GS1® Ireland

The next generation of barcodes:

QR codes powered by GS1

One scan, infinite possibilities

About GS1

For more than 50 years, the common language of GS1 standards has been transforming the way billions of people around the world work and live. Today they power the supply chains of millions of organisations, allowing stakeholders across a broad range of industries to uniquely identify, describe and track anything, creating greater trust in data for everyone.

By harnessing the power of GS1 standards, the retail industry can increase efficiency, traceability, safety and improve sustainability.

GS1 Ireland locally administers the GS1 system of standards for identification, data capture and data sharing, and offers a wide range of tools, training and support services to help organisations use and benefits from these standards and technologies.

www.gs1ie.org

116
GS1 member organisations

10bn
GS1 barcodes scanned daily

2m
companies use GS1 standards

100m
products carry GS1 barcodes

GS1 Ireland

3,800
members

73%
from the retail industry

Scan smarter with QR codes powered by GS1

Consumers are demanding more information about the products they buy, from where they were produced, to how best to use and recycle them.

At the same time, businesses are having to meet new legislative demands for information and are struggling to source and store vast amounts of data that often comes from multiple sources in different formats.

This means barcodes need to start working harder. QR codes powered by GS1 have been developed in collaboration with industry to enable brands, retailers and stakeholders throughout the supply chain, to meet new demands for trusted data.

The increased data capabilities of these next generation barcodes can be used to easily obtain trusted product information to inform, protect and connect businesses and consumers, using everything, from point-of-sale scanners to smart-phones with one simple scan.

Consumers, brands, retailers and even regulators are all seeking better ways to access information. QR codes powered by GS1 bridge this gap, empowering you to deliver rich data and connect with your audience on a deeper level.

These next generation barcodes extend the power and flexibility of GS1 identifiers such as the Global Trade Item Number (GTIN) by making them part of the web. This offers unprecedented connectivity, allowing data to be shared more efficiently and in greater volumes than ever before. They also put this data directly into the hands of consumers, building trust and enabling more informed decision making for all.

By acting as a digital gateway, QR codes powered by GS1 have the potential to improve supply chain visibility, boost efficiencies, enhance product safety and bring a wealth of information to consumers - both at home and in store – while also going beep at the till.

Product data can be updated in real-time, ensuring consumers stay informed and protected, while brand owners and retailers can choose to encode additional attributes such as expiry dates, lot numbers, serial numbers, etc. to support supply chain optimisation, enhance inventory management and reduce waste.

The benefits of standards in retail

The retail landscape is constantly changing, and whether you're a retailer, brand or manufacturer, you're faced with a multitude of challenges.

That is why GS1 standards, built on the globally accepted principles of unique identification and trusted data, provide the perfect platform on which to develop harmonised processes and operations for your business. They allow you to adapt quickly to new challenges, have confidence in your data and can help you to deliver an exceptional customer experience.

Trusted data

Whether online or in store, GS1 standards ensure product data is both accurate and up-to-date, giving retailers and consumers confidence and trust.

Supply chain efficiency

GS1 standards allow for faster and more accurate product identification, tracking and inventory management. This reduces manual processes, saving time, money and labour.

Improved customer experience

Accurate product identification and standardised data enhance the overall shopping experience. Ensuring consumers have confidence and trust in product information can boost sales and brand loyalty.

Sustainability & traceability

GS1 standards facilitate traceability, allowing stakeholders to track products from source to shelf. Such transparency helps consumers make informed choices, helps organisations meet a range of legislative and business demands, and supports sustainability agendas.

GS1 is a globally recognised system, making it easier for businesses to expand into new markets. Standardised product identification ensures products are understood and accepted by international trading partners.

GS1 standards can improve a retailer's visibility into their supply chain, allowing them to anticipate stock shortages and optimise ordering processes. This leads to better inventory management, reducing waste and preventing shortages.

