GS1 — The Global Language of Business

Annual Report 2016-2017

GS1 believes in the power of standards to transform the way we work and live.

We create a common foundation for business by uniquely identifying, accurately capturing and automatically sharing vital information about products, locations and assets.

We enable visibility through the exchange of authentic data.

We empower business to grow and to improve efficiency, safety, security and sustainability.

We are:

- Neutral and not-for-profit

- User-driven and governed

- Global and local

- Inclusive and collaborative

Table of contents

A letter from our leaders

At GS1, our passion for delivering the best results, our integrity, our collaborative team spirit and our encouragement of inspirational leadership are at the centre of our global organisation. In fact, our core principle to **See One Vision, Speak with One Voice and Act as One Organisation** is more meaningful today than ever before.

We are a community that exists for the greater good of the industries and people we serve. We are a trusted advisor for our members and other stakeholders. We are neutral and not-for-profit. We are user-driven and governed. We are global and local. We are inclusive and collaborative.

Global standards

While we are first and foremost known as a global standards body providing a system of unique numbers to identify goods, services, assets and locations, we must also become known for helping our members use identification and standards to rapidly solve business challenges.

Global services

The world is an interconnected network of societies, and especially the digital world, where there are no borders. More and more often, companies are structured to operate in this same borderless fashion. It is important for GS1 to adapt to this changing landscape as well. Users expect GS1 to offer global services and to operate as one organisation around the world. An internal project called "The Big Picture" is now underway to adapt GS1's portfolio to reflect this new reality and make the necessary changes to the organisational culture. GS1 will be transformed to better respond to today's global business landscape.

Building the largest trusted source of data

The "GS1 Cloud" is GS1's first portfolio adaptation. We have seen an increasing need for e-tailers, retailers and brands to provide transparent and accurate product information to consumers who demand a seamless e-commerce shopping experience. However, trusted data and a more efficient B2C data exchange infrastructure are needed to make this possible. The GS1 Cloud intends to fix this problem. Our single, open GS1 Cloud platform aspires to be the largest trusted source of product information in the world. Thanks to this transformative initiative, consumers will soon be able to get the right product data, resulting in increased satisfaction and trust. At the same time, companies will gain cost savings and operational efficiency by simplifying how product information is sourced.

Multi-sector contributions

The contributions that GS1 teams have in the world every day on every continent are too many to list. In retail and in transport & logistics, GS1's complete range of services and solutions are powering efforts to ensure visibility, traceability, safety and sustainability, both in the physical world and on the internet. In healthcare, GS1 is making excellent progress in deploying its standards in hospitals. In addition, GS1 is working with new sectors such as technical industries and humanitarian logistics.

Leadership and trust

There are two qualities that the entire GS1 community must demonstrate to confirm our commitment to the changes that we are undertaking. The first is leadership. The CEOs of our GS1 Member Organisations, the members of the Boards of our Member Organisations around the world and the members of our own GS1 Management Board: we are counting on everyone to step up and provide leadership and guidance. The second quality is trust. We must trust in each other and in our collaborative community of stakeholders as we expand and enhance our services and solutions. Leadership and trust will be critical to our success.

We have a shared sense of accomplishment and gratitude to the team's passion and commitment to excellence. We are also excited about the months and years ahead as we work together to transform the way we work and live. Everyone truly makes a difference!

Mike McNamara
Chief Information Officer,
Target
Chairman, GS1

Timothy P. Smucker
Chairman Emeritus,
The J.M. Smucker Company
Chairman Emeritus, GS1

Miguel A. Lopera
President &
Chief Executive Officer,
GS1

Sectors

We define our strategy and our priorities to best serve the communities that represent our core sectors. GS1 standards create a strong foundation to sustain the industries we serve.

Marianne Timmons
President, GS1 Industry Engagement

Retail

We are seamlessly connecting the physical and digital worlds of commerce to remove any friction between the processes that drive your business

Value chains have changed, internet access has altered commerce and consumers have new expectations. These are well-established facts. So, what more must retailers and brand owners do to effectively connect with customers in today's digital economy?

GS1 believes that the answer lies in improving consumer transparency, speed, the trust that supply chain partners have in each other—and that consumers have in brands. We know this can be achieved through accurately identifying locations, assets, shipments and products, and having data systems in place that capture and share information and events in real-time.

In the past year, we made significant progress on two major industry initiatives. The first, GS1 UniqueID, began with simplifying and clarifying the rules governing the management of Global Trade Item Numbers (GTIN) and is now addressing certain challenges associated with product assortments.

We have also developed new standards that increase transparency between trading partners through the sharing of data about small product variations that do not require a new GTIN.

The second initiative, GS1 SmartSearch, is enabling web developers to include standardised, structured product information in web pages so that it is usable by search engines. Thanks to this, companies are able to keep detailed, accurate information about their products visible across the web. Implementations of this standard are live around the world, and the documented improvements in page ranking and conversion rates are significant.

In the year ahead, GS1 will continue to help the retail sector create memorable experiences for consumers, no matter how or where they shop, while working to remove friction between the business processes that drive modern commerce.

"To succeed in B2C, it is important to get a commitment from brand owners and retailers to use GS1 standards. At Carrefour, our policy aims at only sourcing products with GTINs and the associated quality data provided by the brand owner."

Renaud de Barbuat
Chief Information Officer France
Carrefour – CSI

Did you know?

The **top four global "e-tailers"** all know the value of GS1 standards and services:

Alibaba Group has invited brand owners to use GTINs for uniquely identifying their products. Furthermore, all Alibaba users are encouraged to join the Global Data Synchronisation Network (GDSN).

Amazon verifies the authenticity of products by checking their unique GS1 identifiers. Products whose data do not match the information provided by GS1 are considered invalid.

Since June 2016, **eBay** has required that its sellers use GTINs as product identifiers, because they know GTINs help buyers find what they are looking for.

As part of **Google's** efforts to harmonise product data and eliminate inaccuracies, all products that have been assigned a GTIN by their manufacturer must have the GTIN included for Google Shopping ads or risk being rejected.

Key initiatives 2016/2017

- Ratified and launched Consumer Product Variant Data Standard

- Held workshops and trainings on the GTIN Management Standard at all GS1 Regional Forums, reaching a majority of GS1 Member Organisations

- Trained personnel in more than 50 countries to work with their constituents to use GS1 SmartSearch

- Created and published a set of online tools and "wizards", including a "Do I need a GTIN?" decision tree tool and a GS1 SmartSearch web markup tool

- Began to explore Global Key Account Management for major multinational companies, to better ensure that GS1 speaks to its users with one voice

- Learn more about our work in consumer packaged goods, fresh foods, apparel and general merchandise in the next pages

- Stay up to date at www.gs1.org/retail as well as at www.gs1.org/omni-channel

Consumer packaged goods and fresh foods

Brands and retailers of all sizes benefit from the full-chain visibility and more efficient business processes that our standards make possible

As "bricks-and-mortar" stores evolve and consumer expectations change, GS1 standards play an increasingly vital role

Brands and retailers in consumer packaged goods (CPG) and fresh foods were amongst the earliest adopters of GS1 standards. Today, business models are changing to face the challenges of the omni-channel marketplace and physical stores are evolving to meet the new demands of shoppers. And yet companies in these sectors still understand how vital it is to have GS1 as the common foundation for identification, data capture and information sharing across their supply chains. Better data still means better service.

Despite an increase in online sales in many countries, most people continue to buy their packaged goods and fresh foods in physical stores. However, they are using the internet to search, compare and inform themselves before they buy—seeking input about a product's ingredients, allergens or origins, for example. An April 2017 study revealed that 77% of Americans use a mobile device in-store if they have a question, as compared to just 35% who speak to an employee.

In the past year, we have helped both multinational companies and small & medium enterprises use GS1 standards to improve their online presence and be sure they are on every shopper's path to purchase, delivering the right message at the right time.

GS1 standards also help improve speed-to-market, which is very important for fresh and temperature-sensitive products. We have seen an increase in the number of retailers from all parts of the globe adopting GS1 Databar to automatically manage expiration dates at the point of sale. This helps ensure consumers have access to the freshest products.

Learn more about GS1 standards in grocery and fresh foods: follow a jar of strawberry jam from grower to consumer at discover.gs1.org/cpg, or a shipment of fish from catch to consumer at discover.gs1.org/freshfoods

Apparel & general merchandise

We work with raw material suppliers, global brands, vertically-integrated & traditional retailers, online platforms and more, in these fast-paced sectors

Online sales of apparel, footwear and general merchandise are leading the way in the retail industry's shift to digital. This omni-channel reality has driven the apparel and general merchandise sectors to reinvent the way they do business.

Brands and retailers are deploying innovative consumer engagement tools, including pop-up stores, mass customisation, increased surface space devoted to showrooming and click & collect delivery alternatives.

Until recently, companies in these sectors mainly worked to improve the efficiency of business processes. Today, they are also looking for new ways to engage with consumers and ensure traceability, transparency, availability and sustainability across supply chains.

