



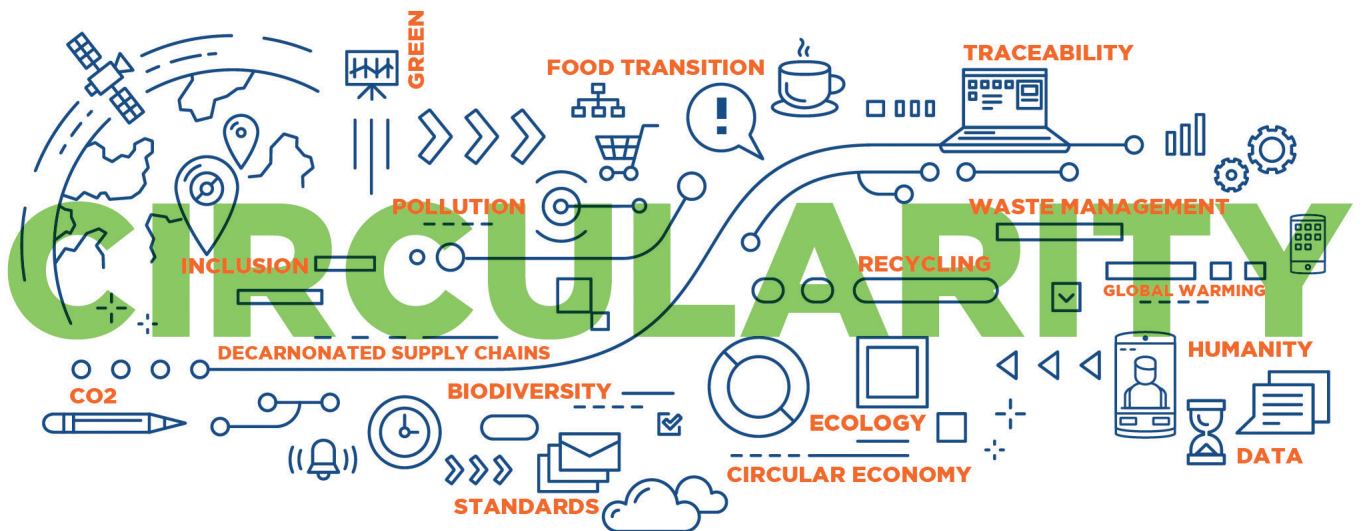
CELEBRATING

**15** YEARS  
2005-2020

OF COLLABORATION

The Global Language of Business

# Circular Data for a Circular Economy



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## GS1 IN EUROPE POSITION PAPER ON THE EU GREEN DEAL AND THE CIRCULAR ECONOMY PLAN

As an integral part of the EU Commission's strategy to implement the United Nation's 2030 Agenda and the sustainable development goals, the European Commission launched the new EU Green deal<sup>1</sup> with the aim of *"transforming the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use"*. This is based on the conviction that the EU has the *"collective ability to transform its economy and society to put it on a more sustainable path"*.

The EU Communication includes an initial roadmap of the key policies and measures needed to achieve the European Green Deal but the EC recognises that challenges are complex and interlinked and that this will demand that all EU actions and policies will have to contribute to the European Green Deal objectives.

It has been clarified that the Green Deal will make consistent use of all policy levers: regulation and standardisation, investment and innovation, national reforms, dialogue with social partners and international cooperation.

In March 2020, the Commission has adopted an **EU industrial strategy** to address the twin challenge of the green and the digital transformation based on the principle that Europe must leverage the potential of the digital transformation, which is considered a key enabler for reaching the Green Deal objectives.

Together with the industrial strategy, the **new circular economy plan**<sup>2</sup> will help *"modernise the EU's economy and stimulate the development of lead markets"* for climate neutral and circular products. The plan includes a **'sustainable products' policy** to support the circular design of all products based on a common methodology and principles. It will prioritise reducing and reusing materials before recycling them.

While the circular economy action plan will guide the transition of all sectors, it has been clarified that action will focus in particular on resource-intensive sectors such as electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water.

It has been recognised that **"digitalisation can also help improve the availability of information on the characteristics of products sold in the EU"**. For instance, an **"electronic product passport"** should be able to provide information on a product's origin, composition, repair and dismantling possibilities, and end of life handling.

The EU Farm to Fork Strategy will also contribute to achieving a circular economy. It will aim to reduce the environmental impact of the food processing and retail sectors by taking action on transport, storage, packaging and food waste. This will include actions to combat food fraud, including strengthening enforcement and investigative capacity at EU level.