Capabilities of QR codes powered by GS1

Data	Capability	Barcode	QR code	QR codes powered by GS1
Contains GTIN	Scans at point of sale	✔	✖	✔
Can link to web content	Creates dynamic and personalised consumer journeys, and brand experiences.	✖	✔	✔
Can contain production data such as batch, weight & lot	Drives efficiency through process improvements through data transparency e.g. automated product recall & markdown.	✖	✖	✔
Can be scanned by different apps to gain different data	Becomes a gateway that can access different data depending on the individual scanning it.	✖	✖	✔
Can contain expiry date	Reduces waste, optimises forecasts and keeps consumers protected.	✖	✖	✔
Can contain individual serial number	Powers more effective recalls and prevents counterfeiting	✖	✖	✔
Searchable data	Enables full interoperability and boosts visibility	✖	✖	✔

One scan, a world of possibilities

Traceability

Digital product passport

Waste reduction

Point of sale

Authentication

Returns management

Inventory management

GS1®

(01) 0539154732009

Brand & product information

Recipes & inspiration

Health & nutrition

Allergens & ingredients

Offers & promotions

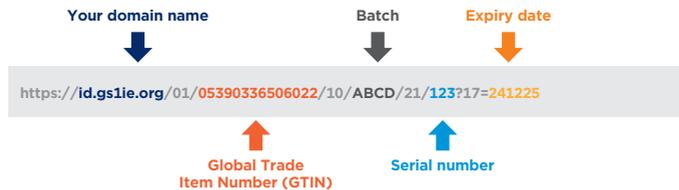Regulation & legislation

Sustainability & recycling

How it works

QR codes are enhanced 2D barcodes with higher storage capacity than traditional linear barcodes.

While EAN/UPC barcodes hold up to 13 digits, QR codes can store over 4,000 alphanumeric characters and can be scanned from any orientation using smartphones or image-based scanners.

QR codes powered by GS1 not only link to web content, they also contain unique digital product identifiers, facilitating seamless connections across a broad range of B2B and B2C channels. They empower stakeholders with control over online content customisation and enable supply chain traceability by encoding additional data like batch numbers and expiry dates.

QR codes powered by GS1 can do anything a regular QR code can do and so much more.

Your domain name		Batch	Expiry date

https://**id.gs1ie.org**/01/**05390336506022**/10/**ABCD**/21/**123**?17=**241225**

Global Trade
Item Number (GTIN)   Serial number

- Product information
- Product history
- Certifications
- Carbon footprint
- Recycling information

Resolver

https://**id.gs1ie.org**/01/**05390336506022**/10/**ABCD**/21/**123**?17=**241225**

Chocolate Bar
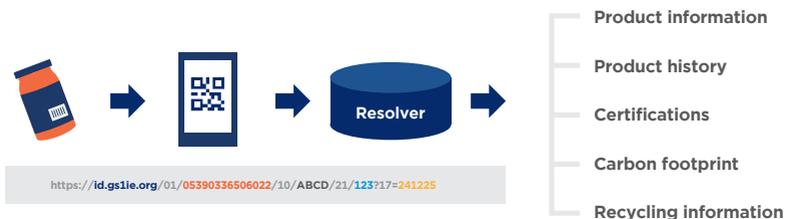
Connect with your consumers

Brands can now speak directly to consumers through a single, smarter barcode on their packaging, providing instant access to trusted information, content and richer personalised experiences.

Imagine a consumer picking up a chocolate bar and scanning the QR code powered by GS1 with their smartphone. Instantly, options for multiple sources of information appear, including where and how the cacao was grown, the journey it took to reach the store shelves, nutritional details, recipe suggestions, personalised promotions, offers and more.

This level of transparency and connectivity not only builds trust - it empowers the consumer to make informed purchasing decisions based on their wants, needs and values.

Dynamic consumer journeys

The beauty of QR codes powered by GS1 lies in their flexibility. Brands can update or publish new content without altering the physical packaging. This adaptability saves time, money and ensures that consumers always have access to the latest information.

