

GS1 Sunrise 2027 Guide for CPG Brands

Learn how GS1 Digital Link affects packaging, product data, retail readiness, compliance, and consumer engagement, with a practical roadmap for CPG teams preparing for Sunrise 2027.

For: marketing leads, brand managers, and founders at mid-market CPG brands selling into US retail, plus the packaging, data, and commercial teams they'll need to work with.

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Executive **summary**



The challenge

The UPC (Universal Product Code) on the brand's product is not going away. GS1 has set a target: by the end of 2027, retail point-of-sale systems should be able to scan and process 2D barcodes, including QR Codes powered by GS1, alongside the linear barcodes they read today.

On the brand side, the ask is to add a 2D barcode to its packaging, and bring any existing on-pack QR Code up to the GS1 Digital Link standard so it carries its GTIN (Global Trade Item Number).

Brands still get it wrong in three ways. They wait for a legally binding mandate with a penalty attached, and no such mandate exists today. They hand the whole thing to packaging, so the code ships pointing at a homepage. Or they overbuild, encoding batch and expiry data they cannot supply reliably on every unit, forever.

The five questions this guide answers

1. What is GS1 Sunrise 2027, and what actually changes for a CPG brand versus what stays exactly the same?
2. What's at stake for a brand: what do retailers expect, and what does a brand lose if the code never becomes more than a compliance checkbox?
3. What does a brand need to get right in its product data and packaging before it prints?
4. What's the realistic timeline, and what needs to be locked in before the next print run?
5. What are the most common misunderstandings about GS1 Sunrise 2027, and what do they cost a brand if left uncorrected?

Who this guide is written for

This guide is for marketing leads, brand managers, and founders at mid-market CPG brands selling into US retail, plus the packaging, data, and commercial teams they'll need to work with.

TL;DR

- 01 GS1 Sunrise 2027 is an industry effort to get retail checkout systems ready to read 2D barcodes**, like QR Codes, by the end of 2027, alongside the barcodes they already read today. For a CPG brand, GTIN, UPC, and retailer relationships stay the same. The only addition is a 2D barcode carrying the GTIN, added next to the existing linear barcode.
- 02 Retailers evaluate the code as operational equipment.** They measure checkout speed first, data quality second, so a poorly printed QR Code costs real labor hours and credibility in a category review. That same code can also show different content by retailer, market, or scan history, at no extra print cost. Most brands stop at compliance and never use it that way.
- 03 Before the print file goes out, a brand needs to get two things right.** The GTIN must be valid, 14 digits, and match the linear barcode next to it. And the 2D code must sit within 50 mm of that barcode's center, with quiet zones intact, to meet scanning speeds of 40 to 70 items a minute.
- 04 The realistic deadline is the next artwork freeze, and not December 2027.** Before that freeze, a brand needs to decide what the QR Code should actually do once scanned, because once it's printed, that decision holds until the next print run.
- 05 Two misunderstandings cost the most.** First: no legal mandate means no urgency — wrong, because retailers set their own deadlines, and waiting means a retailer decides the brand's timeline instead of it. Second: this is a packaging-only project — wrong, because marketing only gets one shot at deciding what the code does, and that chance comes once per print cycle.