GS1 is helping its users meet these new needs. We have increased our focus on the general merchandise sector at the global level. Thanks to our extended master data initiatives, consumers shopping on the internet will more easily find accurate and up-to-date information about the products they buy, including photos, prices and in-store availability. GS1's EDI and EPC/RFID standards make it possible to automate production, packaging and fulfilment. We are also working on ways to ensure sustainable sourcing and socially-responsible business practices.

The use of GS1 EPC/RFID standards also opens new ways for companies to manage inventory and reduce shrinkage. At the request of several of our users in the footwear sector for example, GS1 has been developing an approach for tagging both left and right shoes—as well as the shoebox—directly at the source. This enables a wide range of additional business process efficiencies such as goods reception, stock-taking, in-store display concepts and returns inspection.

Read more at www.gs1.org/general-merchandise and www.gs1.org/apparel

New consumer behaviours are driving companies to innovate and reinvent their businesses

Healthcare

Safer, more efficient care starts with a simple scan

At GS1, we believe that as a patient, you are entitled to the best care. We know that the use of GS1 standards in healthcare helps to increase patient safety, drive supply chain efficiency and improve product traceability from manufacturer to patient.

The development and implementation of GS1 standards in healthcare is led by the experts who use them: pharmaceutical and medical device manufacturers, wholesalers, distributors, group purchasing organisations, hospitals, pharmacies, logistics providers, solution providers, governmental and regulatory bodies, and trade associations. Nearly 70 countries have healthcare-related regulations or trading partner requirements where GS1 standards are being used.

It has been another significant year for GS1 Healthcare. Following the adoption of the European Regulations, GS1 standards can be used to implement the EU Unique Device Identification (UDI) system.

The UDI system benefits patients, the healthcare system and the medical device industry because it assists all healthcare stakeholders to quickly and efficiently identify medical devices in the case of recall, improve the accuracy of adverse event reporting and post-market surveillance, and increase the consistency and completeness of medical records.

As regulations, costs and the demands to provide better care for patients have increased, the efforts we make to encourage healthcare providers to implement GS1 standards are very important. Evidence available from healthcare provider implementations shows that GS1 standards can help to improve patient safety and boost supply chain efficiency in hospitals and retail pharmacies. The increasing use of GS1 standards by these stakeholders is the biggest inflection point in GS1 Healthcare since it began 12 years ago.

"The pilot project in the Cardiac Catheterisation Laboratory illustrates how the use of GS1 standards in our processes benefits our patients and Caregivers. This provides the opportunity for superior quality care and improved clinical outcomes."

Manaf Afyouni
Chief Operating Officer
Cleveland Clinic Abu Dhabi

Did you know?

Thanks to GS1 standards:

Derby Teaching Hospitals NHS Foundation Trust in the United Kingdom is saving **£300,000 (€350,000)** per year just in consumables used in general surgery.

The Region of Southern Denmark Health Service has reduced by **75%** the time previously spent on ordering and ensuring correct order submission.

The average patient wait time for a CT scan has been reduced from more than

20 minutes to less than **7** minutes—a **65%** improvement —at Galway Clinic in Ireland.

Stock levels have been reduced by **20%** resulting in approximately **€1.5** million in inventory cost savings at North Lisbon Hospital Centre in Portugal.

Read more real-world examples of how GS1 standards brought tangible benefits to hospitals and other healthcare environments in the GS1 Healthcare Reference Books, downloadable at **www.gs1.org/healthcare**

Key initiatives 2016/2017

- Held successful Global GS1 Healthcare Conferences in Beijing and Berlin, the latter our largest with nearly 400 attendees from 40 countries

- Deployed the next major deliverable of Project Imagine: a healthcare provider database containing information about hospital & retail pharmacy implementations of GS1 standards

- Participated as speakers at nearly 40 conferences about healthcare-related issues such as traceability, serialisation, safety, logistics and UDI

- Worked to ensure GS1 standards meet requirements for EU UDI regulations for medical devices & in vitro diagnostics and published a paper describing how to implement GS1 standards for US and EU UDI

- Worked with SNOMED, a not-for-profit standards development organisation that maintains clinical terminology standards, to publish guidance for associating GS1 GTINs and SNOMED terms for medicinal products

- Received endorsements for our position paper about identification of the primary package of drugs from the European Association of Hospital Pharmacists and the European Federation of Pharmaceutical Industries & Associations

- Facilitated the working group about Track & Trace Systems, part of the published APEC Roadmap for Supply Chain Security, which recommends the use of global data standards to ensure harmonisation and increase patient safety

- Learn more at www.gs1.org/healthcare

Transport & Logistics

The efficiency, speed, accuracy and interoperability of a range of business processes across this sector can be measurably improved with GS1 standards

The phrase "Transport and Logistics" refers to all the processes that take care of moving goods from where they are to where they need to be. In retail, healthcare, foodservice, technical industries and every other business sector, transport and logistics (T&L) are an integral part of the value chain.

GS1 is very active in this dynamic and fast-growing field. Our standards help users improve visibility, efficiency, security and interoperability. We cover all modes of transport: rail, road, air, maritime & ports, and parcel & post.

One key accomplishment of the past year was the ratification of a GS1 standard designed to increase the reliability and safe operation of rail networks and vehicles by improving maintenance, repair and overhaul (MRO) processes. More than 20 leading railway operators, manufacturers and solution providers contributed to developing this standard, in collaboration with GS1 experts.

These teams are now working on a standard to facilitate comprehensive and reliable information-sharing, enabling predictive and condition-based maintenance.

In "Last Mile" logistics, GS1 is actively participating in a European Committee for Standardization (CEN) initiative to define a harmonised parcel label that could be used with any delivery service provider. The potential benefits of GS1 standards in this area are significant, because the currently closed networks of the courier, express and parcel industry are expensive and do not meet the needs of today's users.

We also strengthened our engagements with organisations such as IATA (air traffic) and FIATA (air and maritime freight forwarders).

Furthermore, GS1 got further involved in initiatives that are working to improve the effectiveness, efficiency and safety of maritime and port operations.

"The implementation of the new GS1 application standard provides the railway industry with a common language that significantly simplifies communication between all stakeholders and increases transparency along the supply chain."

Dr. Peter Radina
Member of the Management Board
Knorr-Bremse Rail Vehicle Systems

Did you know?

NEXTRUST, a European Union project working to ensure sustainable logistics, estimates in a 2017 report that logistics costs in the EU were **€930 billion** in 2010, and notes that if the logistics sector improved efficiency by just **10%**, the savings would be **€93 billion**.

Freight miles travelled across the US, the UK, France and Germany are predicted to increase by **14%** between 2013 and 2030, resulting in **USD $293.1 billion (€272.3 billion)** in costs due to the value of fuel,

of time wasted, and of increases in the cost of doing business – known as "costs of congestion."

In a 2016 report co-published by The Consumer Goods Forum and EY, it is noted that regulatory fees and transport tolls are rising, and suggests that they will account for **15% to 25%** of total transportation costs by 2030, compared to **10%** today.

Key initiatives 2016/2017

- Developed, ratified and published the GS1 Application Standard for Identification of Components and Parts in the Rail Industry

- Ensured the GS1 Serial Shipping Container Code (SSCC) has a privileged position in the European Committee for Standardization (CEN) harmonised parcel label technical specification

- Developed and released a Marketing Kit sharing best practices for using GS1 standards to enhance operations in Manufacturing, Maintenance, Repair and Overhaul (MRO) in the rail industry

- Created a "GS1 in Rail" section on the GS1 global website, covering all the GS1 standards and guidelines that have been developed for the rail industry, including interactive tools to help user companies with implementing the GS1 standards correctly and more easily

- Engaged with maritime organisations and companies on the adoption of GS1 standards in maritime and ports operations, and in particular GS1 Global Location Numbers and EPCIS, resulting in the "IHMA and UKHO Port Information Project: Functional Definitions For Nautical Port Information" that explicitly recommends the use of GS1 Global Location Number to identify locations in and around ports

- Read more about our work at www.gs1.org/transport-and-logistics

Foodservice

GS1 standards help industry increase operational efficiencies and meet consumers' ever-increasing demands for information about the meals they purchase

A common language about products that flows seamlessly between trading partners and downstream to the consumer

It is a challenging time for companies responsible for preparing and serving food outside of the home. Manufacturers, distributors and operators in the foodservice sector are striving to meet consumers' ever-increasing demands for information about the meals they purchase. Adding to the complexity are the needs to improve the efficiency of supply chains and adapt to match today's omni-channel operating environment.

There are a multitude of success stories resulting from adoption of GS1 standards for identification, data capture and data sharing in the last year. One of the largest restaurant and catering operators in Asia, for example, is using GS1 Global Location Numbers (GLN) and GS1 Electronic Data Interchange (EDI) to reduce the time and resources needed to execute procurement transactions. A global purchasing group avoided USD $1 million (€930,000) in transportation and internal handling costs by using GS1 barcodes and GS1 EDI.

A global supplier of meat products is ensuring a positive consumer experience by leveraging GS1 standards to provide information about allergens and nutritional values, and GS1 EDI to reliably share up-to-date product and menu information.

