



GS1 QR Codes and the Digital Product Passport

A guide to Europe's new digital compliance requirements

From barcode to 2D QR Code

GS1 Sunrise 2027 Initiative

GS1 Sunrise is a global effort led by the organization GS1 to **transition from traditional 1D barcodes (such as EAN barcodes) to 2D codes like QR codes or DataMatrix codes** in retail.

This is not a legal requirement but an industry-driven development aimed at establishing the use of 2D codes across the entire product value chain. Manufacturers, logistics companies, retailers, and point-of-sale systems (POS) will need to reliably scan and process these codes.

Traditional 1D barcodes will not be replaced but supplemented. This allows companies to gradually adopt the new technology without disrupting existing processes.

The shift is driven by **new regulatory demands** - especially in Europe - and the growing need for **digital product information, transparency, and traceability** throughout the supply chain.

A smart QR Code – a wealth of information

Automatically differentiated by user group

2D Codes can store a vast amount of product data in a small space and provide **different information for various user groups**, for

consumers, retailers or other stakeholders in the supply chain.



Comprehensive information for consumers:

- Expiry date
- Nutritional information and allergens
- User instructions
- Origin and sustainability
- And much more



Consumers can easily access this information using their smartphone cameras.

Comprehensive information for businesses and retailers:

- Traceability
- Batch and serial numbers
- Logistics and production data
- And much more



Retailers and logistics companies use specialized scanning devices. These devices automatically recognize the QR Code and provide the relevant information.

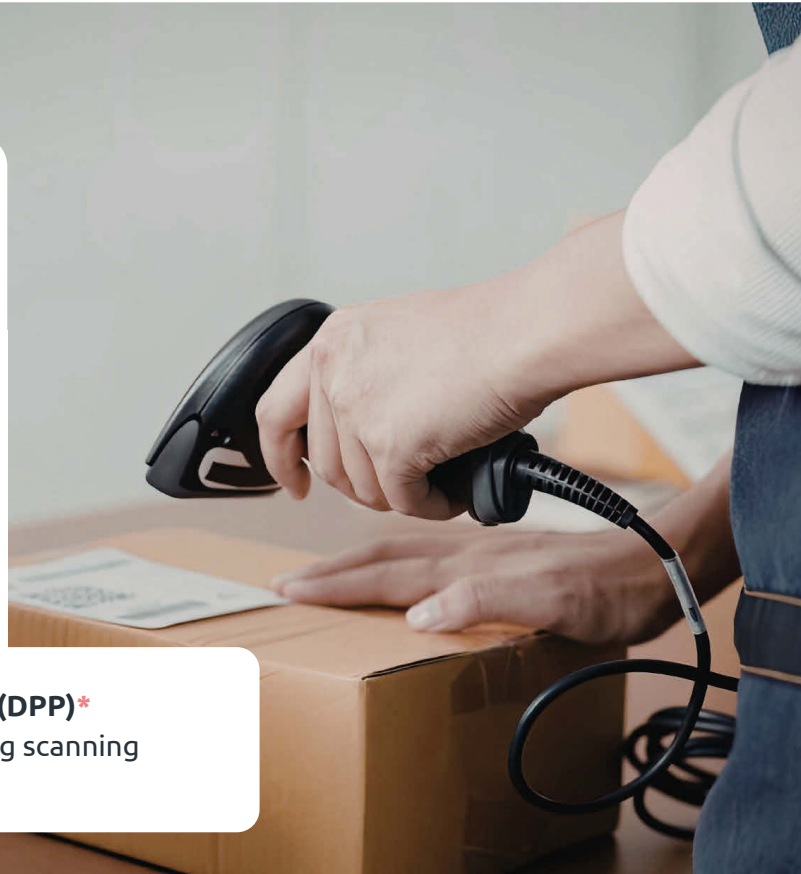
Platform features:

A one-stop shop for modern product labelling

The web-based platform supports the entire product lifecycle of GS1 QR Codes and offers companies a centralized solution for modern product labelling.

