

Making life  
simpler, safer, swifter...



# Vision

At GS1, our vision is a world where things and related information move efficiently and securely for the benefit of businesses and improvement of peoples' lives, everyday, everywhere.

# Mission

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

Global commerce is today multifaceted and involves innumerable complexities. GS1's mission is to focus at the core of this challenge through design, development and implementation of global standards and business solutions that significantly simplify and improve the efficiency of Supply and Demand Chains.

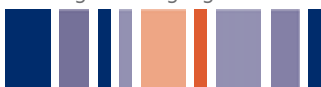
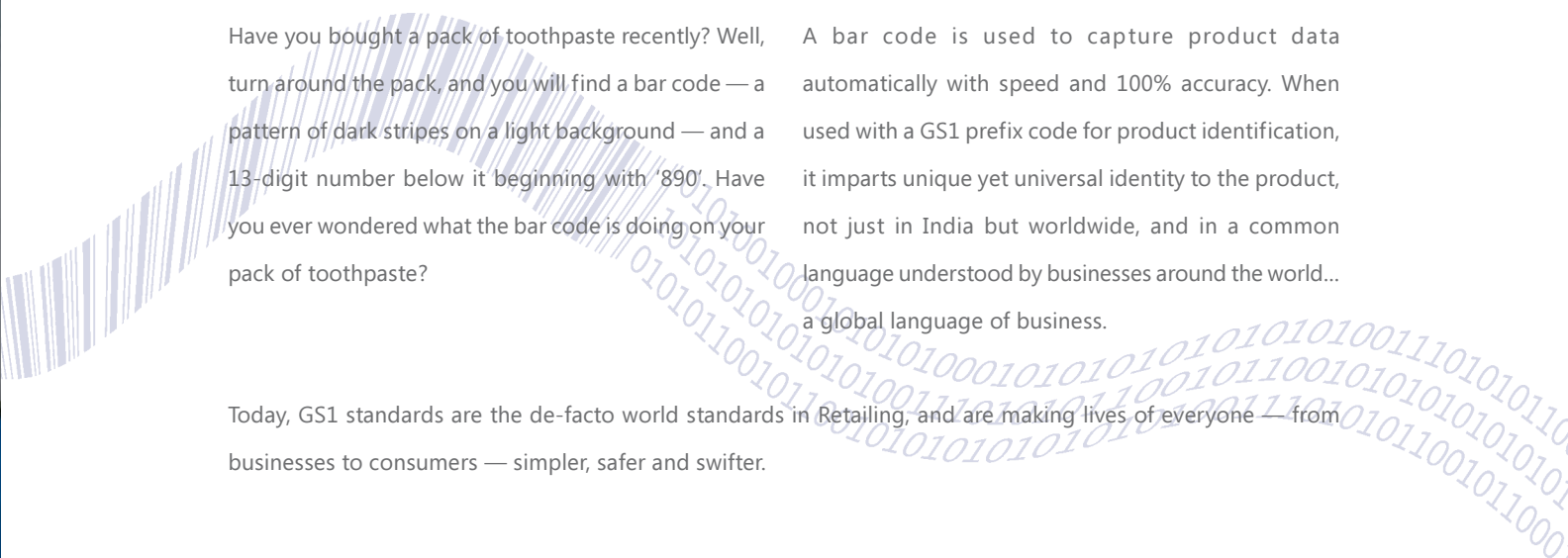


# Welcome Aboard

Have you bought a pack of toothpaste recently? Well, turn around the pack, and you will find a bar code — a pattern of dark stripes on a light background — and a 13-digit number below it beginning with '890'. Have you ever wondered what the bar code is doing on your pack of toothpaste?

A bar code is used to capture product data automatically with speed and 100% accuracy. When used with a GS1 prefix code for product identification, it imparts unique yet universal identity to the product, not just in India but worldwide, and in a common language understood by businesses around the world... a global language of business.

Today, GS1 standards are the de-facto world standards in Retailing, and are making lives of everyone — from businesses to consumers — simpler, safer and swifter.





# A Fascinating Journey

The quest for uniform, unique and unambiguous product identification began in the early 1970s. As Retailing grew, the grocery industry in the US realised that automating check-outs at the Point of Sale could reduce labour costs, facilitate inventory control, speed up check-outs and improve customer service. Product identification and automatic data capture were the keys to achieve this...

## Universal Product Code

In September 1969, several US industry associations, representing both manufacturers and Supermarkets, created a committee of industry leaders to identify a standard "inter-industry product code". Their efforts resulted in the announcement of the Universal Product Code and the UPC bar code symbol on April 1, 1973. The UPC symbol chosen by the committee was modification of a design submitted by IBM.

On June 26, 1974, a 10-pack of bar coded Wrigley's Juicy Fruit chewing gum passed across a scanner at a Supermarket in Troy, Ohio. It was the first ever item to be scanned at a Retail Point of Sale, and heralded the dawn of a new era.

## European Article Numbering

Meanwhile in Europe, Albert Heijn, a major Dutch retailer, and a few other manufacturers and distributors led the movement for standardised product codification. They set up European Article Numbering (EAN) in 1977.

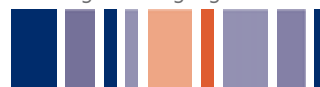
EAN was officially registered with Heijn as the Chairman and started operations with Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland and the United Kingdom as founding subscribers. The EAN system almost immediately expanded beyond Europe. Japan adopted the EAN system in 1978.

## The Genesis of GS1

GS1 came into being in February 2005, when Uniform Code Council (UCC – the Numbering Organisation in the USA) and Electronic Commerce Council of Canada (ECCC) joined EAN International. UCC has become GS1 US and ECCC has become GS1 Canada.