There is also an increase in industry-wide collaboration. In France, for example, a group of leading foodservice companies representing wholesalers, caterers and restaurants is using GS1 standards to identify products and locations. They have improved the new item introduction process which improves product speed to market and enables B2C product information-sharing processes – a necessary foundation for interoperability across B2B and B2C digital platforms.

Stay up to date on our latest foodservice success stories and get information about our local user groups at www.gs1.org/foodservice

Humanitarian logistics

GS1 is engaging with global stakeholders in humanitarian aid initiatives to improve the efficiency of this sector's supply chain

During any emergency intervention, smooth and efficient supply chain logistics are vital. Goods must cross borders to reach their destinations, shipments must be tracked, records must be kept of who received what and when, warehouses must be efficiently managed. Inadequate preparedness leads to critical delays, which too often means more suffering for people in need.

For more than four decades, GS1 standards have been boosting productivity and responsiveness in private sector supply chains. We believe that with the help of our standards, visibility and traceability from supplier to beneficiary can be a reality in humanitarian logistics, too.

In the past year, in collaboration with GS1 Switzerland, we have continued our work with the United Nations (UN) High Commissioner for Refugees, the UN Humanitarian Response Depot and the UN Emergency Supplies Prepositioning Strategies Working Group. Through GS1 US, the GS1 Member Organisation in the United States, we have pursued work to utilise the UN Standard

Products and Services Code® (UNSPSC®) to categorise products essential to respond to pandemic outbreaks.

We have begun working with the World Food Programme to support a study to demonstrate the economic value of using standards in humanitarian supply chains.

With GS1 Japan, we have also been supporting the development of an information platform to provide end-to-end visibility of supply chains during pandemic interventions, on behalf of the Global Pandemic Supply Chain Network, a multi-partner, public-private initiative. In March 2017, the United Nations World Food Programme and NEC Corporation announced their collaboration on this platform, with financial support from the government of Japan. GS1 Indonesia helped run a pandemic simulation exercise within this initiative.

Read more about our important work in this area at www.gs1.org/humanitarian-logistics

Potential benefits include improved product traceability, enhanced warehouse management and expedited customs procedures
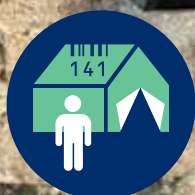
Technical industries

GS1 standards can help with part marking and management, counterfeit detection, plant digitalisation, maintenance & repair operations and more

Defence, engineering, energy, mass transit and mining: these technical industries face similar difficulties. Challenged by complex supply chains, they face fierce cost pressures, the threat of counterfeits and the need to manage digitalisation and automation.

One thing that sets these companies apart is their need to uniquely identify individual components, parts and devices with an identifier, right from the design phase. This enables visibility of the part until it reaches the end of a very long service life—which in some cases can be up to 60 years.

The choice of how to mark and track such items cannot be made lightly, since the unique identifier will become the key with which all part and material life cycle data will be retrieved, for decades.

With GS1 standards, companies can uniquely identify parts and components as they enter production environments; have visibility as they are processed, assembled, packaged and shipped to customers within finished products; and then keep an eye on their maintenance and service records.

In addition to full lifecycle visibility, companies working in technical industries can also achieve measurable improvements in productivity, effectiveness, safety and savings by using GS1 standards.

And as this sector takes on the challenges of Industry 4.0 and the Internet of Things, it is becoming increasingly important that any set of "communicating" devices be able to uniquely and globally identify themselves to each other. They also need to accurately and quickly log their interactions with the main infrastructure, and share any information gathered safely and securely. GS1 standards are at the heart of such interconnected processes.

Read case studies from companies using GS1 standards and learn more at www.gs1.org/technical-industries

"In the fight against product piracy, the GS1 DataMatrix offers a great deal to us and to our partners. It is robust, easy to use and helps meet our needs for authentication, traceability and access to product information."

Dr. Edgar Duschl
Senior Vice President Intellectual Property Rights
Schaeffler Group

Did you know?

To meet customer demands, the Schaeffler Group—a leading integrated automotive and industrial supply company—needed to uniquely identify each of its individual bearings to protect against counterfeiting and efficiently provide maintenance services for installed bearings around the world.

Schaeffler chose to laser-engrave each bearing with a GS1 DataMatrix barcode encoded with a serialised GS1 Global Trade Item Number (SGTIN).

An engraved barcode was the best option, as their products are often used in harsh environments where labels are likely to fall off.

Schaeffler teams were impressed with the way GS1 standards were globally interoperable, robust and easy to integrate into their business processes. More than **200 million** of their bearings are now traceable and tamper-proof, which protects the Schaeffler brand and the company's customers.

Key initiatives 2016/2017

- Launched the GS1 Technical Industries Advisory Group

- Increased awareness and understanding of GS1's benefits to this sector across our global organisation

- Engaged with industry, first in our legacy CPG sectors, as these companies have industrial departments that build and service proprietary machinery and tooling; and then directly with key industrial companies and global associations and organisations

- Achieved notable results in the rail sector, particularly with the identification of safety-relevant parts for MRO (Maintenance, Repair, Overhaul) processes in Europe

- Developed and published a wide range of informative material, including a value proposition, a brochure, a series of case studies and a dedicated section of the GS1 global website

- Welcomed and informed visitors at the GS1 booth at Hannover Messe, the world's largest industrial fair, accompanied by technical industry specialists from GS1 France, GS1 Germany, GS1 Netherlands, GS1 Poland and GS1 Sweden

Services

Regulators, application providers and consumers access GS1-powered services every day. Everything is easier when you speak the same language as your customers, suppliers and partners.

Malcolm Bowden
President, Global Solutions and GS1 Data Excellence Inc.

The Big Picture

This transformative project will allow GS1 to better meet the needs of a changing world

Our community of users today need global services that help make the GS1 global language of business "come alive" in their business operations, and ways to deploy GS1 standards faster, more easily and more effectively.

The GS1 Big Picture project addresses these needs by introducing a global portfolio, simplifying the overall GS1 offering and go-to-market strategy and helping companies of all sizes grow their business and become more efficient.

The long-term vision is to transform GS1 to deliver seamless, global, value-added services based on GS1 standards that are managed globally and deployed locally through our 112 GS1 Member Organisations. To support this, we will leverage a common technology infrastructure.

The Big Picture project will serve all of GS1's users—multinationals as well as Small and Medium Enterprises (SME).

For the Big Picture project to be truly successful, we know we will have to change the way we work, at every level and in every function across the entire organisation. We will have to transform our organisational culture, shift into a new position in many aspects of our business and build new capabilities. We will continue to operate with excellence locally, but we must also work much better together, globally.
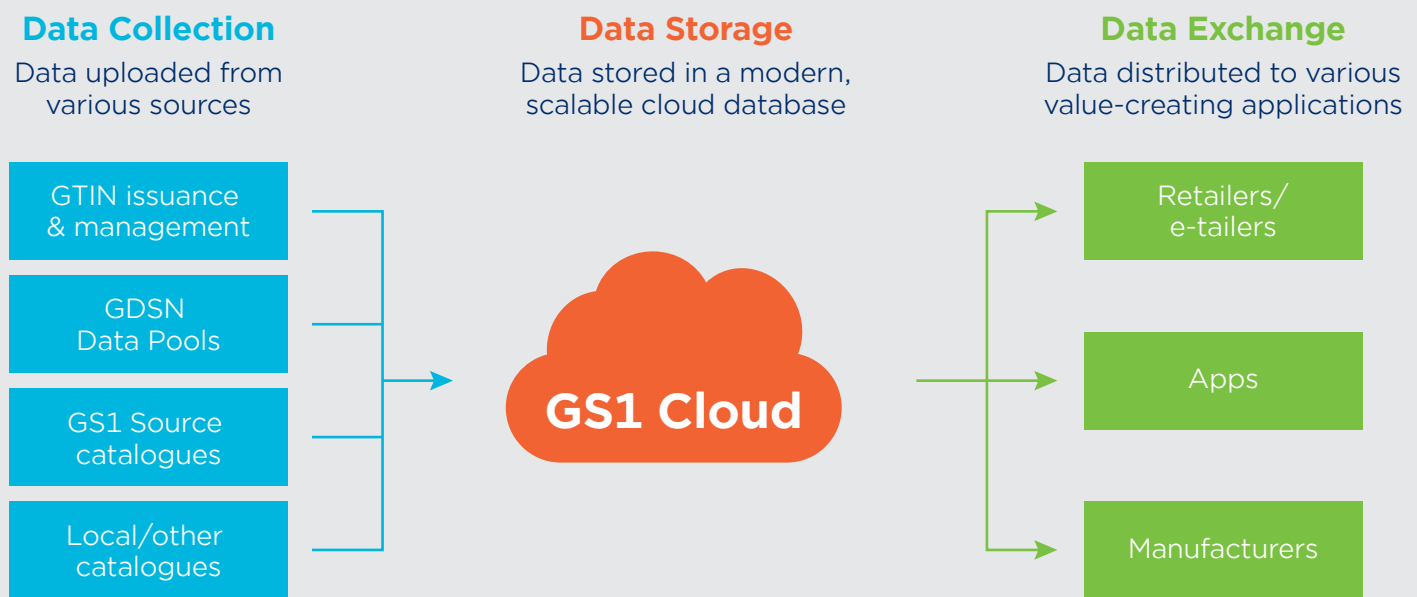
Watch our global website for further news of this important and meaningful project: www.gs1.org

Through this work, GS1 will create a portfolio of services that will be managed globally and deployed locally

The GS1 Cloud

The GS1 Cloud will be the largest source of trusted product information in the world and will form the foundation of GS1 Services for the future

Data Collection	Data Storage	Data Exchange
Data uploaded from various sources	Data stored in a modern, scalable cloud database	Data distributed to various value-creating applications

GTIN issuance & management

GDSN Data Pools

GS1 Source catalogues

Local/other catalogues

GS1 Cloud

Retailers/ e-tailers

Apps

Manufacturers

The GS1 Cloud is the central element and common technology infrastructure behind our Big Picture initiative and its services (see page 25 for more on the Big Picture).