What is GS1 Sunrise 2027? GTINs, GS1 Digital Link, and 2D barcodes explained

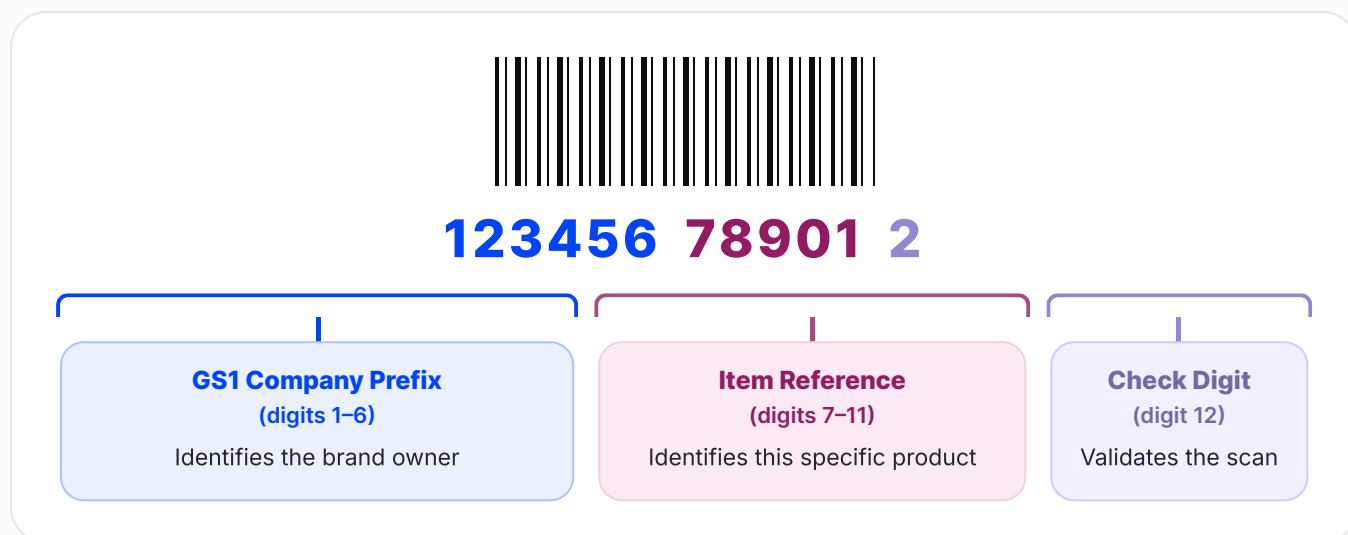


GS1 is a not-for-profit standards body that administers UPC barcodes across more than 150 countries. It is not a regulator. It sets standards that retailers and brands agree to use.

A **GTIN** is the number that identifies the product. A **UPC** is one way of printing that number so a scanner can read it. The number and the symbol are different things, and the number is not changing. A GTIN identifies one product in one size and configuration — a 12-ounce can and a 6-pack of the same drink are different products with different GTINs.

Sunrise 2027 is a GS1-led retail transition initiative aimed at getting point-of-sale systems ready to scan and process 2D barcodes by the end of 2027. A milestone, not a requirement that every brand deploy 2D capability on that date.

Anatomy of a GTIN



How a founder actually gets a GTIN

If a brand sells in retail, it already has GTINs and a GS1 Company Prefix, and can skip ahead.

If not, there are two routes.

ROUTE 01

Buy individual GTINs from GS1 US for one or a few products.

ROUTE 02

Or license a GS1 Company Prefix for a growing catalog, then generate GTINs from it when adding SKUs.

CHECK YOUR GTIN BEFORE YOUR RETAILER DOES

If a brand has inherited GTINs and is not certain where they came from, [Verified by GS1](#) and the GS1 company database are the lookup services that will tell whether a GTIN genuinely belongs to the brand before a retailer finds out that it does not.

Anatomy of a GS1 Digital Link

GS1 Digital Link is the standard that expresses a GTIN as a web address, so one barcode can serve both traditional business processes and web-connected product experiences.

Every part of a GS1 Digital Link has a purpose. Here's how it works for a 12-digit UPC of **012345678905**.

GS1 DIGITAL LINK EXAMPLE
https:// ID.BRANDNAME.COM / 01 / 00012345678905 / 10 / L4821 ? 17=270630

ID.BRANDNAME.COM
Your own subdomain
The scan lands on your domain, not a vendor's.
GS1 US guidance recommends a subdomain such as [id.brand.com](#)

01
Application Identifier for GTIN
Tells any system the next value is a GTIN.

00012345678905
The GTIN, padded to 14 digits
Two leading zeros added to the 12-digit UPC.

10
Application Identifier for batch or lot
Optional.

L4821
The batch value
Enables targeted recalls instead of blanket withdrawals.

17=270630
Expiry date, YYMMDD
June 30, 2027. A date entered back to front blocks good product at the till.

 The 01, 10, and 17 in that address are **Application Identifiers**, the GS1-defined prefixes that tell any system what kind of data follows. **Get one wrong, and the scanner reads the right digits as the wrong field.**

Where the code resolves to is a separate decision, handled by a **resolver**, the service that lets several different destinations be reached from one product identity.

UNICODE

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QR Code powered by GS1 and GS1 DataMatrix

The 2D barcode Sunrise 2027 talks about comes in two formats: QR Code powered by GS1 and GS1 DataMatrix.