GS1 standards allow Supermarkets to control their inventory more efficiently, make gathering information for accurate and immediate business decisions incredibly simple, and ensure a faster check out for customers!

Today, GS1 standards are used in over 20 different industry sectors, including food and beverages, healthcare, shipping, etc. and have been adopted by Governments as well.



# Introducing GS1

GS1 is a leading global organisation dedicated to the design and implementation of global standards and solutions to improve the efficiency and visibility of supply and demand chains globally and across sectors. GS1 standards are the most widely used Supply Chain standards in the world.

The GS1 Global Office is located in Brussels (Belgium) and in Lawrenceville (New Jersey, USA), and has a presence in over 100 countries.

## GS1 in numbers

- Over 30 years of experience
- 108 GS1 organisations worldwide
- Over 1.3 million companies doing business using GS1 standards across 150 countries
- More than 20 represented sectors (FMCG, healthcare, transport, defence, etc.)
- Over 5 billion GS1 bar codes scanned worldwide everyday

## Collaborative development of standards

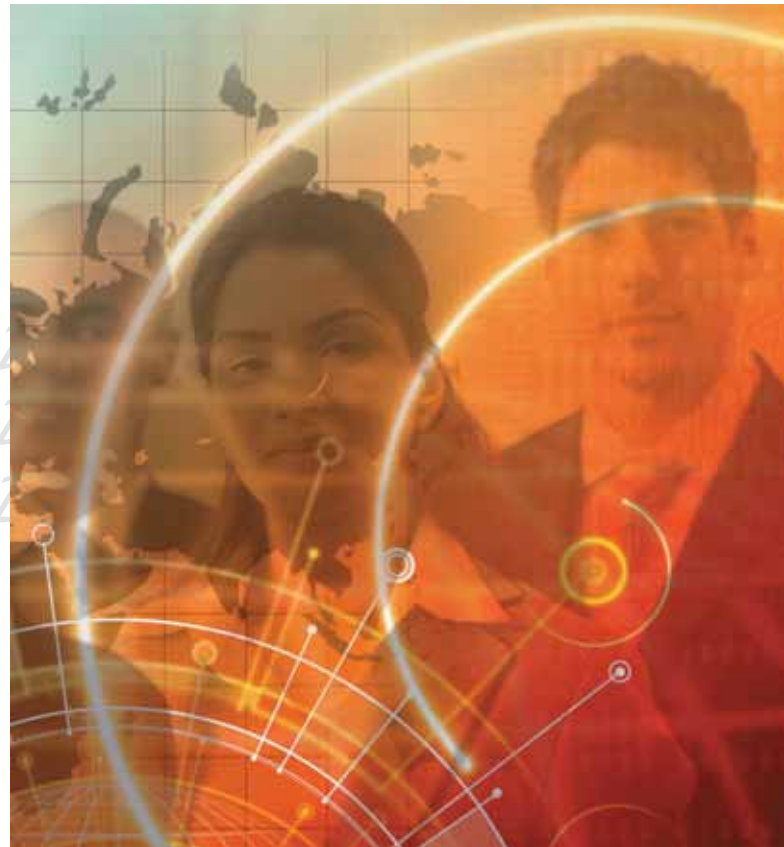
Global Standards Management Process (GSMP), is the pre-eminent worldwide collaborative forum where GS1 standards are built and maintained. It is the engine that powers the entire GS1 System of standards. It is an open and transparent process made possible by the participation of companies who wish to improve the efficiency of Supply Chains.

## GS1 Governance

GS1 is governed by a Management Board composed of key leaders and drivers from multinationals, retailers, manufacturers and GS1 organisations. As a result, GS1 Management Board has a global, multi-sectoral composition.

The present GS1 Management Board\* has representatives from leading global organisations like Wegman's Food Markets, Procter & Gamble, Wal-Mart, DHL Exel, Carrefour, Samsung Tesco, Nestlé, Metro AG, Unilever and Janssen Pharmaceutica among others.

\*as on March 2008



## GS1 Values

GS1 is :

- Neutral
- User driven and governed
- Serves all companies: from multinationals to SMEs
- A platform for collaborative commerce
- An organisation with multi-industry sponsorship, a robust technology track record, representation and a universal acceptance
- Not-for-profit organisation



# About GS1 India

These are exciting times to be in India. Rapid economic development of the country has spurred many lifestyle changes that were inconceivable a few years ago. Take a look at how you shop, for example. Name a product, and you'll find it at your neighbourhood Supermarket. And once you're through with the shopping, pay your bills at the automated counters and walk out in a jiffy. No queues. No hassles, whatsoever.

Take a closer look, and you'll find GS1 India's Herculean efforts quietly at work. In spite of the absence of a regulatory framework in India, 80% of consumer items now have GS1 bar codes.

The result: lower costs and improved Supply Chain efficiency for manufacturers, fewer out-of-stock

embarrassments for retailers and unprecedented convenience for consumers.

GS1 India is promoted by the Ministry of Commerce (Govt. of India) and Indian Industry to spread awareness and provide guidance on adoption of global standards in Supply Chain Management by Indian Industry for the benefit of consumers, Industry and Government.

GS1 India began operations in 1996. Headquartered in New Delhi, GS1 India is staffed with professionals having years of experience in Electronic Data Interchange, Electronic Commerce and Automatic Data Capture technologies. They also have in-depth knowledge of business processes in Supply Chain across Industry verticals.