The GS1 Cloud is a single, global, platform that will initially provide seven essential product attributes designed to deliver on increased consumer demand for product information. The data in the GS1 Cloud will be available to consumers and other users, who will be able to quickly and easily find accurate information about products. They can also verify whether the GS1 Global Trade Item Number (GTIN) on a product has been issued by a GS1 Member Organisation (MO) and whether the brand owner has provided the information about the product.

As the largest source of trusted product data in the world, the GS1 Cloud aims to be a platform upon which GS1 MOs, solution providers, internet application providers and mobile application developers will be able to source their product information.

Simply stated, the GS1 Cloud will be to product data what Google Maps is to maps. Its strength will lie in its well-designed core features and the vast quantity of trusted data it makes available for the creative endeavors of GS1's user community.

Deployment of the GS1 Cloud is now in progress, and by the end of 2017, we expect to have tens of millions of GTINs loaded and all GS1 MOs connected. The GS1 Cloud will deliver three core features at its launch. We intend to make GS1 Cloud accessible for use in 2018.

Keep an eye on our global website at www.gs1.org/gs1-cloud for news and updates about the GS1 Cloud.

"Consumers want to know about products before they buy them, and the GS1 Cloud brings quality product data all the way to them. It is the most compelling new global business service out there right now."

Julio Nemeth
President, Global Business Services
Procter & Gamble

Did you know?

The GS1 Cloud will complement, not replace, the GS1 Global Data Synchronisation Network (GDSN). Today, GDSN provides trusted B2B data to more than 40,000 large companies through 37 GS1-certified data pools.

The GS1 Cloud will improve availability of B2C data in a world where consumers' accelerated use of online shopping is transforming retail irreversibly.

It is designed for near-realtime delivery of a variety of product information that can enable and enhance B2C applications.

The GS1 Cloud and the GS1 GDSN will work in tandem, and B2C product data loaded into existing GDSN Data Pools can feed the GS1 Cloud. Read more about GDSN on **pages 28-29**.

Key initiatives 2016/2017

- Formed the Data Strategy Steering Committee with representatives from Amazon, Carrefour, eBay, Google, Henkel, The J.M. Smucker Company, J&J, Mattel, Nestlé, P&G, PepsiCo, Target and Walmart, as well as from a variety of GS1 MOs

- Received unanimous approval and enthusiastic support for the Big Picture project (of which GS1 Cloud is a vital element) at our 2017 GS1 General Assembly

- Agreed upon the initial types of information that will be provided for each item in the GS1 Cloud: GTIN, brand, label description, medium-resolution image, target market, company name and product classification

- Defined a data quality rating system to be used for all data in the GS1 Cloud: only data that has passed the minimum standard GDSN validation rules will be shared

GS1 Global Data Synchronisation Network (GDSN)

A key service that enables accurate, fully synchronised data sharing and trade item updates among more than 42,000 trading partners

The GS1 Global Data Synchronisation Network (GDSN) allows B2B and B2C data to be exchanged and automatically synchronised between manufacturers and retailers. Thanks to GDSN, trading partners have access to accurate and current information, because whenever a supplier or retailer updates their database, all of their partners' databases are updated as well. Everyone has access to the same continuously refreshed information. This helps business interactions to be more efficient and cost effective, and creates a foundation to provide consumers with access to trusted product information. Currently, more than 23 million products, each with its own unique GS1 Global Trade Item Number (GTIN), are part of the GDSN.

To be able to exchange product data through the GDSN, companies must join a data pool that has been tested and certified to meet GS1 global standards.

As of publication of this document, there were 37 data pools, six of which joined in the past year – including Carrefour, the first retailer to receive certification and act as a data pool in the GDSN. All GDSN-certified data pools undergo an annual audit to ensure conformance with implementation, operational, security and technical criteria as established by the GS1 Data Excellence certification committee.

The GS1 Global Data Synchronisation Network is complementary to the GS1 Cloud (see pages 26-27) and the two will work in tandem to provide business benefits to companies of all sizes. GDSN is a key service, and over 40,000 companies around the world rely on its reliability and secure capabilities to do business. GDSN and the GS1 Cloud services use a common data model to ensure interoperability and synchronisation between them.

Learn more about GDSN and upcoming releases on our website at www.gs1.org/gdsn

"Global data synchronisation remains foundational to our approach for master data management. The GS1 Global Data Synchronisation Network allows us to work closely with our customers to meet the growing demand for data."

Christopher P. Resweber
Senior Vice President, Government & Industry Affairs
The J.M. Smucker Company

Did you know?

A key objective of GDSN Major Release 3, launched in May 2016, was to make it quicker and easier to update GDSN and support new business sectors.

This goal of improved speed-to-market has been achieved, as evidenced by the successful launches of two updates, both of which met the needs and improvements requested by our user community.

In November 2016, for example, we added 54 new attributes, including information about pet feed nutrients, licensed characters and e-commerce for various areas.

In May 2017, Maintenance Release 3.1.2.1 featured enhancements and support for product characteristics, product labeling, DIY attributes and additional units of measure.

Our teams collaborate with the very active GDSN community to inform them about our work on future updates and ensure that the GDSN continues to meet their needs.

Key initiatives 2016/2017

- Ratified and deployed into the network GDSN Maintenance Release 3.1.2 and GDSN Maintenance Release 3.1.2.1

- Certified six new data pools and welcomed them to the GDSN, bringing the total to 37

- Deployed updates to Global Product Classification (GPC), Efficient Code List (ECL) and Attribute Value Pairs (AVP), thanks to the dedicated work of the members of the Global Master Data Standards Management Group

- Launched a GDSN Simplification initiative to define possible changes to the GDSN that would increase its attractiveness to larger midsize companies and ease the initial adoption barriers for other sectors

- Access the current, future and legacy GDSN standards at www.gs1.org/access-gdsn-standards

GEPIR and GLN Service

Key elements of our data strategy and omni-channel offering, GEPIR and GLN Service form the basis for several premium GS1 Member Organisation services

These services allow global users to find accurate company information online

GEPIR and GLN Service are information registries. Both support premium services that are provided by GS1 Member Organisations (MOs).

GS1 GEPIR, the Global Electronic Party Information Registry, is a powerful, freely accessible internet-based service that allows users to find contact details for any company or organisation that has licensed any GS1 Identification Key. All GS1 MOs participate in GEPIR, with 85 hosted using the GS1 global hosting services and the others hosting their service locally. After launching GEPIR 4.0 in 2016, we gathered feedback and work requests in anticipation of deploying a minor maintenance release that will improve overall network performance and robustness. Try GEPIR at http://gepir.gs1.org – but remember, GEPIR only gives information about the company that owns the barcode number and the brand that sold the product. The product itself may have been manufactured anywhere in the world.

GS1's GLN Service provides a single point of access to GS1 Global Location Number (GLN) master data via an interconnected network of local GLN registries. A GLN uniquely identifies physical locations, legal entities or functional entities, including their address. Recent upgrades have made GLN Service even faster, and we are seeing interest from organisations in healthcare, retail, third party logistics and more. GLN Service is a fundamental element of our work with the International Trade Centre (ITC) to help improve food sustainability and increase the access of small farmers and producers to global markets.

The trusted data available in these registries as well as in the GS1 Global Data Synchronisation Network will be leveraged by the GS1 Cloud: read more on pages 26-27.

Data quality

Our best practices, guidelines, certifications and trustmarks provide a comprehensive structure to help businesses achieve strong data quality

High quality data is fundamental to generating strong omni-channel sales, creating business efficiencies, providing customer satisfaction, respecting regulations and ensuring patient safety.

Data quality starts wherever data is created: best practices must be in place to capture the right data the right way. Data quality could next be compromised when information is shared across networks: our data validation rules help prevent this. As data then moves to consumers or patients, the GS1 Trustmark and Terms of Use agreements ensure that users are aware that data is reliable.

In the past year, at the request of the GS1 Management Board and with the support of the GS1 Data Excellence Board, our data quality team successfully defined the elements of a certification programme for master data services (MDS) and brand owners. We then launched and completed a pilot project with GS1 Member

Organisations in the US, Australia, Portugal and Colombia, of which all passed a self-certification audit at the end of the pilot. Going forward, more and more GS1 Member Organisations (MOs) will be certified in MDS, so they can better provide help and support.