QR CODE POWERED BY GS1

A QR Code powered by GS1 is a QR Code built on GS1 Digital Link syntax, which is what lets one symbol serve both consumer scanning and GS1-aligned supply-chain uses. GS1 currently treats it as the preferred option for consumer engagement, because standard phone cameras can read it without an app.

GS1 DATAMATRIX

A GS1 DataMatrix is a 2D barcode built on GS1 element string syntax. It's used primarily in healthcare and industrial supply chains.

	Stores supply chain data	Has extra data capacity	Opens on a phone
UPC	No	No	No
GS1 DataMatrix	Yes	Yes	Not reliably
QR Code powered by GS1	Yes, in specific applications	Yes	Yes

A QR Code powered by GS1 satisfies the retailer requirement and gives the brand an owned customer channel, from the same artwork slot and the same print run.

TL;DR

GS1 Sunrise 2027 is a milestone and not a mandate: the brand's GTIN and UPC stay exactly as they are, and the only real addition is a 2D barcode carrying that same GTIN. For CPG brands, that barcode should be a QR Code powered by GS1 rather than a GS1 DataMatrix — both satisfy retailers, but only the QR Code reliably opens on a shopper's phone, giving it an owned customer channel alongside compliance. Getting there starts with a valid GTIN, correctly expressed as 14 digits inside a GS1 Digital Link, so one code can do both jobs: ring up at the till and open on a phone.

5 GS1 Sunrise 2027 myths CPG brands still get wrong



MYTH 01 “Brands need a full packaging redesign”

Brands just need one new element, placed near the existing barcode. For most SKUs, that is an artwork change at the next natural print cycle, with no structural redesign and no new creative brief.

Redesign becomes necessary in two situations: packs where the barcode zone is already full, and packs where the only clear surface scans badly.

MYTH 02 “It’s a government mandate with fines”

There are no fines. Sunrise 2027 is an industry initiative led by a standards body, not legislation.

Retailers have set their own commercial timelines for suppliers and brands. At GS1 Connect, Dillard’s framed 2D as something suppliers will be asked for, and named Walmart among the retailers likely to follow.

MYTH 03 “The QR Code already present on the pack counts”

A marketing QR Code carries a campaign URL. A QR Code powered by GS1 carries the brand's GTIN in GS1 Digital Link syntax, which is what lets a point-of-sale system recognize it as product identity. GS1 US guidance is specific: existing QR Codes need updating to Digital Link standards and must include the GTIN.

The good news is that once a brand has a GS1 QR Code, it does not add another one for marketing. It upgrades the one already on the pack.

MYTH 04 “The UPC disappears in 2027”

No. Sunrise 2027 does not remove the linear barcode. Through the transition, GS1 recommends **dual-marking**, the setup where a product carries both a linear barcode and a 2D barcode encoding the same GTIN. That keeps the product sellable in every store, including the ones whose scanners are not ready.

Retiring the linear barcode is a later decision, and it depends on scanner readiness across its retail footprint rather than on a calendar date.

MYTH 05 “This is a packaging-only project”

The GS1 compliance work belongs to data and packaging. But marketing still needs to decide what the QR Code resolves to for the customer.

If nobody claims that decision, the code points at the brand's homepage or a generic product listing. GS1 compliant, and still a customer engagement opportunity wasted.

TL;DR

Redesign isn't needed — just one new packaging element at the next print run. There's no legal fine from GS1, but retailers set their own deadlines regardless. The brand's existing marketing QR Code doesn't count until it carries the brand's GTIN in GS1 Digital Link syntax, and the UPC keeps working the whole time through dual-marking. Skip this, and the brand risks losing the listing over something a little proof would have fixed. It also misses the one chance to make the code work for marketing, not just GS1 compliance.

What retailers **actually want** from CPG brands



Retailers want two things above everything else:



Checkout speed

GS1 UK modeled the cost using Tesco's fresh produce volumes: at a million scans a day, a two-second delay per scan adds up to more than £2 million a year in additional labor at UK minimum wage. Retailers are evaluating the code as a piece of operational equipment, and not as a marketing asset.



Expiry and batch data

Expiry dates train ordering algorithms and cut waste. Batch codes turn a recall from a blanket withdrawal into a targeted one. Retailers can also look at scan data from a brand's pack as evidence of in-store engagement.