## GS1 India's Board of Management

GS1 India's Board of Management includes representatives from Government bodies, industry as well as institutions:

- Department of Commerce, Ministry of Commerce & Industry, Govt. of India
- APEDA (Agricultural & Processed Food Products Export Development Authority)
- ASSOCHAM (Associated Chambers of Commerce and Industry of India)
- BIS (Bureau of Indian Standards)
- CII (Confederation of Indian Industries)
- FICCI (Federation of Indian Chambers of Commerce and Industry)
- FIEO (Federation of Indian Export Organisations)
- Spices Board
- IMC (Indian Merchants' Chamber)
- IIP (Indian Institute of Packaging)

# Products



Global data and application standards for bar codes that use the globally recognised GS1 identification keys to automatically identify things such as trade items, locations, logistic units and assets.

## GS1 standards for bar codes

Different applications have different data requirements. To meet these specific needs, GS1 provides standards for use in different bar code symbologies. For example, a 13-digit GS1 code is commonly used on consumer products that pass through Retail Point of Sale scanners. Detailed information on these bar codes and their applications is available on the GS1 website, [www.gs1.org](http://www.gs1.org).

GS1 standards in bar coding:

- Enable high speed data capture with 100% accuracy, eliminating the need for error-prone data entry to generate bills, purchase orders, invoices, packing lists, delivery challans, etc.
- Allow seamless compatibility throughout the Supply Chain, irrespective of the software or hardware being used.



## GS1 identification keys

These are non-significant, secure, global, and unique numbers which support the identification of items, services, locations, logistic units and returnables. These 'keys' are used to access information from a computer database, and are frequently converted into scanner-readable bar codes.

### The GS1 'keys' used in Supply Chains

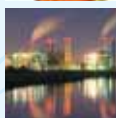
GTIN : Global Trade Item Number.



GSRN : Global Service Relationship Number.



GLN : Global Location Number.



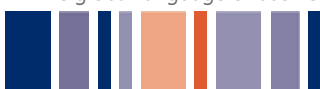
GRAI : Global Returnable Asset Identification.



GIAI : Global Individual Asset Identifier.



SSCC : Serial Shipping Container Code.





Global standards for electronic business messaging that allow rapid, efficient and accurate automatic electronic transmission of agreed business data between trading partners. GS1 has two standards: GS1 EANCOM and GS1 XML.

### GS1 EANCOM

EANCOM EDI standards were developed before the Internet era. These standards are a subset of the UN/EDIFACT (United Nations Electronic Data Interchange for Administration, Commerce and Transport) standards, which were created to support many industry sectors and therefore have a very wide scope.

EANCOM primarily consists of EDIFACT messages useful for the exchange of business documents for Supply Chain management in the context of GS1 standards.

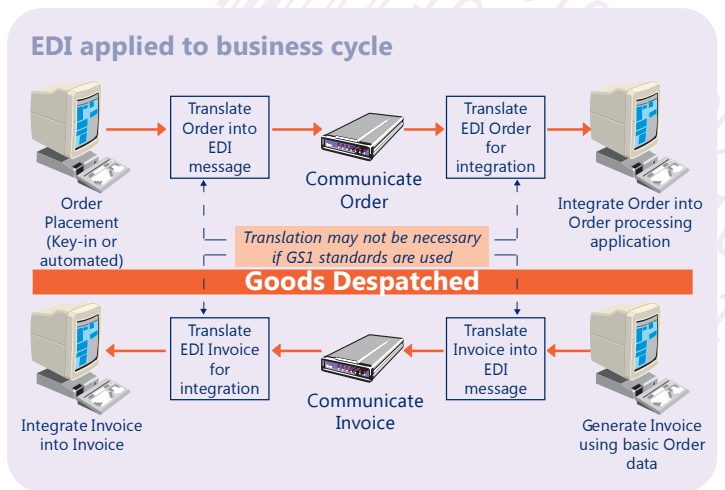
Further, this subset was supplemented with the use of GS1 identification keys for identification of trade items, parties (buyer, seller, third party, etc.) and logistic units, while retaining compatibility with EDIFACT. Today, many organisations around the world are using EANCOM successfully.

### GS1 XML

XML (Extensible Mark-up Language) is an important Internet-related development in the context of electronic data exchange. Some of its advantages are:

- Simplifies electronic data exchange
- Enables synchronous exchange
- Very suitable for collaborative exchange

GS1 XML standards are a set of formal specifications and structure of XML business documents for business messages. There are separate schemas for each business process such as ordering, dispatching, invoicing etc.



### Advantages of EANCOM and GS1 XML standards

Interchange of structured data according to agreed message standards by electronic means is a revolutionary improvement over traditional paper-based document exchange, which is time consuming, error-prone and requires more resources.

GS1's eCom standards provide a predictable structure for electronic business messages, enabling business partners to communicate business data rapidly, efficiently and accurately, irrespective of their internal hardware or software types.

By using standardised, readily-available formats, business partners do not have to align the format and structure of their messages. The key benefits are:

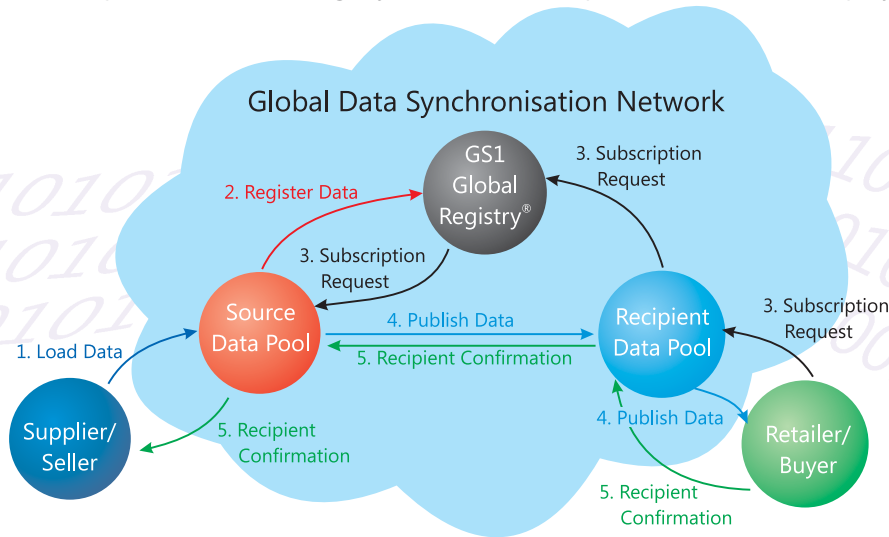
- Increased productivity through error-free, efficient processes and faster responses
- Lower administrative and manpower costs
- Increased speed-to-market and product availability



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. Global Product Classification (GPC) is a key component of GDSN, enabling effective category management.