GS1 has been working for years on data quality enhancement programmes. Our new GS1 Cloud initiative (see pages 26-27) has only brought into sharper focus the importance of the quality of information and images made available to trading partners and consumers. It is clear today that only the consistent availability of high quality information will engender trust in and use of data as it travels to the ultimate recipient, whether a retailer, hospital, regulator, consumer or patient.

Learn more, find out how to get started, or discover ways to get even more from your data quality improvement programme on our website at www.gs1.org/data-quality

One of our driving principles is that in an e-commerce world, inaccurate product data means the product is defective

Traceability

Trust starts with traceability: connect the dots with GS1 standards

Traceability is a priority across the sectors that GS1 serves. Traceability enables fast recalls and compliance with regulatory requirements. It is foundational to initiatives related to supply chain efficiency, transport and logistics processes, quality, risk management, ethical sourcing, brand integrity, sustainability and transparency. Standards-based traceability enables rapid access to relevant, reliable data that provide insight and allow for better decision-making.

Our sectors need to provide accurate and timely answers to a wide range of questions about their products and their supply chains. They demand the ability to go beyond yesterday's "one step up, one step down" traceability models: they require relation-, transaction- and event-based traceability services that are end-to-end in their design and that provide real-time access to reliable information, no matter how many partners and products are involved.

Thanks to GS1 standards, items, entities and places are unambiguously identified, and their movements and interactions are accurately captured and shared. With GS1, traceability data can be managed at various levels of precision and granularity, including critical tracking events and key data elements at the batch or serialised level.

A new version of the GS1 Global Traceability Standard was published in August, which will better address critical business needs such as these, helping meet our users' demands for reliable access to information and events, and more integrated and interoperable systems. Additionally, GS1 is actively engaging with industry to leverage existing standards for identification and data in enterprise blockchain implementations, many of which are closely related to supply chain traceability initiatives.

Learn more at www.gs1.org/traceability

"GS1 Traceability standards and the GS1 Global Traceability Assessment have helped us meet and even exceed our customers' need for real-time information. This is a key differentiating value-added service of our company."

Carlos Nicho
Chief Executive Officer
Vartini Packing

Did you know?

The primary goal of the Asia-Pacific Economic Cooperation (APEC) is to support sustainable economic growth and prosperity in the Asia-Pacific region.

As part of our efforts to enable public-private collaborations, GS1 worked with APEC on **five pilots** designed to assess the costs and benefits of global data standards on international trade. Results included increasing visibility from **43%** to **93%** for beef exports from Australia to the US; achieving

100% visibility in the asparagus supply chain from Peru to the US; reducing by **98%** the time spent tracking durian exports from Malaysia to China; expediting the port clearance process for wine exports from Australia to Hong Kong; and saving **30%** in border processing time for tequila exports from Mexico to the US.

Collaborative work between GS1 and APEC will continue in the year ahead.

Key initiatives 2016/2017

- Launched work on GTS2, a refresh and update to the GS1 Global Traceability Standard which has helped industry frame and guide the implementation of traceability services for more than a decade

- Co-chaired the Global Food Safety Initiative (GFSI) Regional Outreach group and successfully delivered its mandate of developing and validating a common framework for all local GFSI groups

- Set up and held several meetings of a Traceability Steering Committee composed of subject-matter experts from a dozen GS1 Member Organisations, tasked with participating in the definition and deployment of GS1's global strategy and priorities in traceability

- Pursued our work to use new and innovative technologies and methods, including blockchain and discovery, to help our users achieve their traceability goals

- Transitioned smoothly to new GTC Checklist that is used for traceability assessments, including a successful series of training seminars

- Added value and contributed our expertise to work groups including ISO TC 34/SG 17, ISO Chain of Custody and UN/ECE Traceability of Agricultural Products

Sustainability

GS1 standards help improve food sustainability, increase access of small farmers and producers to global markets and help reduce food waste

Sustainability initiatives can boost competitiveness, foster sustainable growth and generate new jobs

The desire for economically, socially and environmentally sustainable products is strong. Political leaders around the world have called for better traceability across supply chains. Companies are voluntarily setting goals for responsible sourcing. Consumers are demanding to know exactly what is in the products they purchase and the food they consume.

To help meet these goals and others, GS1 is actively participating in a variety of projects and initiatives designed to promote traceability and improve sustainability.

For example, GS1 is an active member of the REFRESH consortium and research project, an integral element in the European Commission's Circular Economy Package. REFRESH's goals include cutting in half per capita food waste at the retail and consumer level in Europe, and reducing food loss along production and supply chains. We know that GS1 standards for product identification and data sharing can help achieve meaningful reductions in food loss and food waste.

We have also formally renewed our partnership with ITC, the International Trade Centre, a joint agency of the World Trade Organisation and the United Nations. The ITC Sustainability Network is using GS1 Global Location Numbers (GLNs) and the GS1 Global Farm Registry to improve food sustainability and increase the access of small farmers and producers to global markets.

By working together with industry and participating in focused initiatives, GS1 is helping sustainability goals become a reality.

Stay up to date on our work in this area, read our white papers, and learn more about how GS1 standards could benefit sustainability projects at your company or organisation at www.gs1.org/sustainability

Standards

GS1 standards empower industry to identify, capture and share data across the value chain. Our neutral, best-in-class environment for standards development is a key element of our success.

GS1 Global Standards Management Process

This collaborative, community-based forum is creating standards and guidelines at the "speed of business"

This past year, the GS1 Global Standards Management Process (GSMP) remained focused on relevance, efficiency and participation—our three pillars of excellence—as we continued to develop standards created by industry, for industry.

Our Industry Engagement Steering Committee (IESC), comprised of representatives from many business sectors and a range of GS1 Member Organisations, now validates work requests before they enter the development process to ensure there is a solid business case, committed participation from members and alignment with GS1 strategies. Thanks to the IESC and many other engaged stakeholders, we know we are building relevant standards that will be used by industry.

We also have a new way of working once standards development is underway. We are now engaging the right community members at the right time for optimal participation. We have implemented face-to-face workshops and dynamic, collaborative meeting facilitation.

This has resulted in a more efficient use of industry's time.

Our efforts have enabled us to deliver standards at an unprecedented speed to market. When we compare data from before and after the operationalisation of our Best-in-Class initiative, we can clearly see that today we are delivering standards in far less time without compromising quality.

During the year, we also worked diligently to produce a new GS1 Community Room portal. Users now enjoy improved collaboration, seamless navigation between working groups and documents, new search features and a tailored user experience.

Our GS1 Standards Certification Programme is off to a great start. Many people from our GS1 Member Organisations are taking courses to improve their skills in engaging groups and helping the Global Office develop more relevant standards at the speed of business.

"Having face-to-face meetings during the standards development process greatly improves speed to market. It also allows us to better understand business use cases, which has a tremendously positive effect on adoption and usage."

Joachim Wilkens
Head of Business Operations Solutions
C&A Services

Did you know?

In Brussels, Belgium in October 2016, a record-setting **340** people from **32** countries gathered at the annual GS1 Industry & Standards Event to find solutions to common business challenges.

At the 2017 GS1 Standards Event in Jersey City, New Jersey (USA) in March 2017, **200** people from **25** countries worked together to build standards that deliver business value.

These events involved plenary presentations, panel discussions, working group meetings, industry-specific workshops and fruitful networking breaks.

With innovative new methods to collect feedback faster and well-known industry speakers to motivate and challenge us, we are more business-centric than ever before. Our working group content is more focused on meeting business challenges.

Join us! Help build global standards and transform business together with your peers. Learn more at **www.gs1.org/gsmp**

Key initiatives 2016/2017

- Managed a 73% increase in work requests to meet community demand

- Created and launched a new online community room

- Created and launched a Standards Development Certification Programme

- Held numerous face-to-face meetings as part of our goal to create a much more interactive environment that contributes to building relevant standards at the speed of business

- Witnessed a dramatic improvement in the time it takes to develop a standard

- Learn more about GS1 global standards development and get involved at www.gs1.org/standards-development

Identify: GS1 standards for identification

Unique and persistent identification enables visibility and traceability around the world and across all business sectors

In a world where the rate of change is accelerating, the need for unique identification remains a constant. Businesses and organisations must optimise costs, increase efficiency and respect regulations. GS1 standards for automatic identification have been serving these needs for over four decades.

Our teams had a busy year. We managed a record-setting 22 work requests for changes to the GS1 General Specifications – the foundational GS1 standard that defines how identification keys, data attributes and barcodes must be used in business applications. Its most recent version includes support for new sectors such as the meat supply chain, as well as other revisions based upon learnings drawn directly from user implementations.

The Global Trade Item Number (GTIN) is now serving the needs of healthcare organisations striving to meet new requirements for unique device identification (UDI). Read about our work in healthcare on pages 14-15.

Our UniqueID project was created to address the challenges of unique, persistent identification in the context of omni-channel commerce. As part of this project, we pursued work on a Consumer Product Variant (CPV). The CPV addresses industry's need to clearly communicate minor product changes that do not require the brand owner to change the GTIN. Thanks to a new GS1 Application Identifier that has been approved to enable the CPV, such minor changes can now be made transparent to all.

