



# Integrated use of global standards to establish an effective traceability system for food products

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NEW QUALITY AND SAFETY REGULATIONS AND DEVELOPMENTS  
ON THE AGRIFOOD AREA

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## Table of Contents

- I. About GS1
  - Our key products
  - GS1 Sectors
  - GS1 Solutions
- II. Establishing an effective traceability system for food products based on GS1 standards





## About GS1

A global system of standards



## GS1: A global system of standards

**GS1 designs and implements a global system of supply chain standards**

GS1 standards provide a framework that allows products, services, and information about them to move efficiently and securely for the benefit of businesses and the improvement of people's lives, everyday, everywhere





## GS1: Bringing companies **together**

**GS1 brings together companies representing all parts of the supply chain**

Manufacturers, distributors, retailers, hospitals, transporters, customs organisations, software developers, local and international regulatory authorities, and more work together under our leadership to create standards



## GS1: Everyday, everywhere

**GS1 standards are used by...**

**Big multinational chains**

**Small corner shops**

**World famous brands**

**Individual craftsmen**





## Our vision & mission



A world where things and information about them move efficiently and securely for the benefit of businesses and the improvement of peoples' lives, everyday, everywhere

To be the neutral leader enabling communities to develop and implement global standards providing the tools, trust and confidence needed to achieve our vision



## Global reach, local presence



■ Countries with a GS1 Member Organisation

■ Countries served on a direct basis from GS1 Global Office (Brussels)

**108 Member Organisations.**  
**150 countries served.**  
**2,000 people helping us.**



## Our four key product areas



**Global standards for automatic identification**  
Rapid and accurate item, asset or location identification



**Global standards for electronic business messaging**  
Rapid, efficient & accurate business data exchange



**The network for global data synchronisation**  
Standardised, reliable data for effective business transactions



**Global standards for RFID-based identification**  
More accurate, immediate and cost effective visibility of information



## Helping businesses work more efficiently

**GS1 BarCodes:**  
The most well-known and universally recognizable GS1 standard.

Businesses and organisations around the world use them to **automatically identify products, pallets and places**, and manage their supply chains more efficiently.





## GS1 BarCodes & ID

### Global standards for automatic identification

Rapid and accurate item, asset or location identification



- GS1 BarCodes and the GS1 Identification System have provided benefits to consumers around the world for over thirty years
- The most widely used physical identification standard in the world
- Supported by all open trade retailers globally
- Implemented by over 1,000,000 user companies in more than 150 countries



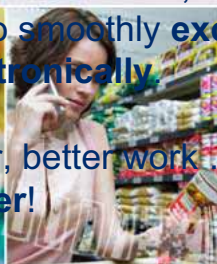
## Swift and smooth global communication ... with less paper!



**Business is global now:  
You need to be able to  
communicate with clients and  
partners around the world.**

GS1 eCom standards provide clear guidelines for creating electronic versions of many business documents, enabling trading partners to smoothly exchange information electronically

This means faster, better work ... with less wasted paper!





# GS1 eCom

## Global standards for electronic business messaging

Rapid efficient & accurate business data exchange



- Global standards for electronic business messaging
- Rapid, efficient and accurate automatic electronic transmission of agreed business data between trading partners all along the supply chain
- Improved efficiency and visibility in the supply chain



## Enabling new ways of working together



**To work together, companies need to share accurate, properly classified data.**

The GS1 Global Data Synchronisation Network (GDSN) enables companies who do business with each other to always have the **same information** in their systems.

Any changes made by one company are made available to all of the others who do business with them.





## GS1 GDSN

### The environment for global data synchronisation

Standardised, reliable data for effective business transactions



- GDSN: Global Data Synchronisation Network
- An automated, standards-based global environment that enables secure and continuous data synchronisation, allowing all partners to have consistent item data in their systems at the same time
- Standardised reliable data for effective business transactions in both global and local markets, **driving costs out of the supply chain**



**GDSN today**

- 6.0 million trade items in Global Registry
- 24 data pools certified in the GDSN
- More than 25,000 trading partners

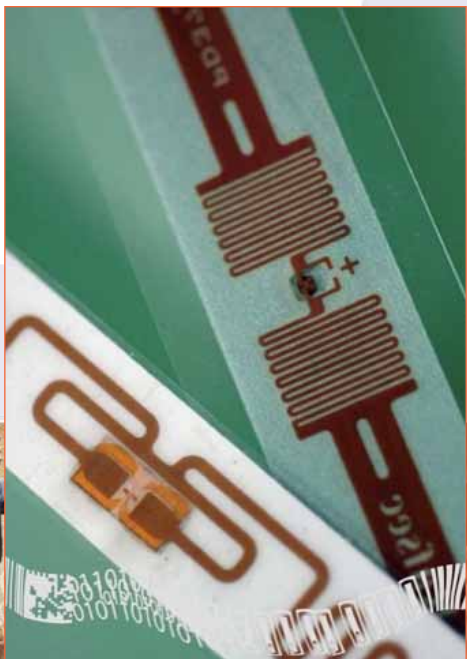


## Better visibility throughout the supply chain

**GS1 EPCglobal® standards put RFID technology to work for businesses and for people.**

With GS1 standards encoded on RFID tags, business people can know **what** an item is, **where** it has been and **when** it was there. It's also possible to deduce **why** it was there and in combination with sensors, **how** it was

Knowing this enables much more effective and streamlined processes across retail and supply chains in many industries.







## GS1 EPCglobal

### Global standards for RFID-based identification

More accurate, immediate & cost-effective visibility of information

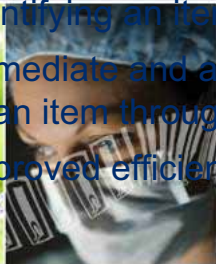


- A global standard system that combines radio frequency identification (RFID) technology, existing communications network infrastructure and the Electronic Product Code (a number for uniquely identifying an item)



- Immediate and automatic identification and tracking of an item through the whole supply chain

- Improved efficiency and visibility in the supply chain



## GS1 Sectors

GS1 standards meet the needs of companies from many different sectors, not just CPG





## GS1 System Sectors



## GS1 Solutions

Using GS1 standards to  
solve business problems

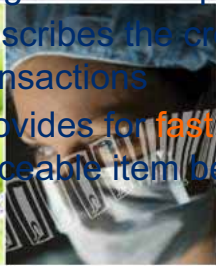




## GS1 Global Traceability Standard



- Defines **minimum traceability system requirements** for companies of all sizes across industry sectors
- Details the **corresponding GS1 standards** used within information management tools
- Meets the **core legislative and business need** to cost-efficiently trace back (one step down) and track forward (one step up) at any point along the entire length of the supply chain



- Describes the creation of **accurate records** of transactions
- Provides for **fast data communication** about the traceable item **between trading partners**



## GS1 Mobile phones changing the world



### Mobile devices can ...

- Change the way businesses do business
- Offer consumers a new shopping experience,
- Enable a dialogue with shoppers
- Give people access to information such as nutrition details, allergen alerts, carbon footprint, country or region of origin...
- And more!





# GS1 Traceability

Establishing an effective traceability system for food products based on GS1 standards



# Food safety is one of the policy areas of the European Union

Agriculture	Energy	Information society
Audiovisual and media	Enlargement	Institutional affairs
Budget	Enterprise	Internal market
Competition	Environment	Justice, freedom and security
Consumers	External relations	Maritime affairs and fisheries
Culture	External trade	Public health
Customs	Fight against fraud	Regional policy
Development and Cooperation	<b>Food safety</b>	Research and innovation
Economic and monetary affairs	Foreign and security policy	Taxation
Education, training, youth	Humanitarian aid	Transport
Employment and social affairs	Human rights	



Source: portal of the EU [http://europa.eu/pol/index\\_hu.htm](http://europa.eu/pol/index_hu.htm)



## European Union's food safety strategy

The base of the European Union's food safety strategy is the principle of **From the Farm to the Fork**, which includes the entire supply chain

Thus, a comprehensive food safety strategy has been developed, which include:



## 'From the farm to the fork'





## European Union's food safety strategy

The **traceability of food** is one of the main elements of the food safety strategy

This allows the identification of food and enables the verification if the regulations are met in every phase of the production, processing and distribution.



## Integration of standards

How can global standards serve food traceability?





## Identify food PRODUCTS

For the traceability of the flow of goods in the food supply chain, the unique and standardized identification of the smallest and bigger units of products is essential.

- 1) Identity >>> GS1 Identification Keys
- 2) Identification of LOT numbers >>> GS1 Application Identifiers
- 3) Unique (serialized) identification >>> GS1 Identification Keys (serialized identification), GS1 Application Identifiers
- 4) Physical identification >>> GS1 Barcodes



## Identify ORGANISATIONS in food supply chain

Unique identification of organizations in the food supply chain

- External identification of organizations (partners: suppliers, customers)
- Internal identification of organizations (organizational units)

GS1 Identification Keys: ***Global Location Number (GLN) for organizations***

GLN is associate with a standard hierarchy which enables all the GS1 Identifiers be available



## Identify LOACTIONS in food supply chain

Traceability of actual location and route of products in the food chain is only possible with appropriate location identification

Globally unique identification physical and geographical locations in connection with GPS based positioning

