



The Global Language of Business

GS1 Digital Link

Connect your customers to the product information they want and need



Today's consumers are scanning product barcodes with smartphones to learn more about what they are buying—or considering buying.

If the scan leads to a single Facebook page, a broken website link or a web page with incomplete or non-existent information, chances are the consumer will move on. If information about the product is distributed and duplicated in different places online, the consumer may find it difficult—even impossible—to get relevant and up-to-date information.

In healthcare, there is a growing need to access information online about medications and medical devices—by scanning a single barcode. This includes product information leaflets (PIL) that provide important information to patients and care providers. In addition, regulators are asking for the PIL to be provided electronically, instead of on paper, via a QR code link that is added to the packaging. In healthcare, it is impractical—and sometimes impossible—to accommodate a URL in a regulated barcode.

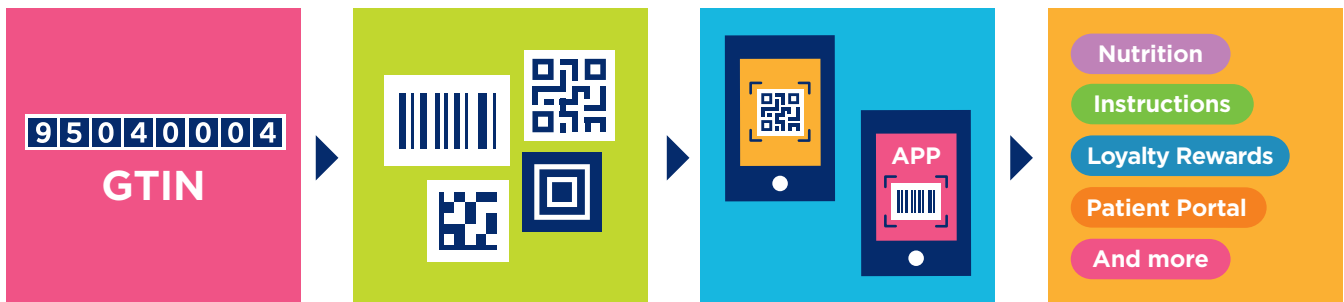
Simply stated, today there is no seamless, non-proprietary way for brands, retailers and healthcare suppliers to communicate with consumers via a barcode scan. Moreover, having multiple barcodes on a product (some of which do not contain standardised identifiers like GS1 Global Trade Item Numbers) causes scanning issues at the point-of-sale (POS) and/or point-of-dispense (POD).

For consumers, patients and care providers, these experiences lead to lost time, frustration and possible risk. For brands and retailers, they translate to missed opportunities, lost sales and the potential erosion of brand loyalty.

GS1 Digital Link offers a solution

GS1 Digital Link “web-enables” barcodes by providing a simple, standards-based structure for the data that is encoded in new barcodes and by providing simple rules that apps, websites and POS scanners can use to translate both old and new barcodes into connections, shopping experiences and interesting product content. Brand owners and retailers can now connect consumers, patients and

GS1 Digital Link promises to enhance the shopping experience for consumers while helping to strengthen brand loyalty, increase revenue and improve supply chain traceability and efficiencies for brand owners and retailers.



business partners to all types of information about their products—from dimensions and images to expiration dates, nutritional and medical product data, warranty registration, troubleshooting instructions—even social media links. These connections to other sources of information can be enabled by leveraging common “resolver” functionality, the standards for which are being defined in the next phase of the GS1 Digital Link standard.

A “resolver” is a lookup tool. Imagine a physical phone book or a list of contacts on your computer. When you look up a company (or person’s) name, it is connected—or “resolved”—to a phone number and to other relevant information, such as a physical address, email address, job title, etc. Like phone books, resolvers can be created by—and used by—a variety of entities, like a company, for example. In a similar way, an entire industry or community may choose to collaborate on a resolver functionality to serve specific business needs.

In the context of GS1 Digital Link, we expect that different stakeholders will develop resolvers to help them address their unique business challenges. A brand may develop a resolver that internally manages links to content and assets that already exist in their systems. A retailer may develop a resolver to connect their customers to relevant pricing and availability information. In healthcare, a resolver may be developed to connect patients to eLeaflets. It is also expected that Industries will choose to collaborate and build resolver capabilities that help to solve foundational, non-competitive business needs, such as looking up the location of products’ data sources in order to simplify business-to-business (B2B) data exchange.

In a business-to-consumer (B2C) context, industry will be able to use GS1 Digital Link to engage consumers and patients via apps and websites reached by simply scanning a barcode. Doing this will allow industry to engage more dynamically with consumers and patients, and to share relevant information with them from across their entire enterprise. We see existing market penetration of QR code for uses such as SmartLabel™ as complementary to GS1 Digital Link, and we seek to ensure that such codes leverage this new standard.

