

GS1 IN EUROPE IMPLEMENTATION GUIDE

Use a QR code powered by GS1 Digital Link to inform consumers about alcoholic beverages



About GS1 in Europe

GS1 in Europe is a neutral, not-for-profit organisation which is conceived to simplify and automate exchanges between trading partners by relying on a unique identification system that is recognised and used worldwide.

Representing more than 500,000 companies, we bring those companies around the table and promote collaboration to establish common rules and global standards. We strive to empower businesses to improve their efficiency, safety, security and sustainability.

With the GS1 Standards, companies can uniquely identify their products, logistics units, locations, entities and assets throughout their lifecycle, regardless of the sales channel.

GS1 has worked for over 50 years to create international standards for identification and branding, including the EAN-13 barcode on packaging.

In the light of the economic and environmental context, GS1 is adapting to new consumption habits and has developed the QR code with a GS1 Digital Link. This new symbology makes it easier to move from a linear economy to a circular economy and assists trade in a new dimension.

For more information on GS1 in Europe please visit <https://gs1.eu/>

Context & Purpose

How the alcoholic beverages sector will better inform consumers on ingredients, nutrition and allergens.

For wines and aromatised wines, the Regulation (EU) 2021/2117¹ sets out the obligation to provide a list of ingredients and a nutritional table, regardless of their origin. This regulation will be effective from 8 December 2023 and is modernising the way information is provided to consumers by allowing producers to make the new required information available via electronic labels.

For spirits, the sector has signed a Memorandum of Understanding² in which they stated to self-regulate and also inform consumers with the needed information.

The beer sector decided to inform consumers by printing the full list of ingredients and energy values on the label³.

¹ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2021.435.01.0262.01.ENG

² <http://spirits.eu> <https://spirits.eu/issues/internal-market/consumer-information-on-spirit-drinks>

³ <https://brewersofeurope.org/uploads/mycms-files/documents/publications/2019/labelling-report-web-001.pdf>

The objective of this guide is to support companies and solution providers in the alcoholic beverages sector in digitalising their labels using the GS1 standards.



What information can be on the e-label?

The mandatory content of the label, information on ingredients and nutritional values can be accessed via a QR code printed on the bottle.

The adoption of the new mandatory labelling rules will meet consumers' expectations and increase transparency while harmonising appropriate communication on alcoholic beverages and flavoured alcoholic beverages.

WINES & AROMATISED WINES

The regulation requires the following mandatory information to be provided on electronic label (e-label) for wines and aromatised wines:

- ingredients declaration (including allergens)
- nutritional table (based on 100 ml)

Additionally, the e-label can contain:

- additional allergens declaration
- optional product identification and information.

PLEASE NOTE

The e-label for wines and aromatised wines cannot contain any commercial or marketing information..

SPIRITS

Spirits producers have adopted self-regulation, which entails their commitment to incorporating, as a minimum, the following on the electronic label (e-label):

- ingredients declaration (including allergens)
- nutritional table (based on 100ml and the consumption unit equivalent, 30ml)

Additional product information can be placed on the e-label to inform consumers about the product.



What does GS1 in Europe offer?

1 - What GS1 standards can be used?

- GTIN as a unique and unequivocal system for product identification;
- GS1 Data Model to structure and harmonise data, in line with regulatory requirements and commitments made by the sectors;
- GS1 Digital Link in a QR Code to provide consumers with different types of product information and to anticipate the replacement of the current barcode at the checkout by 2027.

2 - Who is this guide for?

- Developers, solution providers or service suppliers: printers, suppliers of branding materials, publishers of electronic catalogues (Product Information Management-PIM), or product databases and all types of consumer apps
- Any stakeholder (producer, trader, bottler and/or packer) who places wines and/or spirits on the market and must comply with the new European regulation or self-regulation regarding consumer information about the list of ingredients and nutritional values of alcoholic beverages.

3 - How does it work?

The solution is to create a QR code with a GS1 Digital Link. GS1 Digital Link extends the GS1 system, enabling the GS1 identifiers to link customers, consumers, business partners and patients to multiple sources of online information, supporting different processes of multiple partners and serving multiple needs. This can also be used for creating the e-label for electronic beverages.

The QR code with a GS1 Digital Link contains a permanent link that acts as a “switch”.

It can redirect to different information depending on the user application and context.