Basic GDSN elements: GS1 Global Data Synchronisation Network connects retailers and suppliers, via their selected GDSN-certified data pools, to GS1 Global Registry. The interrelationship is as shown in the accompanying figure.

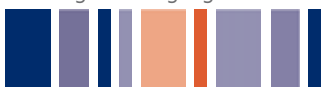


### GS1 Global Registry

GDSN acts as a “yellow pages directory” that provides information for subscription sharing. It enables data pool interoperability and guarantees uniqueness of the registered items and parties. It also ensures that all data pools in the network are complying with a common basic set of validation rules that support data integrity in the system. It also holds information about who has subscribed to trade item or party data.

The GS1 Global Registry has over 2 million registered GTINs and information on over GS1 14,000 members\* including well known international retailers and suppliers such as Royal Ahold, Carrefour, Consum, El Corte Ingles, Metro Group, SuperUnie, Tesco, Wal-Mart, Wegmans, Colgate-Palmolive, Groupe Danone, Georgia-Pacific Corporation, Henkel Kga, Johnson & Johnson, Kraft Foods, L’Oreal, Lutèce, Mars Inc., Nestlé, PepsiCo, Philips, Reckitt Benckiser, Sara Lee International, SCA, Coca-Cola, J.M. Smucker Company, Procter & Gamble, UnileverData etc.

(\*as on March 2008)



### Proven benefits of GDSN

- Dutch retailer Albert Heijn improved data management productivity by 30%.
- Wal-Mart decreased item maintenance from 15-30 days to 1 day.
- Gillette Venezuela improved order-processing productivity and eliminated master data discrepancies by aligning product information with their trading partners.
- Johnson & Johnson decreased out-of-stocks by 2.5% by virtually eliminating data integrity issues.
- Procter & Gamble increased purchase order accuracy by 3% by focusing on aligning obsolete products with La Fragua in Guatemala.
- Unilever Columbia significantly reduced data inconsistencies and improved new item speed to market by 2-3 weeks.
- U.S. retailer Wegmans Food Markets increased store sales by reducing speed to market on new items by two weeks.

### Benefits reported by suppliers

- Time-to-shelf reduced by an average of 2 to 6 weeks
- Order & item administration improved by 67%
- Item data issues in sales process reduced by an average of 25% to 55%

### Benefits reported by retailers:

- Order & item administration improved by 50%
- Coupon rejection at the check-out reduced by 40%
- Data management efforts reduced by 30%
- Improvement of on-shelf availability with out-of-stock items reduced from 8% to 3%

Source: Study conducted by GCI and CapGemini entitled, Global Data Synchronisation at Work in the Real World: Illustrating the Business Benefits



A new global standards system that combines RFID (Radio Frequency Identification) technology, existing communications network infrastructure and the Electronic Product Code (a number for uniquely identifying an item) to enable immediate and automatic identification and tracking of an item through the whole Supply Chain globally, resulting in improved efficiency and visibility of the Supply Chain.

Radio Frequency Identification (RFID) refers to a system that transmits the identity (in the form of a unique serial number) of an object or person using radio waves. RFIDs enable readers to capture data on tags and transmit it to a computer system without human involvement.

RFIDs originated during World War II. The technology, in its earliest form, was invented to identify British aircraft returning home after a mission, and prevent them from being shot down by their own forces. The 'Identify Friend or Foe' technology, as it was called then, involved fitting every British aircraft with a radio transmitter that responded to radio signals from ground radars. Present-day RFIDs work on the same basic principle.



## Electronic Product Code (EPC)

EPC is part of a standardised, low-cost method of tracking goods using RFID technology. EPC-compliant RFID tags can identify each item manufactured, as opposed to just the manufacturer and the class of product.

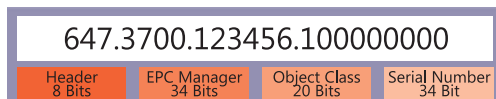
EPC offers unprecedented Supply Chain visibility, which brings about:

- Reduction in counterfeit products
- Fewer Out-of-Stocks
- Lesser instances of lost shipments
- Drop in shrinkage (theft)
- Fresher, safer food supply
- Smoother product recalls

### EPCglobal: Some facts

- Worldwide EPCglobal Community is 1,264\* companies strong
- EPC user groups span across all industries
  - Retailers: Ahold, Carrefour, Metro Group, Tesco, Wal-Mart
  - FMCG: Gillette, Henkel, Nestlé, Procter & Gamble
  - Pharmaceuticals: Bayer, Novartis, Johnson & Johnson
  - Aerospace/Automotive: Lockheed Martin, Boeing, Geda
  - Transport/Logistics: Schenker, DHL, Euro Pool
  - Solution Providers: Checkpoint, Cisco, IBM, SAP, Philips

\*as on March 2008



An EPC RFID data structure

## Auto ID Labs

Auto ID Labs are the successors of the Auto ID Centre set up in Massachusetts Institute of Technology in 1999. The Centre was funded by over 100 global organisations, including Wal-Mart, Metro, Intel, Unilever, Verisign, US Food & Drug Administration, US Postal Service, IBM, Microsoft, P&G, Philips, 3M, Coca-Cola, Deloitte, J&J, Abbot Labs, Tyco, Pfizer etc. in association with Uniform Code Council (now GS1).