How to prove a brand is ready

Knowing what retailers want is one thing. Proving a brand is GS1-compliant is another. Here's what a strong answer sounds like when a buyer actually raises it in the room:

Retail buyer asks	Weak answer	Strong answer
"Does your code encode the same GTIN as your linear barcode?"	We think so.	Yes — same GTIN as the linear barcode, verified against our records.
"Have your codes passed verification, not just a phone scan?"	The code scans fine; we tested it on a phone.	We verified with ISO-graded equipment, not just a phone.
"Is placement compliant?"	We are adding a QR Code to the pack.	We're adding a QR Code to the pack within 50 mm of the linear barcode's center, quiet zones intact.
"Have you tested for double scans?"	We haven't checked that specifically.	Yes — tested in a POS environment, no double-scan issues.

CASE STUDY

Tesco moves an entire product range to QR Codes powered by GS1

Tesco, after concluding its pilot programs, moved 13 own-label sausage lines to QR Codes powered by GS1 in April 2026 and removed the linear barcode from those packs entirely, becoming the first UK supermarket to transition a complete range.

THE DEPLOYMENT

- 13 SKUs spanning sausages, chipolatas, meat, Cumberland, and Lincolnshire lines
- QR Codes carry the GTIN plus batch and date information
- Built on two years of industry pilots run with GS1 UK

THE RESULT

- Better visibility of date-code distribution across stores, which supports stock rotation and cuts food waste
- Recall precision at batch level instead of whole-SKU withdrawal
- Shoppers reach nutrition detail, traceability, recipes, and competitions from the pack
- Linear barcodes stay on branded products through the transition

TL;DR

Retailers care about two things most: checkout speed, and the data that comes with the code. What convinces them of GS1 compliance is proof — a verified GTIN, tested placement, and a passed double-scan check. Tesco showed this works at scale, moving an entire product range to QR Codes powered by GS1. Bring that same proof into a category review, and the conversation shifts from compliance to supplier quality.

What brands need to do to prepare for GS1



Before the packaging artwork goes to the printer, here's what brands need to do, in order.

Prepare the GTINs and product data first

1. Run the audit. Pull the full SKU list, and for every item, confirm the GTIN is valid and licensed to the brand, expressed as 14 digits in the GS1 Digital Link, and identical to the number in the linear barcode.

2. Decide what else to encode. Sunrise 2027 requires retailers to extract at least the GTIN. Three optional fields come up most often: batch or lot number, serial number, and expiry. And know upfront that adding one of these fields later is not a settings change. A POS scanner reads directly from the barcode with no network lookup, so batch, lot, expiry, and serial all have to be physically encoded in the symbol itself. Adding any of them after the fact means a new barcode on a new print run, not an edit to the one already on shelf.

3. Get the formats right. Application Identifiers must be correct or the scanner does not know what it is reading.

Prepare the packaging and print files: the 50 mm rule

This is where the packaging team takes over.



Quiet zones are measured as multiples of X, the width of the narrowest bar or module in the code.

- Keep the 2D code within 50 mm of the linear barcode's center — this is what retail scanners need to hit normal checkout speed.
- Plan for quiet zones early. A QR Code needs clear space around it equal to four times its smallest printed unit; a DataMatrix needs one times that unit. Crowd either and the code fails to scan.
- Treat this as a layout decision made now, not a fix discovered after the print run.

The complete GS1 readiness checklist for CPG brands

The checklist below is timed backward from the next artwork freeze, because that is the moment the destination decision either gets made deliberately or gets made by default, and the default is a QR Code that points nowhere useful.

HORIZON 1

Now to 90 days before artwork freeze: decide and validate

DATA

- Audit every GTIN for validity, ownership, and 14-digit expression
- Decide which attributes to encode beyond GTIN, and whether they can be supplied on every unit

PACKAGING

- Confirm the next artwork freeze date per SKU family
- Identify printing surface risk by SKU, checking each against paper, carton, and flow-wrap performance

MARKETING

- Choose what a phone scan resolves to, by SKU
- Secure the subdomain the brand will resolve on

COMMERCIAL

- Ask the top three retailers what they expect and by when, in writing
- Confirm whether any retailer requirement lands earlier than the freeze

HORIZON 2

90 to 30 days before freeze: build and test

PACKAGING

- Place the code within 50 mm of the linear barcode's center, quiet zones intact
- Print a physical proof on the actual substrate at actual line speed
- Run barcode verification with graded equipment, not a phone
- Test for double scans in a live-equivalent POS environment