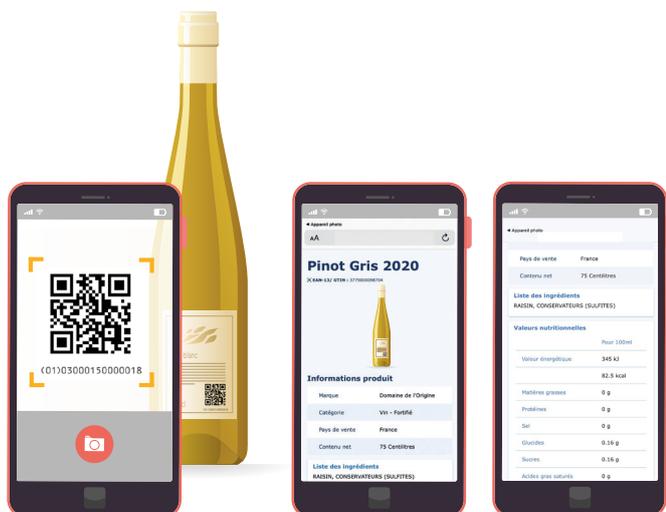
For example:

- A device, such as a smartphone camera, will be able to read the weblink and lead the user to an internet page.
- A scanner at the checkout (point of sale) will read the data (GTIN, batch number, etc.) encoded in the label.

The benefits of a standardised format

This standardised format structures product information, makes it possible to automate updates without changing the QR code, improves data quality and reduces data entry errors.

It also makes it possible to share this information with partners and to interpret it in the same way, so that they speak the same language.



How to do it?

Here are the main steps to identify your products, to structure and share your product data, and to implement the GS1 Digital Link through a QR code on the label.

Step 1

Uniquely identify your product with a GTIN

GTIN stands for “Global Trade Item Number”. It is sometimes referred to as an EAN (European Article Numbering) code or UPC (Universal Product Code in North America).

To sell products, regardless of the channel, you will need to identify them with a GTIN. The GTIN can be displayed on the product by using a symbol such as a linear barcode or a QR code. More information can be included through a QR code than with a single linear barcode, including the possibility of a GS1 Digital Link.

The brand owner is responsible for the identification of their products. A product’s GTIN is created from a GS1 Company Prefix (GCP) obtained from a national GS1 Member Organisation (GS1 MO). All GS1 MOs in Europe can be found here <https://gs1.eu/gs1-in-europe-member-organisations/>

It is important to follow the GTIN management rules: <https://www.gs1.org/1/gtinrules/en/>

Step 2

Structure the product data with the GS1 Data Model for alcoholic beverages

GS1 provides companies with a data model¹ to structure and exchange product data in a standardised format. Its use improves the quality and completeness of identification, marketing, logistical, financial and regulatory data. It ensures the accessibility of product information for all partners, right up to the end consumer, as required by the regulations.

The different values of the GS1 data model for alcoholic beverages can be transmitted via the GS1 Global Data Synchronisation Network® (GDSN). It allows automatic data exchange and updates with all your partners, distributors, marketplaces, etc.

¹ <https://navigator.gs1.org/gdm/local-data-models> (select Country; Category = Alcoholic Beverages)

To comply with the (self-) regulation a data model for the e-label has been created by GS1 in Europe in collaboration with the alcoholic beverages sector:

Alcoholic beverages GS1 data model for e-label			Data Model according to GS1 (GDM / GDSN attributes)		
Label information	Status	Type ¹	BMS ²	ABD ³	GDSN ⁴
Product identification					
GTIN	Mandatory for GS1 system	Both	67	GTIN (Global Trade Item Number)	gtin
Product description	Mandatory for GS1 system	Both	1268	Product description	tradeltemDescription
Brand	Mandatory for GS1 system	Both	3541	Brand name	brandName
Sub brand	Preferred by sector	Both	3546	Sub brand	subBrand
Product image	Preferred by sector	Both	2999	Referenced file type code	referencedFileTypeCode
		Both	3000	Uniform resource identifier	uniformResourceIdentifier
GPC	Mandatory for GS1 system	Both	161	Global Product Category Code	gpcCategoryCode
Net Content	Mandatory for GS1 system	Both	3733	Net content	netContent
Ingredients					
Ingredients	Mandatory according to regulation	Both	1268	Ingredient statement	ingredientStatement
Nutritions					
Energy (kJ) Energy (kcal) Fats of which saturates Carbohydrates of which sugars Fibre Protein Salt	Per 100ml: Mandatory according to regulation	Both	1717	Nutritional preparation code	preparationStateCode
		Both	1733	Nutrient code	nutrientTypeCode
	Per portion: Preferred by sector	Both	1732	Nutrient value precision code	measurementPrecisionCode
		Both	1734	Nutrient quantity	quantityContained
		Both	1714	Nutrient basis quantity	nutrientBasisQuantity
	Both	5872	Nutrient basis quantity description	nutrientBasisQuantity-Description	
Allergens					
Allergens	Mandatory according to regulation	Both	375	Allergen type code	allergenTypeCode
		Both	376	Allergen containment code	levelOfContainmentCode
Additional product information					
Alcohol percentage	Preferred by sector	Both	352	Alcohol percentage	percentageOfAlcohol-ByVolume
Alcohol Beverage Type	Preferred by sector	Both	6314	Alcohol Beverage Type Code	alcoholBeverageTypeCode
Vintage	Preferred by sector	Wines	357	Vintage	vintage
Alcoholic beverage colour	Preferred by sector	Wines	6569	Alcoholic beverage colour code	alcoholicBeverageColour-Code
Sweetness level	Preferred by sector	Wines	6574	Sweetness of alcoholic beverage	sweetnessLevelOf-AlcoholicBeverageCode
Origin of wine code	Preferred by sector	Wines	6572	Origin of Wine	originOfWineCode
Grape variety code	Preferred by sector	Wines	1283	Grape variety	grapeVarietyCode
Alcoholic beverage age	Preferred by sector	Spirits	6321	Alcoholic beverage age	alcoholicBeverageAge

¹ Type = For which type of alcoholic beverages is this attribute intended?

² BMS = Business Message Standard = ID numbers for attributes used within GS1 standards

³ ABD = Attribute Names for Business

⁴ GDSN = Global Data Synchronisation Network

All definitions associated with this data are available in the GDM Navigator tool (Global Data Model, <https://navigator.gs1.org/gdm/>).

Step 3

Create a QR code and register the GS1 Digital Link

By incorporating a GTIN (Global Trade Item Number) within a QR code and utilizing the syntax of the GS1 Digital Link URI (Uniform Resource Identifier),

- through a device such as a mobile phone you can be redirected to the dedicated weblink
- at a checkout (point of sale) the product can be identified.



How to proceed:

1 - Create a GS1 Digital Link URI for your bottle

To create a link that complies with the GS1 Digital Link standard, you will need to retrieve the information on the products to be identified and generate a key in GS1 Digital Link format respecting these elements:

- domain name (mandatory)
- product identification primary key (mandatory), for example the GTIN...
- qualifying keys (optional), e.g. batch number, serial number, location extension...
- additional data (optional), e.g. expiry date, net weight, etc.

2 - Create a QR code to be printed on the label

- The size of a QR Code varies depending on the amount of information contained
- The size and quality rules shall be in accordance with ISO/IEC 15415
- With the GTIN printed in human readable format
- An example of the GS1 Digital Link is included below

Examples :



(01)09506000134369



(01)09506000134376

For 41 encoded characters (simple (GTIN))

Min. symbol size	11,49 x 11,49 mm
Margin dimension included	14,66 x 14,66 mm
Target symbol size	14,36 x 14,36 mm
Target size including margin	18,32 x 18,32 mm

<https://dalgiardino.com/01/09506000134369>

For 70 encoded characters (GTIN + batch number + serial number + use-by date)

Min. symbol size	13,07 x 13,07 mm
Margin dimension included	16,24 x 16,24 mm
Target symbol size	16,34 x 16,34 mm
Target size including margin	20,30 x 20,30 mm

<https://dalgiardino.com/01/09506000134376/10/ABC/21/123456?17=211200>

3 - Build your digital services

There are two possible options to make the information structured in step 2 available to consumers.

Option 1: A single link that redirects to a website

No special action is required. The redirection is done automatically to the website after the scan. The link to the website page must be the same as the one in the QR code.

Option 2: A resolver

A (GS1) resolver allows redirection to different services. A resolver allows redirection to different services by utilising Link Types.

