, 7-Eleven stores in Thailand face the challenge of managing expiration dates on ready-to-eat meals and “grab-and-go” items. If products that have reached or passed their “best before” dates get sold, the risks are multiple, including potentially serious health and safety issues for consumers.

But manually checking every date on every product in a store is an incredibly time-consuming and labour-intensive activity that is subject to human error.

That is why several years ago 7-Eleven in Thailand launched a project to prevent the sale of expired products, with the help and support of GS1 Thailand.

A new dimension in barcodes

GS1 Thailand recommended the retailer use two-dimensional (2D) barcodes powered by GS1. In addition to holding a GS1 Global Trade Item Number® (GTIN®), these high-capacity multi-purpose 2D barcodes can also hold a product’s batch or lot number, serial number, “best before” date or expiration date, and more.

GS1 also helped 7-Eleven understand the various advantages and disadvantages of using GS1 DataMatrix barcodes or using QR Codes powered by GS1. Ultimately the retailer chose to use GS1 DataMatrix barcodes, mainly because GS1 DataMatrix is smaller in size than QR Codes and, as a result, would take up less space on their product packaging.

To get going, the project team at 7-Eleven Thailand worked with CPRAM Company Limited, a 7-Eleven supplier which produces and distributes ready-to-eat frozen and chilled foods and freshly-made bakery items.

Harn Engineering Solutions Public Company Limited, an expert in printing solutions, supported 7-Eleven across the implementation of this project.

Adjustments made during implementation

To get all the benefits of the 2D barcodes, 7-Eleven needed to make a few changes.

First, they adjusted the packaging of their own-brand products to create a space appropriate for the new barcode.

At their factory, they upgraded their production line printers and deployed software that allowed those new printers to automatically create 2D barcodes encoded with GTIN numbers and “best before” dates.

Then, at their retail stores, they upgraded point-of-sale scanners to ones that can efficiently read GS1 DataMatrix and other 2D barcodes. They also created new operational processes – for example, managing what to do if an expired product is scanned.

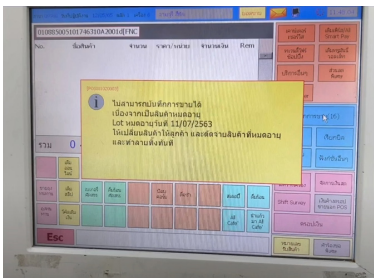


“We are saving time, simplifying operations in stores, making our stock management processes more efficient and most importantly, not letting any products past their 'best before' dates get into the kitchens of our consumers.”

- Chakrit Hengsirikul, Head of Unit, Research and Knowledge, Architecture and Design Group 7-Eleven

Successful implementation, with multiple benefits

As of early 2023, about one hundred ready-to-eat items for sale in over 12,000 7-Eleven Thailand retail stores have a GS1 DataMatrix on their packaging, and 7-Eleven cashiers have equipment capable of reading all the information that is now packed into those tiny barcodes – including “best before” dates.



It’s an extremely simple process: if a cashier scans an expired product, a message pops up on the register’s screen indicating that the product has expired and must not be sold, adding: “Please

provide a new product to the customer and immediately remove the expired product from our shelves”.

“Our quality assurance processes have become both stronger and easier,” says Chakrit Hengsirikul, Head of Unit, Research and Knowledge, Architecture and Design Group at 7-Eleven Thailand, “We are saving time, simplifying

operations in stores, making our stock management processes more efficient and most importantly, not letting any products past their ‘best before’ dates get into the kitchens of our consumers.”

7-Eleven has seen increased rates of consumer satisfaction and complaints about expired products went to zero. Customers have mentioned feeling more confident while shopping for prepared meals and grab-and-go items at 7-Eleven.

Next steps

The project has encouraged 7-Eleven Thailand to create a broader development and rollout plan.

The company intends to expand the use of 2D barcodes to more product categories and more types of items from CPRAM and from other suppliers. They also plan to put GS1 DataMatrix barcodes on their store-brand baked goods.

In fact, they envision phasing out traditional one-dimensional barcodes entirely in favour of ensuring every item in their stores has a two-dimensional barcode. They recognise that GS1 DataMatrix barcodes and QR Codes powered by GS1 bring a whole range of ways to improve business operations and deliver better experiences for consumers. All because 2D barcodes powered by GS1 are able to hold a lot more information while still going “beep” at the register.



Barcode choice:

- GS1 DataMatrix with element string syntax

Data encoded:

- GTIN
- Batch/Lot number
- Best before date



About 7-Eleven

7-Eleven stores in Thailand are operated by CP ALL Public Company Limited under licence from 7-Eleven, Inc., USA. The first 7-Eleven store in Thailand was opened in 1989. Today there are more than 12,000 stores in Thailand.

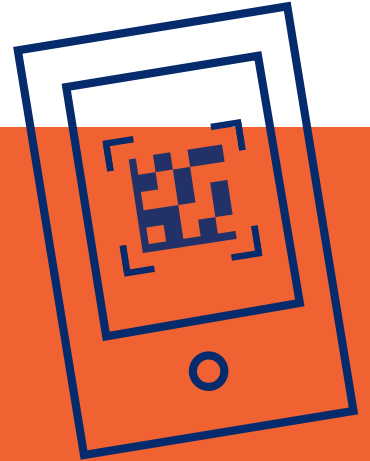
www.cmall.co.th



About GS1

GS1 is a neutral, not-for-profit organisation that develops and maintains the most widely used global standards for efficient business communication. We are best known for the barcode, named by the BBC as one of “the 50 things that made the world economy”. GS1 standards improve the efficiency, safety and visibility of supply chains across physical and digital channels in 25 sectors. Our scale and reach—local Member Organisations in 116 countries, 2 million user companies and 6 billion transactions every day—help ensure that GS1 standards create a common language that supports systems and processes across the globe.

www.gs1.org



Get started with the next generation barcodes powered by GS1

GS1 is working with industry to support implementations of 2D barcodes powered by GS1 and create guidance for assisting in the design of proof-of-concept demonstration pilots.

At a high-level, consider the following elements:

- **Retailers:** create a vision for use cases enabled by 2D barcodes, assess your current technical capabilities (scanners and back-office systems) to understand your roadmap to enable scanning of all barcodes, and collaborate with other stakeholders to ensure alignment on goals and outcomes.
- **Brands, Manufacturers and Suppliers:** bring together your supply chain and marketing executives to collaborate on a combined barcode strategy that achieves both consumer engagement and supply chain goals.
- **Solution Providers:** consider the upgrades needed to your systems to enable multiple barcode scanning/printing and support your end-users achieve their top use cases enabled by 2D barcodes.

Questions about the future of the next generation barcodes powered by GS1?

Contact your local GS1 Member Organisation to see how GS1 can help you begin your journey towards the next generation barcodes!

www.gs1.org/contact

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