Create, manage, and deploy codes:

- Generate **2D QR Codes**
- Build **GS1 Digital Links***
- Create and manage **Digital Product Passports (DPP)***
- Ensure accurate **decoding of information** during scanning
- **Information-Hosting**



The DPP Manager

The **Digital Product Passport Manager** enables companies to easily create and efficiently manage digital product passports.

Structured product information - such as **technical specifications, sustainability data, material compositions** or **compliance documents** - can be centrally recorded, maintained and updated at any time.

The provided content is made accessible via a GS1-compliant 2D QR Code and can be tailored to different target groups.

This allows digital product passports to be **managed efficiently and ensures compliance** with current **regulatory requirements**.

* Detailed descriptions on the next page



More efficient data capture through faster and more reliable scanning of 2D QR Codes.

Energy Planet E-Bike Battery 7500

Energy Planet

01234567890128 v1 LOT-2023-11-A v1 # SN-EB-9999-0001 v1

<https://grplanet.com/dpp/01/01234567890128/10/LOT-2023-11-A/21/SN-EB-9999-0001>

Digital Product Passport Product History Consumer Engagement

Product Information

Hide

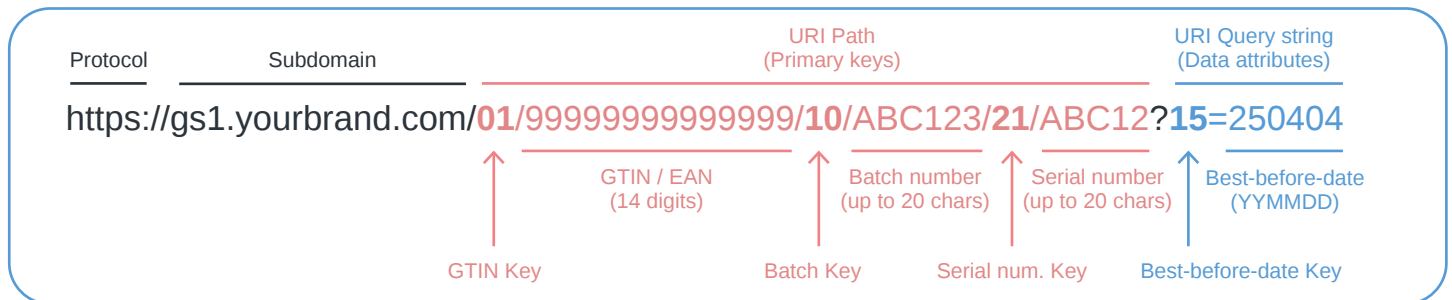
Brand Name	Energy Planet
GPC	10000546
Country of Sale	United Kingdom
Product Description	Lithium Li-ion, 36V 15.6Ah 750W

Example of a DPP for batteries

The GS1 Digital Link in a nutshell

The core of a modern 2D Code is the GS1 Digital Link, a **structured web address stored directly in the QR Code**. When scanned, it doesn't just open a regular website but provides standardized product information that can deliver different content depending on the application.

Important product data, such as the GTIN, batch number or expiry date is integrated into this URL **according to GS1 standards**. This allows systems along the supply chain to **automatically recognize and process the contained information**.



The Digital Product Passport (DPP) – what is it all about?

The DPP is a product label accessible via a 2D QR Code. When scanned, it provides **key product information**, such as **materials used**, **reusability**, or **recyclability**. In addition to the European Ecodesign Regulation, further **regulatory requirements** are currently being developed which will require the use of digital product passports for certain product groups in the near future.



In the European Union, the DPP will become a mandatory element for specific product groups.

Product groups that already require a DPP:

- Electric vehicle batteries
- Special food regulations for wine

The following products are the next priority of the EU's current working plan:

- Textiles/clothing
- Furniture
- Tyres
- Mattresses

Do you need more information?

Please contact us if you need support implementing GS1 QR codes in conjunction with your product database or ERP system.

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Blog article:

