# GS1

## Traceability

### What's in it for you

### What GS1 can do to help

FAIR TRADE ORIGINAL

AFRICAN ORIGINAL

## Earl Grey
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## What is traceability?

In manufacturing industries, managers constantly need to know the answers to a variety of questions: Does this shipment contain what we ordered? Is the physical flow of my goods optimised? Would I have the information I needed, if there were a recall or withdrawal?

In hospitals and patient care facilities, doctors and nurses need to ensure that the right patient is getting the right product and treatment.

In supermarket aisles and in home kitchens, consumers are asking themselves if food is safe, if it contains what the package says it does.

In shops and in restaurants, people of many religious faiths are asking themselves if the food products they are purchasing have been prepared in a way that properly respects their beliefs.

Traceability can provide the answers to questions like these – and many others.

Some form of traceability is already a legal requirement in certain sectors in the United States, Canada, the European Union and some countries in Latin America, Asia and Africa. But beyond mandatory traceability, more and more industries are voluntarily deploying traceability programs to improve efficiency and to help protect their brands and ensure that their food, drugs, medical devices or toys are safe. In short: traceability is now a vital part of the supply chain.

But traceability can only be achieved successfully if it is built upon global standards that can act as the foundation for clear, understandable exchanges for everyone involved.

**And that's where GS1 comes in.**

**Traceability can provide the answers to many questions**

**The GS1 Global Traceability Standard makes it possible to automate traceability with a set of complementary technologies**

For the last 30 years, we at GS1 have dedicated ourselves to the design and implementation of global standards for use in the supply chain. GS1 Standards ensure effective exchanges between companies and act as basic guidelines that facilitate interoperability and provide structure to many industries.

Building upon these decades of experience and leadership, GS1 has created the Global Traceability Standard (GTS) and intends for it to become the recognised reference for companies requiring any kind of traceability.

The GS1 Global Traceability Standard makes traceability systems possible on a global scale, for both small and large organisations, all along the supply chain, no matter how many companies are involved, no matter what enabling technologies (bar codes, RFID, EDI, Internet...) are chosen.

The GS1 Global Traceability Standard is a business process standard. It was developed within the GS1 Global Standards Management Process (GSMP), a community of more than 800 companies from Asia, Europe and the Americas, representing retailers, suppliers, GS1 Member Organisations and solution providers, in a wide range of industries. A Traceability Business Requirements Group (BRG) has been created in the GS1 GSMP in order to be the collaborative platform for all traceability stakeholders and to ensure the proper and necessary maintenance and evolution of the standard.

The GS1 Global Traceability Standard does not compete with other international standards such as those from ISO, from the CIES Global Food Safety Initiative (GFSI), the British Retail Consortium (BRC) Global Food Standard, the Food Marketing Institute, GLOBAL GAP, or various certifications for "organic" foods. In fact, GS1 helps companies and organisations meet the demands of these sorts of requirements, by providing the tools (and the explanations of how to apply those tools) to achieve the sought-after levels of traceability.

**With the GS1 Global Traceability Standard, dozens of real-world use cases for traceability applications and services can be made possible.**

**The GS1 Global Traceability Standard is a key enabler of services that provide supply chain visibility, from reception to distribution**

## The foundation for a more efficient supply chain

The ability to track and trace goods and information and quickly respond to market needs is the key to successfully and efficiently managing today's logistics supply chain.

Manufacturers, logistics providers and retailers are facing a multitude of new challenges: The ups and downs of the price of a barrel of oil. The need to work with reduced inventories while maintaining high service levels. An increasingly 'tense' extended supply chain, requiring tighter production planning, closer production monitoring and more efficient logistics scheduling, from upstream materials to consumer homes. Higher than ever before expectations for quality and safety from consumers. An increased demand from regulators to respond quickly and efficiently to any question about any ingredient of any product. A need to be almost immediately responsive, brought on by our high-tech, always-connected world.

In short: they need constant access to business-critical product information in their supply chain operations. They need globalized track and trace capabilities that can provide real-time visibility over goods.

They need applications and services made possible by the GS1 Global Traceability Standard.

The GS1 GTS provides the foundation for the creation of more integrated systems that can maximize the efficiency of a supply chain, while minimizing the production and distribution of unsafe or poor quality goods. It is a key enabler of services that provide supply chain visibility, from reception to distribution.

Traceability programmes can also help track and trace items from huge shipping containers to small packages and letters; in this way, they could contribute to enhancing the security of logistics and customs traffic.

Where does the food your family eats come from? How did it get to your supermarket? What route did it take to get there? Does it contain anything your daughter is allergic to?

The ability to answer these questions quickly and accurately lies in traceability applications and systems.

In order to work, food traceability systems need to know everything that happens, at every step of the way, from the farm to the kitchen table. But with the increase in extended and highly global supply chains and the growing use of contract manufacturing, tracing food products from end to end has become more difficult.

The GS1 Global Traceability Standard makes food traceability systems possible, on a global scale — no matter how many companies are involved or how many borders are crossed as food and food ingredients travel from one end of the supply chain all the way to the consumer.

Traceability is especially important if something goes wrong and food products must be recalled. The GS1 Global Traceability Standard can also play a vital role here: because it is built upon global standards, reaching from one end of the supply chain to the other, it can ensure immediate access to accurate product information — which enables swift, comprehensive recalls.

But perhaps more importantly, our standards also facilitate quality assurance and accurate inventory control. And that contributes to making recalls as unnecessary and as infrequent as possible.

**The GS1 Global Traceability Standard can play a vital role if something goes wrong and food products must be recalled**

Traceability solutions enabled by the GS1 Global Traceability Standard provide an excellent way to be sure food conforms to the requirements of people's religious beliefs or respects their lifestyle choices.

For example, more and more people are seeking food that respects certain ethical standards. Various labels and seals now exist which guarantee that the food items bearing them are the result of equitable, empowering and sustainable trading practices.

Billions of people of faith are beholden by the tenets of their religions to ensure that the food they purchase and the restaurants at which they eat respect a well-defined set of codes and principles. In fact, beyond the food products themselves, food premises (restaurants, food courts, commercial kitchens, cake and pastry shops, fast food restaurants…) and slaughterhouses are also required to be in conformance, as are any utensils used to prepare the food.

Various bodies around the world have been created to certify that food and food premises are halal, kosher, organic or eco-friendly. The GS1 Global Traceability Standard can make their work easier.

Similar concerns preoccupy strict vegetarians and vegans: while it's clear that a steak does not fit into their lifestyle choice, many other manufactured foodstuffs can in fact contain meat or animal derivatives. Traceability solutions can be built using the GS1 GTS to reassure these consumers that the products they purchase fully respect their wishes.

**The GS1 Global Traceability Standard can be used to help consumers be sure that food is halal, kosher, vegetarian or organic**

**Establishing a standards-based traceability system is a key enabler to enhancing patient safety and improving the quality of care**

## Enhancing patient safety and quality of care

Hospitals and care facilities are extremely complex environments in which careful attention must be paid all the time.

But doctors and nurses are only human, and unfortunately that means that errors are made. Sometimes the wrong dose is given to a patient. Or the wrong medicine. Or the wrong medical device is used. Or the right dose of the right medicine with the right device ... but for the wrong patient.

Every day, people die or are disabled because of medication errors. The medical sector is working hard at preventing as many of this sort of mistake as possible.

Establishing a traceability system is a key enabler to enhancing patient safety and improving the quality of care.

Traceability systems based on global standards such as the GS1 Global Traceability Standard enable verification and authentication of medical products throughout the global healthcare supply chain, making implementation faster and more effective, while improving the supply chain's safety and integrity.

GS1 Healthcare is a voluntary, global Healthcare user group whose active and international membership counts participants from around the world and representatives from all healthcare stakeholders: distributors, regulatory bodies, pharmaceutical and medical device manufacturers, industry associations, hospitals, clinicians, academia, ministries of health and wholesalers.

In December 2007, GS1 Healthcare established the 'Traceability in Healthcare' Work Team. This work team initially focused on the development of the Global Traceability Standard for Healthcare (GTSH) based on the GS1 Global Traceability Standard.

The GTSH is now a published standard and serves as a starting point for identifying specific requirements while ensuring a consistent approach and a common understanding of key principles. Their next step is creation of an Implementation Guideline for the GTSH.

## Combatting counterfeiting

Counterfeit handbags and watches are a problem. Counterfeit medical products are a *serious* problem.

In hundreds of places around the world, makeshift laboratories are using sugar or wax or worse to produce counterfeit pills that look exactly like real ones; other counterfeiters produce blood-sugar testing strips which are nothing but ordinary paper and dye. Counterfeiting has become so sophisticated that in some cases, even the companies whose own products have been duplicated can't differentiate between real and fake without performing chemical tests.

Despite the best efforts of the healthcare sector, such useless or even dangerous products reach the markets.

The GS1 Traceability Standard for Healthcare (GTSH), which is built upon the GS1 Global Traceability Standard, can help. The introduction of a unique identification for each and every pack of a medical product, where appropriate, will enable traceability and authentication systems with readily available technology, making it much more difficult for counterfeiters to intrude into the Healthcare supply chain.

And of course, our efforts to hinder counterfeiters in the healthcare sector puts us in an excellent position to assist other industries whose products are also frequently counterfeited, such as cosmetics, electronics and automobile parts.

## Improving sustainability

More and more frequently, investors and consumers are considering a company's record in protecting the environment as part of their buying decisions.

Governments as well are stepping up to support sustainable development: the UK Government, for example, has set targets to recover 70% of all consumer packaging waste by March 2010.

But beyond new regulations or changing customer expectations, there is growing evidence that sustainability strategies are also driving shareholder value and delivering positive financial returns. Sustainability is rapidly becoming a critical business strategy.

Retailers and manufacturers can achieve effective and efficient sustainability through collaboration, particularly on data. The GS1 Global Traceability Standard can make this smooth and easy.

With a GS1 GTS-based program in place, companies can avoid wasting energy by more easily making the right choices for transportation and logistics. They can launch stronger waste management and recycling initiatives. They can get better control over production and delivery. They can benefit from the visibility that standards make possible.

**Sustainability strategies can drive shareholder value and deliver positive financial returns**

## Addressing regulatory requirements

Prompted by their constituents and by their own concerns about safety, government legislators in Europe and in the United States have been drafting laws requiring various degrees of traceability, especially in the food industry and in the healthcare sector.

These new regulatory requirements are creating more demand for traceability than ever before.

Companies need systems that can provide end-to-end traceability, with accurate information and precise identification of the products and services, locations and actors involved.

The GS1 Global Traceability Standard can make such systems possible. It allows traceability systems from each trading partner to be compatible with each other and avoids any rupture in traceability along the chain. Building upon it, businesses can provide traceability with real-time control to meet requirements set by customers, outside organisations and regulatory bodies — all while improving efficiency and profitability.

**Regulatory requirements are creating a real demand for traceability**
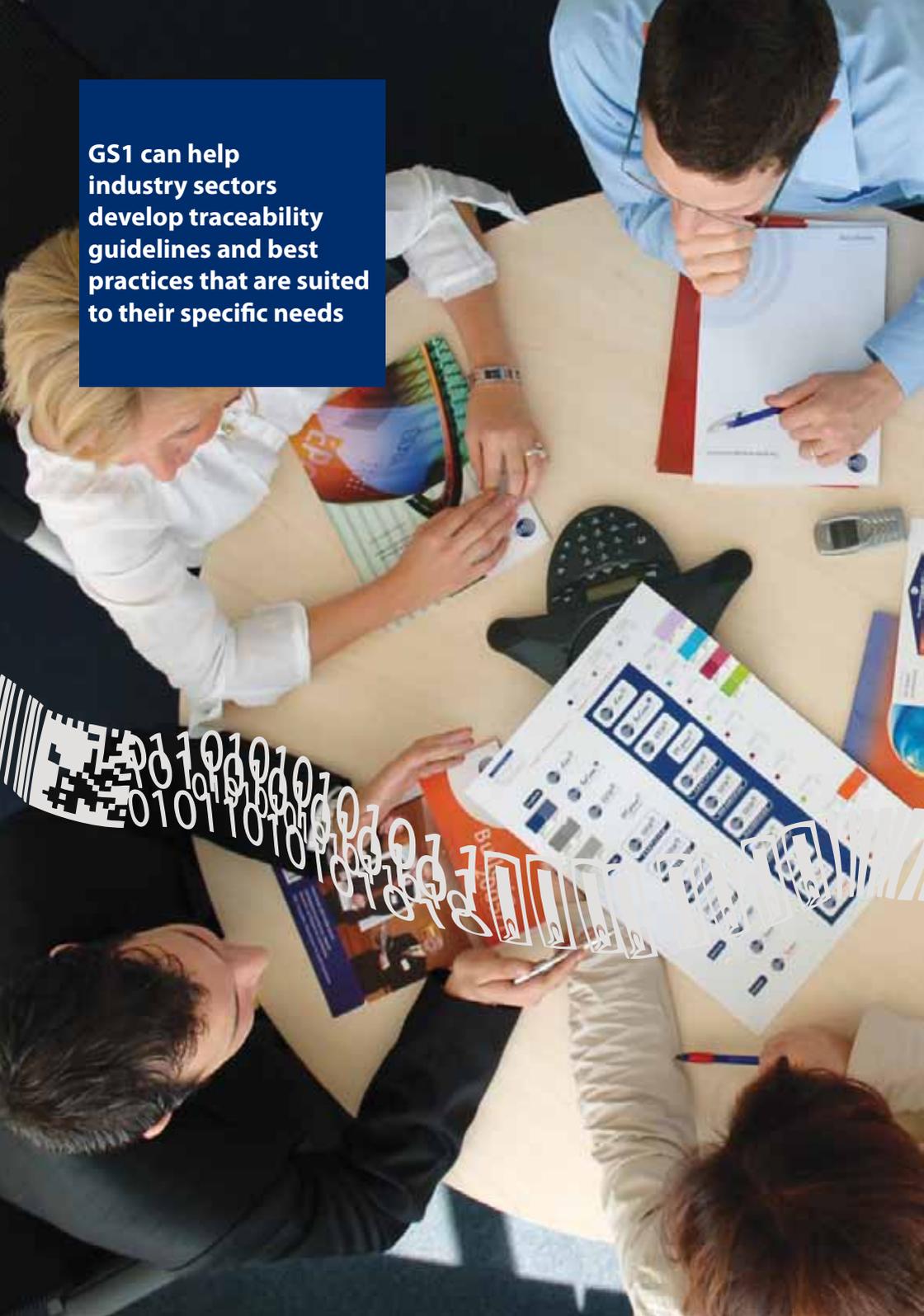
**GS1 can help industry sectors develop traceability guidelines and best practices that are suited to their specific needs**

There are a wide variety of traceability applications and services that can be made possible by the GS1 Global Traceability Standard. Because the GS1 GTS is independent from enabling technologies, it allows users to deploy applications and services which can build upon an entire range of GS1 Standards, including GS1 Identification Keys, GS1 BarCodes, GS1 eCom, GS1 EPCglobal and GS1 GDSN.

Concretely, according to the GS1 GTS, there are several mandatory requirements for a standards-based traceability system:
• All traceable items must be identified with the appropriate GS1 identifier at their point of creation
• Identification must remain with or on the item until it is used
• All physical locations must be identified with the appropriate GS1 identifier across the entire supply chain
• Data about products and their physical flow is captured and shared as agreed amongst trading partners (e.g., via GDSN, DESADV, EPCIS)

It is then up to trading partners or industry sectors to determine the relevant level of accuracy and depth of their traceability system; they can use the GS1 Global Traceability Standard to develop specific traceability guidelines that are perfectly suited to their own unique needs.

Another way GS1 helps companies with their traceability programmes is through our **Global Traceability Conformance programme**. This programme provides a methodology and tools to audit and assess existing traceability systems based on the processes described in the GS1 Global Traceability Standard as well as in other international standards such as ISO and food safety standards.

The Global Traceability Conformance programme provides brand owners with the possibility to have an independent party who can assess existing traceability systems or help design a new one. It also offers the means to guarantee that a traceability system respects the minimum industry requirements for traceability as defined in the GS1 Global Traceability Standard.

**Simply contact your local GS1 Member Organisation**

## Interested?

Do you wish to have the organic food you produce be certified? Are you thinking of launching a track and trace programme in your company? Do you have an application or service that enables or provides traceability?

**Then simply contact your local GS1 Member Organisation!**

The GS1 Global Traceability Standard is made possible by the local-market expertise and experience of GS1 Member Organisations, because — as for all of GS1's neutral, global standards — it comes with the support that businesses and organisations need to adapt it to their sectors and their specific needs and deploy it smoothly and successfully.

Our 108 Member Organisations around the world can provide:
• An assessment of your current traceability system or your plans to launch one
• Full details about all our guidelines and standards
• Training on a variety of traceability topics
• "Helpdesk" services to answer your questions
• Implementation support

We also invite you to join our Traceability Business Requirements Group: we need your contribution and input to ensure that our work is perfectly suited to the needs of your sector and your company.

Find the GS1 Member Organisation in your country on our website at
www.gs1.org/contact

Read all about the GS1 Global Traceability Standard and how we can help with assessment and implementation of traceability programmes at
http://www.gs1.org/traceability/
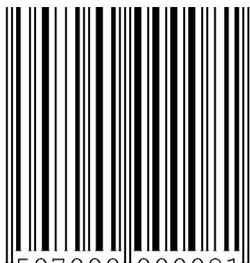
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