Accessibility

QR codes powered by GS1 can also enhance accessibility by translating critical packaging information such as ingredients, usage instructions and safety warnings into the user's preferred language, or by integrating with assistive technologies such as screen readers.
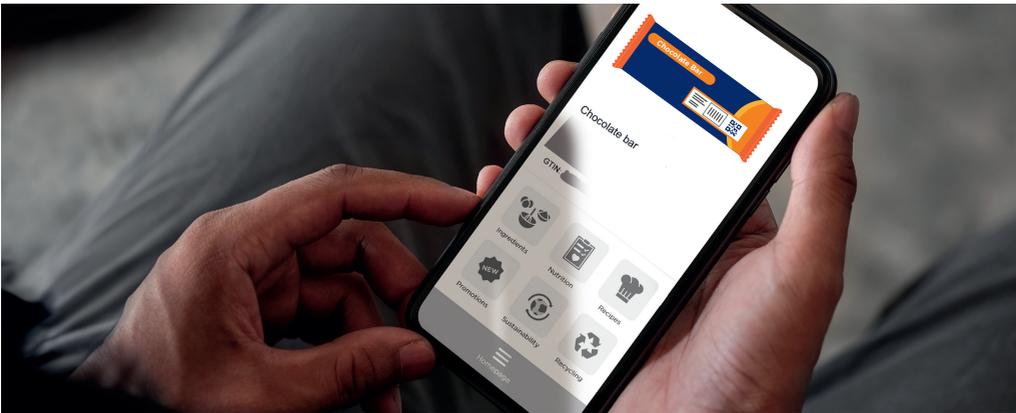
"QR codes powered by GS1 enable new capabilities to expand consumer engagement and provide a curated experience tailored to the individual product. This framework will allow expanded sharing of nutritional, brand, allergen, sustainability, recycling, loyalty programmes and other consumer-centric information. PepsiCo is working to inspire and share our vision to fuel this global transformation to smart packaging across the CPG industry."

John S. Phillips
Senior vice president, PepsiCo

PEPSICO

Drive efficiency, visibility & safety

The inclusion of additional offline data points such as batch numbers and expiry dates opens a wealth of opportunity for brands and retailers to drive efficiency, increase visibility and improve safety as products move through the supply chain.

These additional data attributes also help to improve inventory management, reducing food waste and facilitating quicker identification of out-of-date inventory or problematic batches of products. Making this information accessible to all keeps both staff and consumers informed and protected.

Efficiency and cost savings: QR codes simplify packaging by eliminating the need for multiple labels or codes.

Embedded data	(AI)
GTIN	(01)
Sell price	(3922)
Actual weight (Kg)	(3103)
Use by date	(17)
Best before date	(15)
Batch/Lot ID #	(10)
Serial number	(21)

GTIN	Sell price	Weight	Best before date	Batch number	Serial number

Learn how Woolworths reduced food waste by 40%.

Traceability, provenance and regulation

QR codes powered by GS1 facilitate compliance with evolving regulatory demands by instantly directing stakeholders to relevant product data and real-time content.

They offer a solution for EU digital product passport (DPP) requirements by enabling electronic access to comprehensive product lifecycle data.

Consumers can effortlessly access DPP information through smartphone scans, aided by unique serial numbers embedded in each QR code. This individualised identification enhances product authenticity verification, helping consumers avoid counterfeit or faulty items.

Learn how citrus growers are implementing end to end traceability.

Powering circularity

QR codes powered by GS1 can support sustainability and the circular economy by helping consumers make more sustainable purchasing decisions and allowing brands to highlight ESG commitments, promote green initiatives or demonstrate sustainability credentials.

They can also power circularity systems such as digital deposit return schemes (DRS) and re-use and refill initiatives through enhanced product identification and tracking. They can also encourage responsible disposal by giving consumers information on recycling instructions and sharing information about product reuse or repurposing.

Ocado x Polytag

Scan to find out more.

Blenheim Palace x Re-universe

Scan to find out more.

Tell your brand story with QR codes powered by GS1

You can now speak directly to customers through a smart QR code on your product - telling your brand story, demonstrating your sustainability credentials, enabling you to comply with legislation, helping to drive sales, customer loyalty and so much more.

Scan to get started: gs1ie.org/qr-codes/

Consumers demand more information about the products they're purchasing, regulators require the disclosure of more information, and there's an ongoing need to more effectively track and trace products through the supply chain. We can resolve this with 2D barcodes with GS1 standards inside — a single barcode that has the power to provide all the information consumers need and desire, improve traceability through the supply chain, and scans at checkout.

Jon R. Moeller
Chairman of the board, president and chief executive officer, Procter & Gamble

P&G

What next?

Check out our website

Visit our website to understand more about QR codes powered by GS1. See how GS1 standards are being implemented across the world and how you can get started on your own adoption journey.

gs1ie.org/qr-codes/

Sign up for our webinars

Learn from our subject matter experts on all things QR codes powered by GS1.

gs1ie.org/qr-codes/webinars/

GS1 standards

Our standards
provide a common
way for businesses
to uniquely identify,
accurately capture and
automatically share
information about their
products, locations,
assets and more