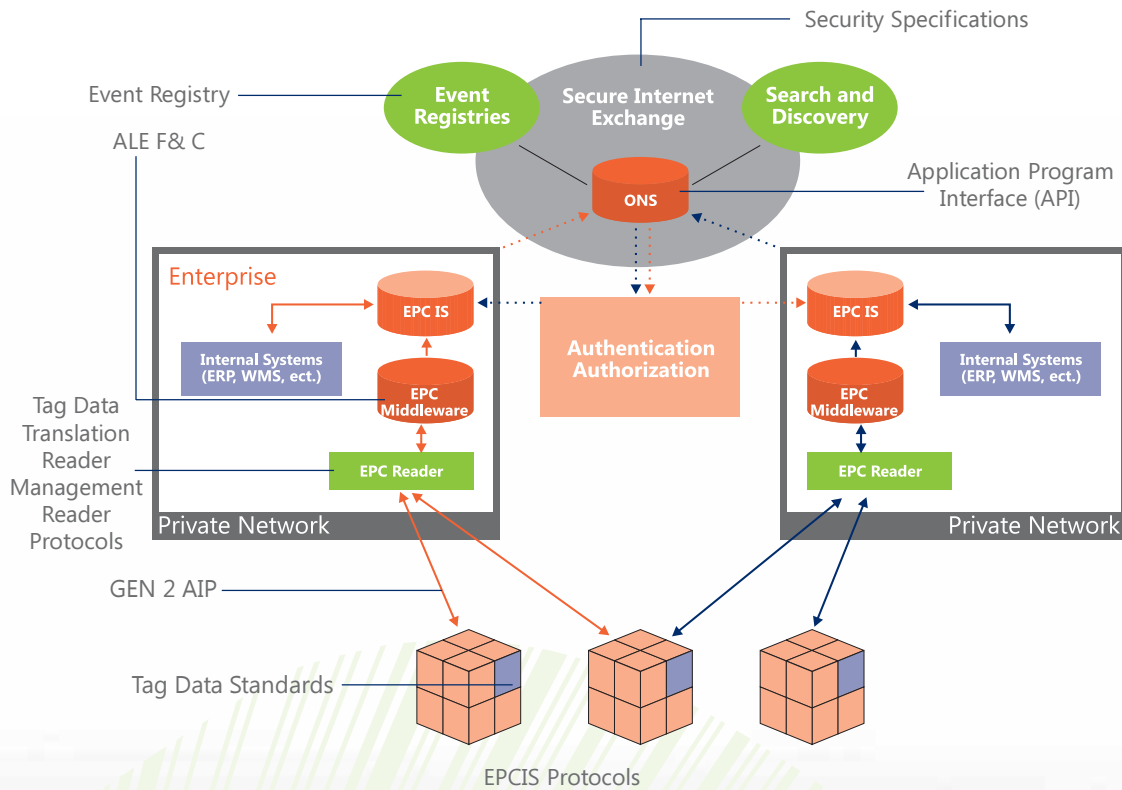
The Centre developed the Electronic Product Code, a global RFID-based item identification system. The Auto ID Centre was replaced by Auto ID Labs (a network of seven labs all over the world) in October 2003, which function under GS1 EPCglobal.

### Auto ID research network:

- University of Adelaide (Australia)
- University of Cambridge (United Kingdom)
- Fudan University (China)
- Information and Communications University (South Korea)
- Keio University (Japan)
- Massachusetts Institute of Technology (USA)
- University of St. Gallen/ETH Zurich (Switzerland)



# EPC Network



Collaborative efforts of global subscribers and GS1 EPCglobal have been instrumental in the ratification of 11 standards as on March 2008.

## About EPCglobal Inc & GS1 EPCglobal Standards

EPCglobal Inc is a subsidiary of the global not-for-profit standards organization GS1, and supports the global adoption of the Electronic Product Code as industry-driven standards to enable accurate, immediate and cost-effective visibility of information throughout the supply chain.

GS1 EPCglobal standards are a set of integrated industry-driven standards which have been developed to meet user's requirements enabling the identification of objects, data capture and sharing of information among partners throughout the supply chain.

More information about EPCglobal Inc. can be found at <http://www.epcglobalinc.org>.

## About EPCIS

EPCIS is a standard used to track the progress of objects as they move through the supply chain. The data shared at each read point in the supply chain provides WHO, WHAT, WHEN, WHERE and WHY of each read. EPCIS provides the Information Services necessary for the storage, communication and dissemination of EPC data. It provides standards event capture and query interfaces for obtaining and sharing data about unique objects in the supply chain within and across organizations.

# Services

To ensure the effective use of GS1 suite of products and services, GS1 provides implementation support to businesses through a wide range of subscriber services.

GS1 India is the only organisation in India empowered to allocate GS1 company prefixes used in GS1 bar codes and EPC RFID tags. Unlike proprietary, closed numbers, GS1 identification numbers are interoperable, open and widely accepted in India and abroad.

## Company prefix allocation

GS1 India allocates company prefixes beginning with '890' to enable organisations generate unique and universal identification numbers for their products, consignments and locations.

## Bar code verification reports

These reports are generated after extensive quality checks on printed bar codes. Our experts use the latest equipment to check print contrast, bar height, magnification, bar width, and several other parameters to ensure 100% bar code scan.