DATA

- Generate GS1 Digital Link, confirm Application Identifiers and YYMMDD dates

MARKETING

- Build and load destination pages, test on low-end phones and slow connections
- Instrument analytics and any retargeting pixels before launch, not after

COMMERCIAL

- Share a verified proof with the retailer contact

HORIZON 3

Freeze to launch, and after

DATA

- Document the encoding standard internally, so the next SKU does not start from scratch

PACKAGING

- Set the ongoing verification cadence: inline where available, offline for grading

MARKETING

- Review scan data at 30 and 90 days, change destination content based on it

COMMERCIAL

- Bring readiness proof into the next category review

OPERATIONS

- Document the batch-level recall procedure before it's needed

TL;DR

The GTIN needs to be valid and 14 digits, matching the linear barcode, and any batch, lot, or expiry data a brand chooses to add is a permanent commitment, not a setting it can change later. Placement is just as fixed: the 2D code has to sit within 50 mm of the linear barcode's center, quiet zones intact. Work backward from the next artwork freeze, not from December 2027, and split the checklist between data, packaging, marketing, and commercial teams.

How a GS1-compliant code becomes a growth channel



Reaching a shopper in the aisle normally means renting access, through retail media or trade promotion. A code on the brand's own pack works differently: printed once, it ships on every unit, and whoever holds the product is in-market. For brands selling through distributors, it's also the only reliable way to reach the end consumer directly.

The gap in the data

Consumers want more from the code than a checkout scan.

75%

of consumers scan mainly to get product information.

79%

of consumers say they're more likely to buy from a brand that gives information to them.

Most marketers aren't there yet.

36%

of marketers actually use QR Codes to deliver that information.

56%

of marketers expect QR Codes to drive revenue.

12%

of marketers measure whether QR Codes do.

How the GS1 QR Code helps collect first-party data

Here's what that looks like for a food brand sold through grocery stores.

STEP 01

A shopper buys the product at the retailer, for example, Whole Foods.

STEP 02

They scan the QR Code on pack with the native phone camera.

STEP 03

They land on a branded page offering something specific, like ingredients sourcing or a recipe.

STEP 04

Email or SMS is captured, and the first-party data syncs to the brand's marketing platform.

What the brand ends up holding: a first-party contact list, repeat purchases from a review or referral nudge, referrals that compound as they get shared, and audience data the brand can push to ad platforms.

QR Code scans can fire Meta, Google Ads, and GA4 pixels, which turn anonymous in-aisle scanners into a retargetable audience. A shopper who picked up a brand's hot sauce in a store it does not own becomes someone it can reach again, without renting the audience from the retailer.

How the GS1 QR Code routes to different destinations

The rule most teams miss is that a single printed code does not commit a brand to a single marketing destination. A resolver can route by time, location, device, or scan history.

That makes a number of variations possible from one print run.

Seasonal

A January reset guide, a summer recipe contest, a holiday gift bundle, and an emergency recall redirect that goes live in minutes.

Retailer-specific

A scan in Whole Foods opens sustainability credentials. The same code scanned in Target opens loyalty points and a Target Circle promotion. In Costco, bulk recipe ideas and value messaging. On a DTC unit, subscribe-and-save.

The same code also has to satisfy two different readers at once, and they want opposite things. The scanner wants a small, dense, high-contrast code that reads in a fraction of a second, and it wants the GTIN. The shopper wants a code big enough to notice, a reason to bother, and a page worth arriving at. The way to resolve that tension is to earn the scan with copy rather than code size — "Scan for recipes" outperforms a code with no context.

Five use cases, mapped to common CPG metrics

Use case	What the shopper gets	What CPG brands measure
Ingredients, allergens, and nutrition	The full answer, not a version shrunk to fit the label	Scan rate by SKU and store, time on page
Recipes and usage guidance	A reason to buy the second unit	Repeat scan rate, recipe page depth
Recalls and freshness	Trust, at the moment it matters most	Batch-level scan reach during an event
Recycling and sustainability disclosure	Compliance-grade information, updatable	Scan-to-disclosure completion
Loyalty and first-party data capture	A reason to identify themselves	Opt-in rate, cost per first-party record

94%

of marketers recognize QR Codes as a route to first-party data. For a brand that sells through retail and rarely learns who its customers are, a code on pack is the shortest path to a direct relationship with its customers.