In a B2B context, GS1 Digital Link lays the foundation for connecting to wherever human—and machine-readable—information may be. GS1 has prototyped a “resolver” to enable proof of concept work that can show how brands, retailers and GS1 Member Organisations (MOs) can together support the simplification of B2B business processes. This resolver functionality is a future extension of the

GS1 Registry Platform that will enable “links” to brand-authorised data sources about products, places, assets, etc. These links will enable basic connections to data sources of verified products for the purpose of supporting non-competitive business needs around product data sharing without any of those data sources needing to be moved, duplicated or aggregated.

The GS1 Digital Link standard works with all kinds of data carriers:

- All one- and two-dimensional barcodes (construction of the Digital Link by an app for barcodes that do not contain a URL/web link)
- Radio frequency identification (RFID) tag (e.g., EPC-enabled RFID)
- Near-field communication (NFC)
- Other technologies, such as digital watermarking

Here’s how GS1 Digital Link works

Consumer experience

A consumer wants more detailed nutritional information and additional recipes for a cake mix. They can use their smartphone (no specific app required) to scan a QR code on the package that contains a GS1 Digital Link URI. The phone points them to a brand-owned web page that provides nutrition and recipe information—as well as other product information and/or brand experiences. If the same consumer uses a retailer app to scan the exact same barcode, they can be connected to different experiences such as ordering products, collecting loyalty points and “sharing” products with friends on social media. It is envisioned that this same barcode will be scannable at the checkout counter, thus setting the foundation for the future of codes on pack.

Healthcare experience

Pharmaceutical manufacturers are challenged to provide patient information for their products in multiple languages, making leaflets cumbersome to produce. Consumers also often find the information intimidating and difficult to navigate. By using an app that can read the pharmaceutical product’s GTIN encoded in the GS1 DataMatrix barcode on the package, the consumer is redirected to an electronic patient information leaflet which, through a simple setting in their smartphone, is delivered in their preferred language. The app “knows” the rules of the GS1 Digital Link standard, so it uses the data in the barcode to connect to an industry-agreed “resolver” service to find the source of the leaflet.

Supply chain

A retailer wishes to list a new product in its catalogue. Today's complex data-sharing ecosystems mean that the manufacturer often needs to collate images and video from a content service provider, marketing material from a digital agency, and perhaps multiple sources of data covering logistics and product information—an expensive, duplicative and time-consuming process. Leveraging GS1 Digital Link and resolver technology, industry can enable a future product-listing process—one that uses foundational GS1 identity to streamline and connect trading partners to relevant, brand-authorized sources of data. In addition to the types of data mentioned above, links to essential trading partner information about product safety, safe-handling directions, transportation, disposal, packaging hierarchies and planograms can also be shared.

Traceability

Traceability solutions may also be greatly enhanced by the use of the same GS1 Digital Link barcode. GS1 Digital Link enables the identification of specific product batches (or even serialised products). This additional data in the barcode can support linking to information about provenance, recall and/or expiry. Retailers can save a significant amount of time—and avoid losing revenue and brand trust—by quickly locating and removing products from shelves more precisely.

Take steps today

1. Lay the foundation

Assign GS1 identifiers to each of your products (GS1 Global Trade Item Number) and/or your location (GS1 Global Location Number). Encode your products' unique identifiers into data carriers like a EAN/UPC or GS1 DataMatrix barcode and apply to product packages. If your organisation is using QR codes on your products, ensure that they are encoded with a GS1 Digital Link-formatted Uniform Resource Identifier (URI).

2. Utilise apps

GS1 Digital Link turns your products' identifiers and barcodes into powerful communication channels that your customers can scan and be directed to in order to receive a wealth of digital information. As a retailer, begin to leverage your apps (both those used inside your enterprise and those used by your consumers) to read and use GS1 Digital Link-structured barcodes.

3. Connect your products to your data

Using the GS1 Digital Link standard structure means that you no longer need to ensure that all of your data, assets and content are available in one place. Work with GS1 to enable your own resolver capabilities to connect product identifiers to wherever you choose to store your data.

Use one barcode—online and offline

The introduction of GS1 Digital Link does not mean that the use of the EAN/UPC barcode is changing. Quite the contrary: brand owners and retailers will still use the ubiquitous barcode for years to come—only now they have the future opportunity of migrating to a single, web-enabled barcode.

Get connected

To explore the potential of GS1 Digital Link for your business, or to participate in a proof of concept or pilot study, contact your local GS1 Member Organisation. Visit www.gs1.org/contact.

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