## Global Electronic Party Information Registry (GEPIR)

It is a repository of information about Indian companies and their products, which is accessible through the Internet. This database is connected with International data of more than one million GS1 member companies across 150 countries, which allows buyers to access GS1 India subscribers' contact details, product range etc. through GS1 India's GEPIR website, [www.gs1india.org.in](http://www.gs1india.org.in)



## EPC/RFID based services

GS1 India offers EPC/RFID subscription services to solution providers and end user companies, and helps generate awareness on EPC/RFID applications across industry sectors. This includes allocation of EPC Manager Number, imparting training and technical advice to companies consisting of end users and solution providers to facilitate implementation of RFID using globally endorsed EPC standards.

## GDSN datapool service

GS1 India's proposed GDSN-certified data pool will be an e-catalogue of standardised product information that can be shared between trading partners. It will aid quick and efficient exchange of Supply Chain data that is accurate, up-to-date, and compliant with the universally supported GS1 standards. GS1 India's data pool will adhere to the latest GS1 global standards and will be linked to other GDSN-certified data pools. Being based on standards will ensure performance, reliability and security of the network and the information stored.



## Guidance and Consultancy

Technical guidance and consultancy on the implementation of GS1 standards is made available to subscribers.

## Training and Education

Regular training sessions are held at GS1 India's offices and other locations to educate subscribers on the technical aspects of implementing GS1 standards in Supply Chains. GS1 has also developed e-learning courses delivered through the Internet. Access to these courses is available through GS1 India. GTIN allocation for Fast Moving Consumer Goods, GS1 barcodes, GS1 barcode applications: Trade items, GS1 barcode applications: Logistic units, GS1 Application Identifiers & ID keys, Barcode print quality, Data accuracy, etc. are some of the topics covered.



Besides, we keep our subscribers regularly updated about the latest developments related to global standards and technologies that affect the Supply Chain.

## GS1 India: Lending a helping hand to the small scale sector



Micro and small enterprises in India can now incorporate GS1 bar codes, thanks to an attractive financial assistance scheme being offered by the Ministry of Micro, Small and Medium Enterprises, Government of India.

As per the Financial Assistance Scheme currently available, eligible enterprises can claim a 75% refund of the one-time registration fee for obtaining a GS1 company prefix, as well as 75% of the first three Annual subscription renewal fees from the Ministry.

The scheme's objective is to allow small scale units adopt global best practices and standards in line with enterprises worldwide, at a nominal fee. This, in turn, will enable them to comply with emerging requirements of domestic and international Retailers and buyers.

For more information about this scheme, please visit [www.gs1india.org](http://www.gs1india.org).

# Solutions

GS1 solutions are packages of GS1 standards and services that are integrated to fulfil existing or emergent business needs. For example, visibility is a business need that can be achieved with the help of enabling technologies like bar codes, RFID, EDI, etc. and the relevant GS1 standards.

Currently, GS1 offers solutions in the following areas:

## Supply Chain integration

The GS1 solution in this context veers around extending implementation of B2B transaction upstream and with SMEs. The benefits include reduction in costs, and 99% automation of order to cash.

## Traceability

GS1's traceability solution addresses concerns of visibility in the Supply Chain, anti-counterfeiting and compliance with new regulations. Apart from cost reduction, GS1 traceability solution offers brand protection and on-shelf availability of products as well.



### GS1 Solutions approach

Sectors	FMCG	Healthcare	Other Sectors		
Solutions	Traceability	Mobile Com	Upstream Integration		
Services	GS1 Infrastructure Global Repository, GEPIR, EPC	Training	Support services	GSMP	Other Services
Standards	Identification & classification	Data capture	Data Communication	Collaborative processes	



### Mobile Commerce

Mobile commerce is a relatively new experience and envisages a richer relationship between brands and consumers or patients. Today, cell phones can interact simultaneously with bar codes or RFID tags and the Internet to provide access to critical information about the brand. In order to make the mobile commerce vision a reality, GS1 plans to:

- Identify industry requirements for B2C and B2B applications.
- Provide for a full set of standards for mobile commerce: bar codes, RFID, identification of products, locations and services, data management.
- Offer a global platform for the mobile commerce community.

# Applications & Benefits

GS1 standards facilitate unique, universal and unambiguous identification of entities and enable automatic capture of vital business data across the Supply Chain — from raw material to warehousing to distribution to final retailing. Some of the applications & benefits of GS1 standards are:

## Applications

- Stock/replenishment management
- Traceability
- Product recalls
- Expiration Management
- Cargo inspection & movement
- Product life-cycle tracking
- Product authentication
- Asset tracking
- Patient safety
- Counterfeit detection
- Pilferage / shrinkage control
- Warranty / repairs management
- Demand forecasting
- Electronic business messaging



## Benefits

- Unambiguous & universal identification of products, consignments, entities etc
- Increased productivity through more efficient processes and faster response
- Lower cost through increased productivity, elimination of errors and savings in administrative and personnel costs
- Improved speed to market/product availability
- Increased sales through increased productivity
- End to end Supply Chain product availability
- Improved product information: more transparent, more accurate
- Compliance with global regulatory requirements on traceability, safety and security



# Multi-Sectoral Use

GS1 standards are being widely applied in over 20 sectors and industries. Here is a quick look at some of them:

## Retail

Retail chains today strive to be as customer friendly as possible. Automation plays a key role in improving customer experience. And GS1 standards go a long way in speeding up the entire system, be it smooth flow of information and logistics or eliminating queues at the cash counters!



## Exports

International buyers/retailers such as Wal-Mart, Carrefour, Tesco, etc. insist on suppliers putting GS1 bar codes on their products. Many major retailers/buyers are Board members of GS1, and have been actively promoting the development and use of GS1 standards.