CASE STUDY

PepsiCo puts GS1 Digital Link on a national relaunch

When PepsiCo rebranded Sierra Mist as Starry, it used the relaunch as the moment to put a GS1 Digital Link 2D barcode on pack, rather than running the code as a separate project on its own timeline.

WHAT THE CODE DOES

- Carries the GTIN, so one symbol works as product identity for retail systems
- Resolves to a SmartLabel destination with nutrition facts, allergens, and ingredient detail
- Extends into sustainability information, recycling guidance, and loyalty rewards
- Serves curated content across the buying and consumption journey instead of one fixed page

John Phillips, PepsiCo's SVP of customer supply chain and go-to-market, has described 2D as enabling capabilities "not possible with the current UPC barcode." PepsiCo has also pointed out that a scan can give a shopper the definition of every ingredient and the reason it is in the product, which is impractical to print given label approval and reprint cycles.

CASE STUDY

ISDIN turns packaging into a loyalty program

When ISDIN wanted its skincare packaging to build repeat relationships instead of ending at the shelf, it put a serialized QR Code on every unit that opens directly into its Love ISDIN loyalty program.

THE DEPLOYMENT

- A unique QR Code per unit, for secure per-product tracking
- Scanning joins the shopper into Love ISDIN loyalty program and starts earning points immediately
- Unlocks personalized offers, free samples, and exclusive perks tied to that scan

THE RESULT

- A single scan converts a purchase into an enrolled loyalty member, with no separate app or account setup
- Personalized rewards drive repeat purchases, cross-sell, and brand recall

TL;DR

A single GS1 QR Code can collect first-party data, route different content by retailer or season, and support use cases from recipes to loyalty, all without a separate SKU or an extra print run.

How to choose GS1 QR Code infrastructure



01

Native GS1 syntax generation

A platform should construct and validate compliant GS1 Digital Link natively, not require manual assembly and pasting into a generator.

02

Resolver support

Can one identifier recognize and route a POS scan and a phone scan differently, per the GS1-Conformant Resolver standard?

03

A branded domain

The brand resolves on id.brandname.com, not a vendor's short domain — a trust factor with shoppers, and a control factor if vendors ever change.

04

Dynamic redirection without reprinting

Updating the customer scan destination should not affect POS-side scanning. Confirm this works at individual SKU and batch level, and not just campaign-wide.

05

Rules-based routing

Time, location, device, and language, so one printed code can serve different retailers and different markets.

06

Analytics and attribution

Scans are tracked by SKU, store, and time. Ad-platform pixels turn those scans into a retargeting audience, instead of leaving them stuck in a dashboard.

07

Governance and permissions

Role-based access and an audit trail stop someone from repointing a live SKU by accident.

08

Uptime and scale

A brand's code is printed on inventory with a multi-year shelf life. A resolver outage is a dead product page in a shopper's hand, and a printed pack cannot be patched.

Free and low-cost QR Code generators solve a different problem: a campaign code only needs to work for a quarter, while a GS1 QR Code on packaging needs to work for as long as it's on the shelf. Most free generators fail on native GS1 syntax, a branded domain, and dynamic redirection — criteria a campaign tool was never built for.

What Uniqode offers a CPG team

Uniqode builds and validates the GS1 Digital Link natively, so the 14-digit padding, Application Identifiers, and date format are handled by the tool natively. Codes generate in bulk from a GTIN list rather than one at a time, and every code resolves on the brand's own subdomain and stays dynamic, so a recall notice or new campaign is updated, not reprinted.

Smart Rules route by location, device, time, or scan history, so one SKU can serve different people with different scan destinations. Scan analytics report by SKU, store, and time, and ad platform pixels fire on scan. Role-based permissions keep packaging, marketing, and operations teams in one account without anyone repointing a live SKU by accident.

TL;DR

Two questions separate a campaign tool and a packaging tool: does the platform generate GS1 Digital Link syntax natively, and does the brand own the resolving domain?

Ready to take the first step?

More than 50,000 businesses use Uniqode across consumer goods, retail, hospitality, and real estate. Generate a compliant QR Code powered by GS1 and learn what shoppers do with it. Or book a GS1 readiness consult.

[Start a free trial](#)[Book a GS1 readiness consult](#)