The GS1 resolver contains at least the following four parts:

- The “Link type”, which is used to define the service associated with the link (default page, traceability page, tutorials, etc.). For alcoholic beverages the link type is **gs1:pip** (product information page, <https://gs1.org/voc/pip>)
- The “Target URL”, which is the link where the service is located.
- The language, defined in the ISO 3166-1 alpha 2 code list.
- The context is a non-standardised zone that allows the brand to define contexts of link usage in addition to the language (e.g. Saturday, Morning, VIP, Customs officer, In shop, At home).

Example of a database

Link type	Target URL	Lang	Context
gs1:defaultLink	https://example.com/		
gs1:defaultLinkMulti	https://example.com/fr/defaultPage	FR	location:French-speaking country
gs1:defaultLinkMulti	https://example.com/en/defaultPage	EN	location:English-speaking country
gs1:traceability	https://example.com/en/traceability	EN	location:English-speaking country; warehouse
gs1:tutorial	https://example.com/en/tutorial	EN	location:English-speaking country; non-store
...	

More information on GS1 Digital Link can be found on: <https://www.gs1.org/standards/gs1-digital-link>

Overview of relevant GS1 standards

Typology	Standard	Links
Product identification	GTIN	https://www.gs1.org/standards/id-keys/gtin
Location identification	GLN	https://www.gs1.org/standards/id-keys/gln
URI syntax	GS1 Digital Link Application Identifier	https://www.gs1.org/standards/gs1-digital-link https://www.gs1.org/standards/barcodes/application-identifiers
Branding	2D in Retail: Next generation barcodes. One scan. Infinite possibilities.	https://www.gs1.org/industries/retail/2D-barcodes
Standard format associated with regulatory product data	GS1 Global Data Model	https://navigator.gs1.org/gdm
Markup language	GS1 XML	https://www.gs1.org/standards/edi/gs1-xml

Useful links

Product identification

- GTIN management rules | <https://www.gs1.org/1/gtinrules/en/>
- GS1 in Europe project on alcoholic beverages | <https://gs1.eu/activities/alcoholic-beverages/>
- Get barcodes at the local GS1 Member Organisation | <https://gs1.eu/get-a-barcode/>

Data models

- The GS1 data model for alcoholic beverages | <https://gs1.eu/wp-content/uploads/2023/07/GS1-in-Europe-Alcoholic-Beverages-Data-Model-for-the-implementation-guide.pdf>
- Global Data Model | <https://navigator.gs1.org/gdm/>

CREATING A QR CODE WITH GS1 DIGITAL LINK

2D in Retail

- General specifications | Paragraph 8.2 Fixed measure trade items scanned at retail POS | <https://ref.gs1.org/standards/genspecs/>
- Next generation barcodes. One scan. Infinite possibilities. | <https://www.gs1.org/industries/retail/2D-barcodes>

GS1 Digital Link

- GS1 Digital Link Standard¹ | <https://ref.gs1.org/standards/digital-link>
- GS1 Digital Link Standard: URI Syntax | <https://ref.gs1.org/standards/digital-link/uri-syntax/>
- Digital Link and the QR Code | <https://www.youtube.com/watch?v=Mj45b4FQaMQ>
- Consumer interaction with GS1 Digital Link | <https://www.youtube.com/watch?v=04uSS4nSdGw>
- GS1 Digital Link Layer Cake | <https://www.youtube.com/watch?v=H2idDJeH3o4>

SOFTWARE DEVELOPMENT KITS (ON GITHUB):

- QR code | <https://github.com/gs1/2d-barcode-generator>
- GS1 Digital Link Resolver | https://github.com/gs1/GS1_DigitalLink_Resolver_CE
- GS1 Digital Link toolkit | <https://github.com/gs1/GS1DigitalLinkToolkit.js>

¹ Please note that chapter 4-6 of the GS1 Digital Link Standard have been replaced by the GS1 Digital Link Standard: URI Syntax

Do you need help?

GS1 in Europe Member Organisations can support you further in implementing GS1 standards for alcoholic beverages.

Connect with your local GS1 Member Organisation through
<https://gs1.eu/gs1-in-europe-member-organisations/>

GS1 in Europe

Galerie Ravenstein 4 box 10,
1000 Brussels - Belgium

E contactus@gs1eu.org

www.gs1.eu

NOTE ON LICENCES TO USE THE DIGITAL LINK STANDARD

GS1 Digital Link is a standard composed of technological and technical elements. In this respect, there are patents for which GS1 has obtained licences to use in order to allow the peaceful use of the GS1 Digital Link standard. For more information, please refer to the standard section A.1 Intellectual Property.