Besides, several prevalent and emerging regulations demand end-to-end traceability, especially in case of food exports. US and European Union, two of the largest markets for Indian exports, have such laws in place (see box). Adoption of GS1 standards satisfies these requirements.

Finally, GS1 bar codes give exported products an international look & feel, thus improving their overall aesthetics and acceptance. A GS1 bar code is a visible sign of an exporter's commitment towards global standards. This greatly enhances the exporter's image in the eyes of buyers abroad.



## Food Traceability Requirements and GS1 standards

### U.S. BIO-TERRORISM ACT

Requires all foreign facilities that manufacture/process, pack, or hold food/food products for human or animal consumption in the U.S. to comply with the following:

- Prior notice of product arrivals in the U.S.
- Registration with the FDA
- Complete records of traceability of different ingredients through the Supply Chain.

The use of internationally accepted GS1 standards can help in fulfilling this requirement.

### EU FOOD LAW (Regulation No. 178/2002)

Mandates traceability at all stages of the production and distribution chain in the food & feed sectors. Its objective is to facilitate targeted individual withdrawals and/or to provide appropriate information to consumers or control officials.

This corresponds to GS1's item, party, logistic unit and location identification standards, available in the form of GTIN, SSCC and GLN respectively.



## Healthcare

GS1 standards have been chosen to identify pharmaceutical products uniquely in 56 countries worldwide. Major regulatory bodies have endorsed them, including those in the US, Japan and the UK.

GS1 standards improve patient safety and reduce costs in the healthcare Supply Chain. Automatic product identification at all levels and the resultant traceability ensures a safe and secure Supply Chain by providing greater visibility, accuracy and velocity for all parties involved.

Preventing medication errors and combating counterfeiting are top-of-mind concerns facing the healthcare sector. GS1 standards help develop solutions to these issues.



In May 2005, leading global manufacturing companies from the pharmaceutical and medical devices industries formed the GS1 Global Healthcare User Group. It was the first time that the healthcare industry aligned around a global solution to enhance automatic product identification for the benefit of patients worldwide.

Healthcare industry majors like Pfizer, Baxter, Johnson & Johnson, Braun, Medtronic, etc. are part of GS1 Healthcare.

GS1 Healthcare helps improve the efficiency of the healthcare Supply Chain for pharmaceuticals and medical devices through the collaborative development and endorsement of recommended voluntary GS1 standards and best practices.

Among other things, GS1 Healthcare focuses on issues like prevention of medication errors, product authentication and traceability in order to prevent counterfeiting.

GS1 Healthcare's mission is to lead the Healthcare sector to the successful development and implementation of global standards by bringing together experts in Healthcare to enhance patient safety and supply chain efficiencies.

GS1 Healthcare's vision is to be the recognised, open and neutral source for regulatory agencies, trade organisations and other similar stakeholders who are seeking input and direction for global standards in healthcare for patient safety, supply chain security & efficiency, traceability and accurate data synchronisation.



## Defence

Globally, Defence establishments aspire to reduce costs and improve operational efficiency. As part of this initiative, many Defence Departments are recommending adoption of commercial standards in logistics and supply processes of the Defence forces.

GS1 has been actively supporting these endeavours. On a global level, GS1 has acquired substantial experience in Defence Supply Chain standardization via NATO's logistics projects and CALS (Continuous Acquisition and Life Cycle Support) initiatives as well as projects with the US Department of Defence.



## Transport and Logistics

Transport and Logistics plays a crucial role in the Supply Chain process. Today, no transport and logistics company can be efficient without robust information technology and data communication support. GS1 has developed a set of well-recognised standards for the Transport and Logistics sector. GS1 standards improve efficiency, increase visibility of shipment flow, increase efficient handling and inventory management and

increase security of distribution as well as speed of operations.

The robustness of GS1's Transport and Logistics standards was demonstrated during a pilot conducted jointly by GS1 and World Customs Organisation (WCO) in 2007. It demonstrated the capability of GS1 Serial Shipment Container Code (SSCC) as the WCO Unique Consignment Reference (UCR) number.





## Government

Government is a large user of standards, being a major consumer of various products and services. For this, it requires use of technologies, like bar coding, RFIDs, etc. and the associated global standards to manage its Supply Chain spread across the length and breadth of the country.

Additionally, Governments function as regulators and trade facilitators which require standardisation in business processes between governments and industry etc. GS1 standards play a key role in enabling seamless flow of physical goods and related information across stakeholders.

### E-Procurement solutions for Government Agencies

Emerging technologies are greatly influencing many business processes in Government organisations, including procurement. Today, organisations — both commercial and Government — are waking up to new technologies to make their procurement processes faster, simpler and more secure.

E-procurement involves managing the procurement process with electronic systems and processes, and offers many benefits. To be viable, e-procurement solutions need to be consistent and compatible with e-solutions being used in commercial Supply Chains.

GS1 EANCOM EDI standards are ideally suited for EDI-based government e-procurement solutions as they offer complete interoperability.

#### GS1 XML for e-procurement

Many of today's e-procurement solutions involve XML technologies. GS1 has been actively participating in the on-going development of UN/XML standards. GS1 XML is based on the same modelling, design and technical principles as UN/CEFACT, and is fully compliant with the UN/CEFACT Core Components. GS1 XML is an ideal choice for Government agencies that wish to deploy an XML-based e-procurement solution based on approved and ratified international standards.

## Other sectors

Some of the other sectors that have been using GS1 standards extensively include manufacturing, chemicals and fertilizers, agro products, food and beverages, publishing, media and entertainment, apparels, electricals & electronics, etc. GS1 has been

working with many of the world's leading organisations and Regulatory bodies like World Health Organisation, European Commission, U. S. Food and Drug Administration, and others to promote the use of global standards.