We have also strengthened our collaboration with the Bureau International des Containers (BIC), whose standardised codes identify 99% of the world's 20 million shipping containers. The latest version of GS1's EPC Tag Data Standard (TDS) includes a BIC code that has been approved as a GS1 class-3 key. This will support EPCIS implementations in ports and hinterland logistics.

"Our decision to begin using GS1 Global Document Type Identifiers on our Accreditation Certificates was based on convenience, unique identification and the excellent data capture capability and security that GS1 standards offer."

Anil Relia
Chief Executive Officer
National Accreditation Board for Testing & Calibration Laboratories, Quality Council of India

Did you know?

India's National Accreditation Board for Testing and Calibration Laboratories (NABL), part of the Quality Council of India, now uses a Global Document Type Identifier (GDTI) encoded in a GS1 QR Code on the more than 6,000 accreditation certificates they issue every year.

By using an "app" on their smartphones, citizens and businesses are able to verify the authenticity of certificates and retrieve details such as the validity period of the accreditation and the date of issue.

NABL previously used hologram stickers, which were expensive, unverifiable and prone to counterfeiting.

Certificates issued by the Indian National Skill Development Council and teacher training certificates issued by the Indian Central Board of Secondary Education are also identified with GS1 standards.

Key initiatives 2016/2017

- Published GS1 General Specifications version 17, which benefits from our constant efforts to improve quality and clarity, so that implementations of GS1 standards are as consistent as possible everywhere in the world. With over 100,000 downloads per year, the GS1 General Specifications is the most downloaded GS1 standard

- Created and launched an easy-to-use, online decision support tool for GTIN Management

- Released 21 translations of the GTIN Management Standard beyond the original English; the web version of this standard has been visited over 500,000 times since its publication in June 2016

- Witnessed growing use of GTINs and Global Individual Asset Identifiers (GIAI) in new industries such as rail manufacturing and maintenance

- Learn more and see the full list of all GS1 identification keys, including fact sheets for each one, at www.gs1.org/id-keys

Capture: GS1 standards for barcodes & EPC/RFID

GS1's full range of barcodes and EPC/RFID standards offer rapid, efficient and global ways to capture unique identification

GS1 barcodes and GS1 EPC/RFID (radio frequency identification) are data capture standards that allow GS1 identification keys (pages 41-42) and other data to be affixed directly to physical objects.

There are several GS1 barcodes, each meeting specific needs. Our 2D barcodes—GS1 QR Codes and GS1 DataMatrix—are increasingly being adopted by manufacturers and retailers because they enable more detailed identification and, as a result, help respond to consumer demands to know more about products. Two-dimensional barcodes are easy to print and scan, but cannot be read by traditional laser scanners. This is why GS1 recommends that retailers consider investing in imaging-based barcode scanners when they renew their point-of-sale equipment.

GS1 standards for EPC/RFID are also enabling successful omni-channel strategies and improved customer experiences, especially in environments that deal with a wide variety of products.

EPC/RFID can help companies track products from source to store, achieving near-perfect inventory accuracy. It also can help improve speed to market and boost product availability. These benefits contribute to providing consumers with a seamless shopping experience, no matter how they shop.

In the months ahead, GS1 will work with a research firm to compile ROI information tied to retail adoption of EPC/RFID. The report will provide insight into the value of EPC/RFID on inventory accuracy, sales and staffing along with current system costs. Watch our global website at www.gs1.org for its publication.

GS1 views GS1 barcodes and EPC/RFID as key enablers of a world of connected people, businesses, smart devices and things: the Consumer Internet of Things. Other emerging trends will also create opportunities for GS1's standards, including delivery drones, self-checkouts and robots.

"GS1 standards provide a common framework to support the challenges of managing Maintenance Repair & Overhaul (MRO) processes in the rail industry. Adopting and deploying them will reduce costs and improve safety, reliability and quality."

Danny Broad
Chief Executive Officer
Australasian Railway Association

Did you know?

RFID is on the rise in retail.

One report, published in October 2016 by global management consulting firm Kurt Salmon, revealed that **73%** of a sample of fashion retailers and wholesalers with revenues of at least USD$500 million (€464 million) had either already implemented or were currently implementing or piloting RFID – more than **doubling** the 34% who responded in this way in 2014.

The main motivation: increased inventory accuracy made possible by RFID. RFID improves inventory accuracy by **more than 25%**: retailers studied reported **67.4%** inventory accuracy before RFID and **84.5%** accuracy after implementation.

RFID is also being used to support omni-channel initiatives such as "buy online, pick up in store" and ship-from-store. Other RFID-powered projects, such as price checking or automated checkout, allow retailers to reduce labour costs.

Key initiatives 2016/2017

- Published position paper "GS1 recommends scanners with imaging-based capabilities"

- Launched the GS1 Automatic Identification and data Capture (AIDC) Technical Interest Group, where technical topics are discussed and the GS1 AIDC community can circulate questions, foster discussions and be updated on the latest initiatives from around the world

- Published Tagged Item Performance Protocol Guideline (TIPP), defining performance requirements and a standard test protocol to confirm how well RFID-tagged trade items can be read in supply chain processes

- Built a case study repository to help GS1 Member Organisations share real world implementations of EPC/RFID applications in retail, healthcare, logistics and traffic management

- Collaborated actively with RAIN/RFID Alliance, an association of RFID vendors focused on UHF RFID technology

- Learn more about GS1 barcodes at www.gs1.org/barcodes

- Learn more about GS1 EPC/RFID at www.gs1.org/epc-rfid

Share: GS1 standards for data exchange

These GS1 standards are a vital part of our efforts to provide a common, neutral and global language between customers, suppliers and partners

In addition to identifying and capturing information, organisations also need to share data between applications and with trading partners. That is where GS1's standards for data exchange come in, such as GS1 Electronic Data Interchange (EDI) for business transactions and EPCIS for enhancing physical visibility. The GS1 Global Data Synchronisation Network (GDSN) is also a vital element of data sharing and exchange: see pages 28-29 for more information.

EPCIS is a GS1 standard that enables trading partners to share information about the physical movement and status of products as they travel throughout the supply chain from business to business and ultimately to consumers. It helps answer "what, where, when and why" with accurate and detailed information. In the past year, EPCIS has gained momentum as an enabler for interoperable exchanges of traceability data.

There are live implementations in an increasing number of sectors and regulatory jurisdictions around the world. Our user-driven workgroups have developed a series of guidelines and references to support users.

GS1 EDI provides global standards for electronic business messaging that allow companies to automate commonly-occurring supply chain transactions. GS1 EANCOM® EDI standards are used by more than 100,000 companies and GS1 XML standards by more than 40,000 companies. In the past year, our teams ratified and published updates to both these standards, in response to new user requirements such as eInvoicing, metering services, complex ordering scenarios where multiple connected orders are placed, support for split deliveries and a variety of use cases for omni-channel commerce.

Learn more about EPCIS at www.gs1.org/epcis, and more about GS1 EDI at www.gs1.org/edi

"EPCIS is leveraged by more and more pharmaceutical trading partners to capture and interoperably exchange standardised chain-of-custody and traceability data. This helps all of us to increase both supply chain integrity and patient safety, as well as make our supply chains more efficient."

Mike Rose
Vice President, Supply Chain Visibility
Johnson & Johnson

Did you know?

The U.S. Food & Drug Administration will require end-to-end traceability of pharmaceuticals by 2023. In anticipation, Johnson & Johnson Supply Chain (JJSC) and AmerisourceBergen (ABC) deployed a pilot using GS1 standards to exchange information about products moving between their companies.

Each JJSC product ordered by ABC was uniquely identified with a serialised Global Trade Item Number (SGTIN) encoded in a GS1 DataMatrix barcode.

EPCIS was then used to record business events such as commissioning, packing, shipping, receiving and unpacking.

When a shipment arrived, ABC was able to confirm receipt and trace the chain of custody of every item that had begun its journey at the manufacturing site, without opening cases.

Using EPCIS as a foundation provided a streamlined, interoperable process. The pilot provided actionable and repeatable results.

Key initiatives 2016/2017

- **EPCIS:** Ratified and published EPCIS 1.2

- **EPCIS:** Welcomed unanimous approval by ISO and subsequent publication of the second edition of EPCIS and its Core Business Vocabulary (CBV): the fact that EPCIS & CBV have ISO/IEC equivalents is a powerful argument when discussing GS1 standards with interested parties in sectors subject to governmental regulations

- **EPCIS:** Updated the EPCIS & CBV Implementation Guideline

- **EPCIS:** Began work on an EPCIS application standard for rail-sector use cases such as Maintenance, Repair & Overhaul and Infrastructure

- **EPCIS:** Added the GS1 Global Identification Number for Consignment (GINC), the GS1 Global Shipment Identification Number (GSIN) and the BIC container code to GS1's EPC Tag Data Standard (TDS), enabling their use in EPCIS visibility events

- **EDI:** Ratified and published the 2016 edition of EANCOM 2002

- **EDI:** Ratified and published GS1 XML version 3.3

- **EDI:** Completed the harmonised EDI guideline for the healthcare sector with outstanding business processes and their messages, notably eInvoicing

- **EDI:** Published a guideline on the use of GS1 Identification Keys in GS1 EDI messages as well as in the Universal Business Language (UBL) standard

- **EDI:** Published a guide support users of OASIS UBL messages

Innovation

GS1 is continuously thinking about how to help our global community get the most out of new technologies and new capabilities

In the past year, we have worked to organise, simplify and focus our innovation program. Three main ideas now form the foundation of our work.

The first key concept is that GS1's innovation work will always be focused on industry. We will choose projects that are relevant to the needs of our global community of users. GS1 Industry Engagement and the GS1 Innovation Board are important partners in guiding our choices and shaping our path forward.

Ensuring that we leverage our broad internal and external ecosystem is our second area of focus. We will collaborate with our GS1 Member Organisations to benefit from their experience with innovative projects and will share our work with them and with other groups. The AutoID Labs are an important resource to keep us looking toward the future.

Finally, we are focusing on projects that can create significant opportunities for our user community.

A top priority is to strengthen GS1's position in the consumer-centric Internet of Things (Consumer IoT). People today expect their shopping experiences to be relevant, timely, personal, secure and seamless. "Smart" phones and tablets already play a significant role in everyday consumer experiences. In addition, people are now frequently interacting with brands and retailers on devices that are connected to other devices or networks. GS1 is working to lead in this space. We know we can play a pivotal role in accelerating the pace at which "things" can be efficiently identified, interconnected and made interactive. Our team will explore this potential and evaluate business scenarios, underscoring gaps in our existing standards and system architecture. We will work to develop an architecture that is inclusive and will become the global language of business... people... and things.

"The Internet of Things is radically changing retail. GS1 is helping supply chain partners collaborate so we can all make the most of this enormous opportunity to connect with consumers in new and impactful ways."

Myron Burke
Principal, Store N°8
Senior Director II
Walmart Stores, Inc.

Did you know?

Our work on standards for the Consumer IoT is important in today's interconnected world.

Sheryl Sandberg, Chief Operating Officer of Facebook, points to her company's research, which shows that Americans check their smartphones **150 times per day on average.**

The total number of digital personal assistants powered by artificial intelligence, such as Amazon Alexa and other similar devices from Google, Apple, Microsoft and Samsung, is expected to hit **7 billion** by 2020, according to a June 2017 study from market analyst IHS Markit.

Gartner forecasts that **8.4 billion** connected "things" will be in use worldwide in 2017, and reaching **20.4 billion** by 2020. This same study, published in February 2017, predicts that Consumer IoT applications will represent the largest category in 2020, with **63%** of the total installed base.

Key initiatives 2016/2017

- Re-organised, simplified and focused our innovation program

- Pursued our work with the Auto-ID Labs: Massachusetts Institute of Technology (MIT), University of Cambridge, ETH Zurich, University of St. Gallen, Fudan University China, KAIST South Korea and Keio University Japan

- Joined forces with MIT to begin defining the open architecture for the Consumer IoT; now seeking a diverse group of thought leader companies (retailers, e-tailers, solution providers, brands) to participate as well

- Stay up to date about our work on the consumer-centric Internet of Things at www.gs1.org/standards/internet-of-things

GS1 Member Organisations in Action

Since its creation in the 1970s, our federation has welcomed new Member Organisations in more than 100 countries to bring GS1 standards to the companies that need them. Today, more than a million companies of every size use our standards. In these next pages, read about just a few of the many GS1-powered projects that are underway.

GS1 Germany: Serialised GTINs and DataMatrix at the service of an industrial company

ContiTech simplifies a formerly complex manufacturing process, boosting efficiency by implementing GS1 standards for the rail industry

Individual systems and their components can now easily be tracked from receiving through manufacturing to delivery

A leading specialist in rubber and plastics and a subsidiary of Continental, ContiTech's products are used in many industries like in agriculture, machine and plant engineering, mining, power, printing, shipbuilding and more.

ContiTech develops and produces many solutions for railway applications, such as suspension systems which are manufactured to customer order. Producing unique, tailor-made systems was quite a challenge because each supplier and customer used or demanded different identification and marking, which complicated the manufacturing process.

ContiTech came to GS1 looking for ways to increase efficiencies by standardising item identification and marking across their customers and suppliers. This would also enable them to easily track and validate that the right system had been manufactured based on the right specifications and know exactly what critical components it contained.

The solution chosen achieved these goals and more. Onto the top plate of each customer's suspension system, ContiTech now affixes a DataMatrix barcode containing the system's serialised Global Trade Item Number (GTIN). Suppliers also identify and mark their components with serialised GTIN and DataMatrix.

Information about a system or component can now be easily captured with a single scan of its barcode at any point in its life cycle, from component receipt through manufacturing to maintenance, repair & overhaul cycles.

The GS1 standards-based solution has been a "win-win-win" for ContiTech, their customers and suppliers.

GS1 Germany: www.gs1-germany.de
More at: www.gs1.org/technical-industries and www.gs1.org/rail

GS1 Greece: Improvements for Greek Army Medical Supplies Centre

There is now full visibility of products traveling through the warehouse and to Army hospitals, as well as traceability of lots & batches

The Greek Army Medical Supplies Centre is responsible for purchasing, warehousing and distributing pharmaceuticals and medical devices to regional warehouses and hospitals that serve active Greek Army personnel and their families.

Before launching their project, the Centre used time- and labour-intensive manual processes built around proprietary standards to receive incoming products, manage stock and fulfil orders. After meeting with a community of physicians, pharmacists and logisticians, the Centre's Logistics Manager and his team contacted GS1 Greece to learn more about automating their processes and implementing global standards. They also engaged a vendor to create a warehouse management system (WMS).

The benefits were swift and positive. Today, almost all pharmaceuticals and medical devices in the Centre—its own manufactured products as well as products from suppliers—are uniquely identified with a Global Trade Item Number (GTIN) containing batch/lot numbers and expiry dates, encoded in a GS1 DataMatrix or a GS1-128 barcode.

Each shelf in the warehouse has been assigned a unique ID, and as products arrive in the warehouse reception area, Centre personnel scan their barcodes with handheld terminals to capture the product information in the WMS. As products are placed on shelves, the physical location barcodes are scanned. Upon completion of product receipt, the invoice is finalised for payment.

As a result, stock accuracy has improved to 96 percent, order fulfilment time has decreased by 25 to 30 percent, and the order error rate has dropped from 10 to 3 percent.

The Centre will soon implement GS1 EDI-based communication and transactions between centres for master data synchronisation, automated order processing, despatch advices and invoicing.

GS1 Greece: www.gs1greece.org
GS1 Healthcare: www.gs1.org/healthcare

Product obsolescence can now be easily managed using the expiration date data contained in the product's barcode

GS1 Norway: EPC/RFID streamlines processes in apparel

By implementing GS1 EPC/RFID, fashion company Moods of Norway improved its product and information flows while reducing costs

Thanks to the new system, shop staff work with the confidence that their stock figures are nearly 100% correct

Founded in 2003, fashion company Moods of Norway is one of today's largest Norwegian brands in international fashion.

The company sought out to streamline their business processes. After discussions with GS1 Norway, they began uniquely identifying each item of merchandise with EPC/RFIDs tags encoded with a serialised GS1 Global Trade Item Number (GTIN). This system enables full visibility, from planning and purchasing with manufacturers and suppliers to distribution and inventory management at stores. The GS1 solution even allows Moods of Norway to fight shoplifting thanks to Electronic Article Surveillance.

The benefits of the new system have been abundant. Very precise inventory assessments are now performed every week in 30 minutes, a drastic improvement over the 30 hours of manual stocktaking that the company previously did only once per quarter.

More importantly, the EPC/RFID system has allowed Moods of Norway to better serve both in-store and online customers and improve overall sales. Before the project, erroneous store inventory data led to incorrect deliveries from the warehouse, resulting in out-of-stocks or excess stocks. Now stores are replenished with the right quantities and assortments of garments. If a customer cannot find a certain color or size, store staff can quickly check whether it is in the storeroom. Online shoppers, who previously could only access warehouse-based inventory, now also see store-based inventory available for purchase using ship-from-store or click & collect.

In a pilot store, Moods of Norway saw that RFID-enhanced fitting rooms provided shoppers with a better experience and new insight into the brand. They plan to extend this service to more stores soon.

GS1 Norway: www.gs1.no
GS1 EPC/RFID: www.gs1.org/epc-rfid

GS1 Hong Kong, China: Traceability & supply chain visibility are the keys to ensure food safety

A leading value-adding logistics service provider uses GS1 standards to bring high quality, safe temperature-sensitive products to Chinese consumers

DCH Logistics provides comprehensive logistics services to international clients in Hong Kong, Macau and mainland China. Their expertise includes supply chain management for the cold chain (chilled & frozen), sourcing, repackaging/ consolidation, distribution and other value added services. DCH Logistics is dedicated to helping its customers reduce operating costs while enhancing their market competitiveness.