<sup>1</sup> Adopted on 11.12.2019 COM (2019) 640

<sup>2</sup> Adopted on 11.03.2020

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## COLLABORATION OF ALL ACTORS ALONG THE CHAIN AS A PREREQUISITE

The circular economy model implies the rethinking of production, distribution and consumption models. It means a whole ecosystem to reinvent, with a lot of silos to be broken. At a foundational level of this new model, data is a crucial asset. First because modeling and implementing a truly Circular Economy will require a huge quantity of data. Then, because for each “product loop”, there will be a “product data loop”. Data quality will therefore be essential. But even more, data portability will be a necessity in this concept of “never ending supply chains”. Structuring data and mainly any kind of product data is a foundation. Using a common language (common semantics, ontologies, taxonomies) is the only way to obtain the level of efficiency needed by the Circular Economy concept. And finally, because these data will not be treated by humans but mostly by machines (including AI), interoperability of IT systems using this common language should be fostered.

That is why standardisation is so important: stakeholders have to co-create and use common rules based on a neutral, inclusive and collaborative governance.



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## STRUCTURED AND SHARED DATA IS THE NEW OIL

A sustainable circular economy change at a large scale is not going to happen unless data is structured and shared through global and open standards.

The fundamental concept behind the circular economy is to enable product data to be shared among all entities involved or simply interested, for many different purposes and perspectives. This concept implies a big change because for many players, data is still considered from a closed proprietary perspective. However, Circular Economy shows that the value of data stands in its use and this concept encourages companies to use and share open data. At GS1 in Europe we are convinced that “shared data is the new oil”. To allow all actors of the value chain to take advantage of the potential of data and enable circular economy, open standards must be a given.

## DATA STRUCTURED ON OPEN STANDARDS CREATES A COMMON GOOD

It is fundamental to put in place an ecosystem which mostly enables data circularity and data sharing. One important principle is to take some distance from a proprietary and closed-in system based on data structured only for one limited purpose and decided only by a few actors along the supply chain.

On the contrary, GS1 in Europe supports a product-authentication system based on a collective approach which involves all actors along the supply chain setting together the rules to identify, capture and share data. Another important element is that this system is an industry-driven one because there is no real circular economy change without real empowerment of economic players who generate, use and exchange product data. The consumer will gain access to trusted product information which will be based on more transparency and structured exchanges among all partners along the chain.

## OPEN STANDARDS ALLOW INTEROPERABILITY AND GREEN ICT PRODUCT INFORMATION SYSTEMS

Product traceability will not be possible without a common agreement on how to name places, objects and events associated with it. And data exchanges will have to happen without generating unnecessary data, unusable or difficult to match and highly energy consuming. That is why in order to achieve this, GS1 has developed open and universal standards.

Answering to climate challenges implies a radical change in our production, distribution and consumption models. Only a standardised, organised and collaborative use of data will enable a sustainable transition to an authentic circular economy model.

## GS1, A PLACE TO COLLABORATE AND CREATE OPEN STANDARDS

For more than 45 years, companies have worked collaboratively at GS1 to design a “system” of open standards to identify, capture and share data on products, locations or assets. Today, 2 million companies are “members” of the GS1 system and benefit from this “common good”.

They have built the GS1 standards which have been used to improve efficiency, safety and visibility of supply chains from source to consumer. We like to say that 45 years ago the GS1 barcode already started the digital revolution, enabling identification of products to be scanned electronically across stores and supply chains. Today, 6 billion GS1 barcodes are scanned daily.

Businesses facing similar issues follow the **GS1 Global Standards Management Process (GSMP)** to develop standards and standards-based solutions. As a neutral participant GS1 facilitates the dialogue and the standards development process among businesses and technical experts from more than sixty countries. Sectors represented include retail, consumer goods, fresh foods, healthcare, transport and logistics, technical industries (like rail) and many more.

### GTIN AND GLN CREATE UNIQUE PRODUCT/PLACES IDENTITY

It all started with the creation of a product “ID card” through registering a **GTIN (Global Trade Identification Number)** and a **GLN (Global Location Number)** with a common set of attributes. This has enabled the creation of a unique global identity for products places and things.

### GLOBAL DATA MODEL, GS1 WEB VOCABULARY, BARCODE EPC/RFID ENABLE DIGITAL CONTENT

**GS1 Global Data Model**, the **GS1 Web Vocabulary** and digitally-enabled **barcodes** make data requirements clear and ensure simpler and more efficient data exchange between trading partners and help to provide reliable and complete information to consumers.