“As founder member and Secretariat of ECR India, GS1 India is providing leadership to ECR initiatives related to data synchronisation, bar coding and Out-of-Stock management.”



**Narendra Ambwani**

MD, Johnson & Johnson, and Co-Chair – ECR India



Working together to fulfil consumer wishes better, faster and at a lesser cost.

The ECR (“Efficient Consumer Response”) movement began in the mid ’90s and was characterised by the understanding that companies could serve consumers better, faster and at a lower cost by working together with trading partners.

ECR was born out of the challenge that the increasing population of consumers pose. Throughout the world, consumers are demanding improved quality, more variety, and more efficient services, but they are reluctant to spend more money or time.

ECR Asia is an independent joint trade and industry body, launched in 1999, to promote the use of Efficient Consumer Response techniques as a means of removing unnecessary costs from the Supply Chain. Currently, ECR activities are spread over 11 Asian economic regions namely Australia, China, Hong Kong, India, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand.



In India, the ECR movement in the FMCG sector was launched in October 1999. GS1 India facilitated the formation of a core group by bringing together retailers/manufacturers and other potential Supply Chain trading partners including Nestlé, Concor, TCI, Foodworld, Hindustan Levers (now Hindustan Unilever), Pricewaterhouse Coopers (now IBM Consulting), Procter & Gamble and Johnson & Johnson. It provides standards which facilitate ECR applications like CPFR (Collaborative Planning, Forecasting and Replenishment), VMI (Vendor Managed Inventory) systems, Automated Replenishment etc. GS1 India also functions as the Secretariat for ECR India.

ECR is all about redesigning processes, altering paradigms and changing attitudes. ECR challenges many existing approaches that can often lead to inefficiency. Trading partners are asked to work together in order to increase value to the consumer. The intensifying competition among trading partners often presents an apparent barrier to achieving this. However, just the opposite is true — ECR allows companies to seek a competitive advantage by demonstrating their superior ability in working with trading partners to add value for the consumer.





# The Road Ahead

## ROSETTANET

RosettaNet is a business protocol that enables enterprises to overcome barriers and conduct business over the Internet by establishing a global language for e-business.

The name RosettaNet is derived from the Rosetta stone, which was discovered in Egypt in 1799. The stone, which dates back to 196 B.C., was found near the town of Rosetta (Rashid) and was inscribed with the same message in two different languages and three different scripts. Although the message was insignificant, scholars were able to use the Greek inscription to translate the two forms of Egyptian writing, cracking the code of hieroglyphics.

RosettaNet focuses on the Supply Chain and its optimisation by improving efficiency and performance through enhanced business-to-business integration. The RosettaNet e-business process standards aim to facilitate speed, efficiency, and reliability to enable greater collaboration and communication between trading partners. RosettaNet provides a common platform for communication, or a common language, that allows the different trading partners involved in a business process to automate that process and to conduct it over the Internet.

The major benefits of RosettaNet are:

- Easier and more cost efficient implementation, with a greater return on investment (ROI)
- The ability to automate a greater number of business processes
- Real-time transaction handling as opposed to batch processing
- Greater scalability



### DataBar, DataMatrix and beyond...

Business needs are ever evolving. At GS1, we make efforts to anticipate these needs and respond to them quickly with the right solution. GS1 DataBar and DataMatrix symbologies have their genesis in the same spirit.

#### GS1 DataBar

In June 2006, GS1 announced the global sunrise date of January 1, 2010 for a new bar code symbology called GS1 DataBar™ (formerly RSS, Reduced Space Symbology). GS1 DataBar symbols can carry more data in the same amount of space, or the same quantity of data in less space than EAN/UPC bar codes.

With its smaller size, GS1 DataBar enables identification of hard-to-mark products like fresh foods, thus helping in shrink reduction and category management. GS1 DataBar's ability to carry GS1 Application Identifiers like serial numbers, lot numbers and expiry dates opens the door to identification solutions supporting product authentication and traceability, product quality and effectiveness, variable measure product identification and couponing.

#### GS1 DataMatrix

Compared to product coding in, for example, a grocery retailer environment, pharmaceuticals and medical devices coding has very specific requirements, including:

- Encoding of a large amount of data (product ID, batch/lot number, expiry date, date of manufacture, serial number, etc.) within small space
- Encoding of variable information (such as unique identification number at unit dose level)
- Direct marking (e.g. surgical instruments and implants)

GS1 DataMatrix is a suitable solution to meet such special needs. This 2-dimensional (2-D) symbology enables coding fixed and variable information, while maintaining a small size. Technologies are also available for direct part marking. Another unique feature is that it allows error correction to circumvent some degree of physical damage.



# History & Milestones

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## **1996**

EAN India is registered as a not-for-profit society. It is mandated with helping Indian industry adopt global standards and best practices in Supply Chain management.

## **1999**

ECR India is founded with key FMCG manufacturers and retailers, marking the beginning of collaborative commerce.

## **2001**

To facilitate bar code adoption by the small scale sector, Ministry of SSI (now called Ministry of MSME) notifies Financial Assistance Scheme.

## **2002**

Over 17 international experts attend Asian Seminar on 'Safe and high quality food for International trade', organised by EAN India in New Delhi.

## **2004**

The first National Conference cum Exhibition on EPC RFID, "Electronic Product Code & RFID - The future is here," is organised in New Delhi.

## **2005**

EAN India becomes GS1 India. Wireless Planning and Coordination (WPC) wing of Ministry of Communication assigns the 865-867 MHz UHF band for use by radio frequency identification devices.

## **2007**

ECR India, in collaboration with GS1 India hosts ECR Asia Council meeting at Hyderabad.





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