



# The Barcode (r)Evolution



A lot has changed since the introduction of the barcode over 45 years ago, but businesses still use on-pack barcodes and symbols because they benefit manufacturers and customers alike. GS1 is partnering with industry to harness the power of these barcodes and symbols so they remain relevant – well into the future.

## The barcode on your product CAN do more

Business and regulatory demands on product packaging have grown dramatically in recent years. In the past, every product had a single barcode that served the purpose of going “beep” at the checkout. Today, product packaging often contains multiple barcodes and symbols that are intended to meet the need for more data and that serve varied purposes. Unfortunately, they cause consumer and supply chain confusion and don’t always communicate with each other. We now have the chance to work together to unlock their true value.

## Consumer expectations have evolved

Consumers use their powerful smartphones to learn about products inside and outside of the store. In addition, manufacturers and retailers seek to interact with shoppers to share information about the benefits of their products and to unlock direct brand-consumer engagement. This means that all products must deliver accessible, accurate data for the companies who manufacture, transport, and sell them – and ultimately for the consumers who purchase them.

## Technology exists today to do more with product codes

As consumer expectations have evolved, technology solutions have advanced to try to meet an ever-growing need for data that extends beyond the consumer to your trading partners and even to regulators. You may be a retailer seeking to improve ROI and checkout speed. Perhaps you are a brand owner looking to make a promotional QR code provide more value to your customer and your business. Or maybe you are a solution provider working to serve industry. Whatever your role in the supply chain, there are things you can do today to reduce costs, provide transparency (and data), and create more engaging experiences that were not available just a few years ago.

## Business Challenge

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The proliferation of barcodes – and other methods of product identification and communication – causes confusion to consumers and trading partners, who expect a seamless experience of connecting products to relevant experiences in the digital world.

## GS1 is here to help

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GS1 is committed to partnering with industry to learn from existing use cases and provide leadership, guidance and support for on-pack solutions that allow businesses to adapt and scale over time.

As businesses look to do more with barcodes and symbols, GS1 is here to help lead the way.

*The future of barcodes, symbols and other identifiers on products can be simplified dramatically by leveraging the power of standards that exist today.*

## Examples are everywhere

Moving beyond traditional point-of-sale barcodes and into the next generation of technology is not a new concept. Symbols and codes on-pack can help improve sustainability, share important sourcing information, create customer engagement and improve consumer experiences. Manufacturers and retailers, along with their customers, have already begun to experience the benefits of newer solutions, such as:

- GS1 DataMatrix barcodes containing batch/lot and expiration data information are actively being used on fresh foods to support traceability, waste management, and consumer safety around the globe<sup>1,2</sup>.
- Japan has led the way in implementing RFID at point-of-sale to create an environment without the need for cashiers, registers, or even cash itself, helping reduce the risk of theft<sup>3</sup>. Such technologies will be even more important as our world moves toward more contactless purchasing.
- The prolific use of 2D barcodes in the Asia-Pacific region has demonstrated the unquestionable ability for retailers and consumers to adapt to new technologies on-pack<sup>4,5</sup>.

## The future of on-pack codes and symbols

As we work with industry we are finding:

- **The initial solution to many challenges has been to add extra symbols.** GS1's on-going work aims to reduce the number of symbols needed to accomplish business objectives.
- **Interoperability is key to ensure your systems connect to trading partners and ultimately, the consumer.** Product codes and symbols must be interoperable – able to work together to unlock the numerous benefits of accurate product information for customers and consumers alike. GS1 standards for identification and data exchange are foundational to ensure interoperability.
- **Flexibility is necessary to both address different business needs and the rapidly-changing technology landscape.** At GS1, we support industry-based collaboration that delivers solutions to ever-changing needs of business and consumers alike. GS1 is at the forefront of analysing and evaluating emerging technologies and is partnering with industry to accelerate into the future.

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## Where it begins

*It all starts with a clear understanding of what data is needed to serve the needs of your trading partners and customers.*

*Once you know what data you need – and who needs to use that data – making an informed choice on which barcode or symbol to leverage is easy.*

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## What's next?

You already understand the needs of your trading partners and your customers. Choosing how to serve those needs most efficiently – particularly when it involves putting a barcode or other symbol on your product – is where GS1 can help.

What you need to do:

- **Determine your current and future business opportunities and challenges: Who will benefit from data on-pack, and at what point in time?**
- **Create your cross-functional team**
- **Connect with your local GS1 team to learn more about how GS1 standards can support your needs**

While GS1 does not envision a clear convergence to a single answer that works for all scenarios, GS1 will continue to provide leadership, guidance and support for on-pack solutions that allow businesses to adapt and scale over time. Over the coming months, we will publish tools and globally-aligned guidance to help your business along this journey.

**Reach out to see how GS1 can help.**

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<sup>1</sup> GS1 DataMatrix for Variable Measure products in Belgium-Luxembourg. [GS1 DataMatrix](#)

<sup>2</sup> GS1 Australia Data Embedded Barcode success story. [GS1 Embedded Barcodes](#)

<sup>3</sup> Japan Aims to Automate All Convenience Stores By 2025 With A New RFID Technology. [Forbes RFID](#)

<sup>4</sup> Connected packaging in APAC: China, Korea and Japan lead the rest of the world in on-pack QR code adoption. [APAC QR](#)

<sup>5</sup> GS1 US – Research Insights: Powering the Future of Retail. [GS1 Future of Retail](#)