### GS1 DIGITAL LINK, GDSN, EDI AND EPCIS CONNECT YOUR DATA EVERYWHERE

The **GS1 Digital Link** web standard gives access to trading partners and consumers to rich, deeper information about products. **GDSN** will support reliable and cost-efficient B2B2C data exchange.

**If you need more information on how GS1 in Europe can enable the data circularity based on open standards, please contact:**

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## ANNEX

### GS1 IN EUROPE'S MEMBER ORGANISATIONS PROJECTS INVOLVING CIRCULAR ECONOMY ASPECTS

Here follows a non-exhaustive list of some ongoing circular economy projects where GS1 open standards are used and where National GS1 in Europe member organisations participate.

#### **IoT European large-scale pilots programme: "Internet of food and farm 2020" (GS1 Germany)**

IoF2020 is dedicated to accelerating the uptake of IoT technologies in the European farming and food chains and ultimately strengthening their competitiveness and sustainability. How? By demonstrating, **together with end-users**, the use of IoT in 19 use-cases spread throughout Europe, and focusing on 5 areas: dairy, meat, arable crops, fruits and vegetables.

[https://european-iot-pilots.eu/wp-content/uploads/2018/03/220315\\_SD\\_IoT\\_Brochure\\_A4\\_LowRes\\_final-1.pdf](https://european-iot-pilots.eu/wp-content/uploads/2018/03/220315_SD_IoT_Brochure_A4_LowRes_final-1.pdf)

#### **GS1 standards in counteracting food waste - Cooperation with Polish Food Banks (GS1 Poland)**

The implementation of a solution based on GS1 standards lead to the optimisation of the process of handling food donations, particularly with regard to efficient and effective interchange of reliable, trustworthy information between the donors (retail networks) and food banks. The introduction of this new system not only ensures the compliance of data, but also tax security (booking for purposes of exempting food donations from VAT) and can be used as the basis for creating reports required by the current legal regulations. The Polish food banks will be recommending implementing these changes in networks who have yet to improve the flow of data on donations or who are planning to work with them. GS1 GTIN (Global Trade Item Number) is used for the identification of commodity groups; GS1 GLN (Global Location Number) is used to identify every shop within a retail network and individual food banks and GS1 EPCIS (Electronic Product Code Information Services) is the standard for exchanging and sharing data among those partners.

#### **FuLL CiRCLE (GS1 in Europe)**

FuLL CiRCLE analyses innovative circular systems for the furniture sector. The project will identify and test optimal scenarios for furniture under two headings: (1) product life extension and (2) closed-loop recycling of textile and plastic components. These two circular systems - which include aspects related to business models (BMs), products, materials and technologies - will be assessed in terms of life cycle sustainability performance (environmental, social, economic), industrial feasibility, market acceptance and whole value chain cooperation. An efficient data and information exchange underpin FuLL CiRCLE's systemic approach, together with comprehensive actions for stakeholder engagement.

This project is in the launching phase.

### **“Barcode for environment” and “Circular check-up tool” (GS1 Italy)**

The aim of the first project is to effectively share environmental attributes (PEF LCA data) using GS1 standards (GS1 QR code and Digital Link) with all partners along the chain. The circular check-up is an operational tool, conceived specifically for the FMCG sector and developed to help each company to measure the level of circularity in all product life cycle stages, so to identify opportunities for improvement.

### **GS1 ECOTraxx (GS1 Germany)**

German retailers and manufacturers have developed a cloud-based platform for the efficient exchange of sustainability data in the supply chain and have been implementing it since April 2019. Based on a standardized set of criteria, information is entered into the cloud once by the companies and can be exchanged individually with selected partners. The directive 2014/95/EU of the European Commission (disclosure of non-financial and diversity information) sets requirements for large companies to communicate their sustainability activities. As most of the required data comes from the supply chain, the biggest challenge is data collection. With GS1 ECOTraxx, this information can be collected and provided in a standardized and transparent manner.

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## GS1 in Europe is a collaboration platform composed of 48 member organisations



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GS1 in Europe is a neutral, not-for-profit organisation dedicated to the implementation of global standards to improve the efficiency, visibility and sustainability of products all around the world. We represent more than 1 million companies in the world, 400.000 of them in Europe.

We bring these companies around the table and foster collaboration in order to establish common rules and common standards.

We strive to empower businesses to improve their efficiency, safety, security and sustainability.

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