GS1 Identification Keys: ***Global Location Number (GLN), Serialized Global Location Number (sGLN)***



## Identify DOCUMENTS in food supply chain

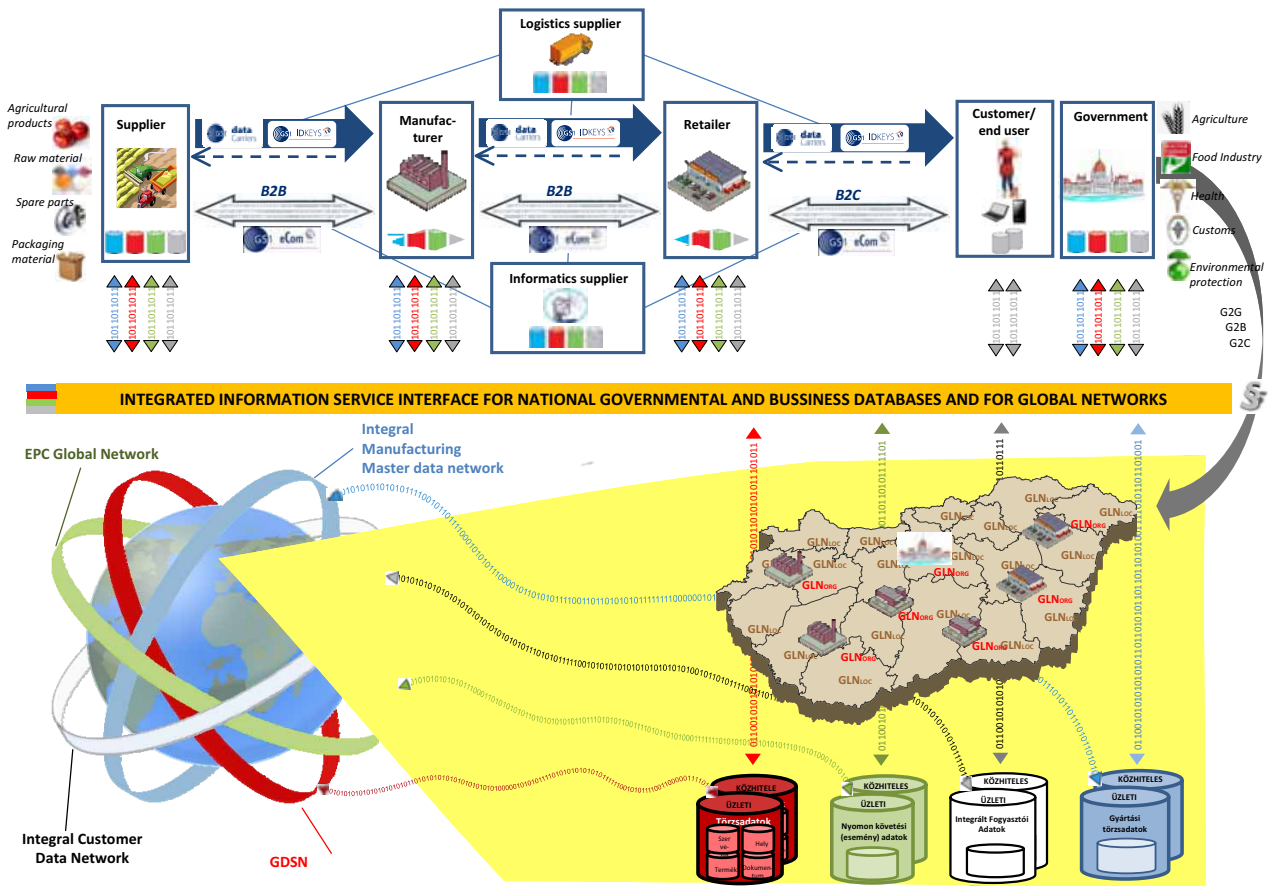
B2G communication: documents affected by obligations on registries, reports and providing certain data >>> addressed to the authorities in charge

B2B communication: documents of receive and sending processes >>> to business partners (parties)

GS1 Identification Keys: ***Global Document Type Identifier (GDTI), GS1 Electronic Business Message Standards (EANCOM, GS1 XML), GS1 based Data Synchronization (GDSN)***



## GS1's integral approach for the traceability of activities, products and services



## GS1 Summary

- GS1 through its global standards together with the implementation of modern infocommunication solutions can support more efficiently the electronic traceability process of food products locally and globally.

- GS1 actively supports the implementation of the before mentioned system elements and solution in the whole food supply chain, from the farm to the fork





**For more information:**  
**[www.gs1hu.org](http://www.gs1hu.org)**



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