DCH Logistics helps customers improve speed-to-market of safe perishable product across complex global supply chains. They need product and event information about those products to make this happen. Over the years, food safety incidents have highlighted the importance of ensuring consumer safety with traceability from source and efficient recall systems. It was with these goals in mind that they chose the GS1 Global Traceability Standard (GTS) and an EPC/ RFID-powered cold chain management solution.

GS1 GTS was first deployed for meat at critical points in product processing. Each packaged product and logistics unit is uniquely identified by the supplier with a GS1 Global Trade Item Number or a GS1 Serial Shipping Container Code. The outbound logistics unit information and shipment data are shared with relevant parties through GS1 Hong Kong's ezTRACK track and trace platform, using the GS1 EPCIS standard.

The EPC/RFID solution they deployed is tailored to temperature-sensitive product. RFID sensors continuously monitor temperature and humidity during delivery, shipping and receiving, allowing assurance of cold chain integrity.

Because of these developments, DCH Logistics has accurate traceability information and can process orders more quickly upon arrival in China - satisfying its customers' needs for safer and fresher product, faster.

GS1 Hong Kong, China: www.gs1hk.org

DCH Logistics uses GS1 standards to ensure end-to-end food safety and supply chain efficiency in its global cold chain

Corporate & Financial Information

We are pleased to share here the results of our 2016-2017 financial year, information about our governance and contact details for our GS1 Member Organisations around the world.

Philippe Wéry
Chief Financial and Administrative Officer, GS1

Financial statements

Key financial statistics: Global revenues

GS1 Member Organisations (MOs) around the world are funded by their local members through annual membership fees and sales of services. The calendar year 2016 experienced another year of strong growth with an increase of the MO revenues of 10.4% to €415M, an increase of €39M. Excluding the impact of currency (i.e. at constant exchange rates), the increase amounts to 8.3%, versus 8.2% the year before. All regions grew strongly in 2016 (without foreign exchange impact): North America at 10.4%, Latin America at 8.7%, Asia Pacific at 7.8%, Europe at 7.5% and MEMA at 3.1%.

GS1 Global Office: Revenue evolution

In 2016-17, GS1 Global Office's revenues amounted to €30.8M, flat versus the year before, due to the new Funding Model which was approved at the General Assembly in May 2016 and which foresaw, among others, a reduction in fees for the MOs which operate a GDSN data pool. This reduction which had a significant negative impact on the Global Office revenues was offset by the strong growth in the MO revenues and fees. The budget 2017-18 foresees an increase in Global Office revenues of €2.1M to reach €32.9M, due to the strong growth in MO revenues.

Income statement and headcount

In 2016-17, GS1 Global Office had a positive Result of €45K compared to a budgeted loss of €0.9M. Revenues amounted to €30.8M while operating expenses and other expenses also amounted to €30.8M. This €0.9M positive variance versus Budget is mainly due to higher Revenues (€0.5M) and lower expenses (€0.4M).

In 2016-17, we have spent around €1.0M (non-budgeted) on our two key projects for this fiscal year: Big Picture and the GS1 Cloud. Excluding the Big Picture and GS1 Cloud expenses, the Result of 2016-17 is positive at €1.0M.

Including the GS1 Cloud and Big Picture expenses, the operating expenses increased by €0.9M or 3.0% versus 2015-16, driven by (1) the €0.6M increase in pay-roll expenses at €18.3M (+3% vs. 2015-16) due to inflation and to the full-year impact of the 2015-16 recruitments and of the new hires of 2016-17, (2) the €0.3M increase in discretionary spending at €9.9M (which includes travel, consulting, marketing and meetings/events), mainly due to the GS1 Cloud and the Big Picture projects. Fixed expenses remained flat at €2.4M.

Both the base business (managed from the GS1 Central Office) and Data Excellence Inc. had better results than budgeted in 2016-17. GS1 Data Excellence Inc. had a positive result in 2016-17 while GS1 Central Office incurred a loss. With a consolidated positive result of €45K, we continued to build reserves to cover and/or speed-up current and future investments in new technologies and/or in key projects, but also to have the necessary financial resources in case of adverse currency fluctuations. In the last fourteen years, we have built accounting reserves of €17.1M. The budget 2017-18 foresees a significant growth in the expenses of the projects GS1 Cloud and Global LOU. Consequently, the Budget 2017-18, as approved by the General Assembly in May 2017, foresees a negative result of €1.5M to be funded by the reserves.

In terms of types of expenses, our main investment remains our people, with 82 staff members at the end of June 2017, which represent 60% of our Operating Expenses. The budget 2017-18 foresees to increase the Global Office headcount to 95 FTEs, which includes an addition of 6 FTEs for the GS1 Cloud and the Global LOU projects.
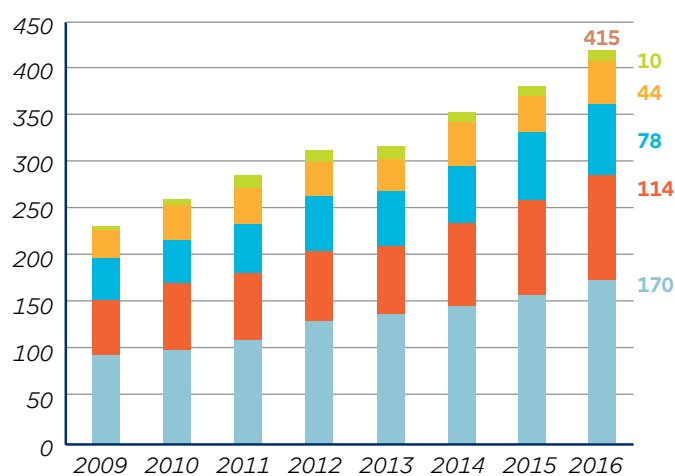
GS1 Member Organisation revenue: **Growth by region**

	Growth 2016/2015	
	%	w/o FX*
Middle East/ Mediterranean/Africa	0.8%	3.1%
Latin America	16.2%	8.7%
Asia Pacific	9.9%	7.8%
North America	15.8%	10.4%
Europe	6.6%	7.5%
TOTAL	**10.4%**	**8.3%**

* Foreign exchange impact

GS1 Member Organisation revenue: **Historical perspective**

Notes : Figures in millions of euro

GS1 Global Office revenue: **Historical perspective**

Figures in millions of euro	09/10 Actuals	10/11 Actuals	11/12 Actuals	12/13 Actuals	13/14 Actuals	14/15 Actuals	15/16 Actuals	16/17 Actuals	17/18 Budget
GS1 Central Office	22.5	22.7	23.9	25.0	26.2	26.3	28.4	28.3	30.4
EPCglobal Inc.	-	-	-	-	-	-	-	-	-
GS1 Data Excellence Inc.	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.5	2.5
Total GS1 Global Office	**24.5**	**24.7**	**25.9**	**27.0**	**28.2**	**28.4**	**30.8**	**30.8**	**32.9**
Staff (FTEs)	74	72	77	80	80	81	81	82	95
Accounting Reserves*	**8.1**	**10.2**	**12.2**	**13.8**	**15.5**	**16.0**	**17.1**	**17.1**	**15.6**

*where Reserves are defined as accumulated net results; could be invested in cash, fixed assets or receivables

GS1 consolidated fiscal year 2016/17: **Actuals**

Figures in millions of euro	Consolidated	GS1 Central Office	GS1 Data Excellence Inc.
Revenue	**30.8**	**28.3**	**2.5**
Fixed/Recurring Expenses	2.4	2.0	0.4
Discretionary Expenses	9.9	9.0	0.9
Payroll Expenses	18.3	17.6	0.7
Operating Expenses	**30.6**	**28.6**	**2.0**
Operating Result	**0.2**	**(0.3)**	**0.5**
Other Revenue / (Expenses)	(0.2)	(0.2)	-
Result for the period	**-**	**(0.5)**	**0.5**

Notes: Consolidation based on budget rate (1.10 USD/EUR). Fiscal year 2016/17 ended 30 June 2017

GS1 Management Board

Members of the Management Board of GS1 AISBL:

Mike McNamara
Executive Vice President
Chief Information and Digital Officer
Target
**Chairperson,
GS1 Management Board**

Julio Nemeth
President Global Business Services
The Procter & Gamble Company
**Vice Chairperson,
GS1 Management Board ***

Kathryn Wengel
Worldwide Vice President & Chief Supply
Chain Officer, Management Committee
Member
Johnson & Johnson
**Vice Chairperson,
GS1 Management Board ***

Mark Alexander
President, Americas Simple Meals and
Beverages
Campbell Soup Company

Mark Batenic
President & Chief Executive Officer
IGA Inc.

Rakesh Biyani
Joint Managing Director
Future Retail Limited

David Calleja Urry
Chief Executive Officer
GS1 Malta

Rubén Calónico
Chief Executive Officer
GS1 Argentina

Bob Carpenter
President & Chief Executive Officer
GS1 US

Renaud de Barbuat
Chief Information Officer France
Carrefour – CSI

Nicolas Florin **
Chief Executive Officer
GS1 Switzerland

Cameron Geiger
Senior Vice President, Logistics Services
Walmart Stores, Inc.

John Gilbert
CEO DHL Supply Chain
DHL Supply Chain

Samir Ramzy Ishak
Group Vice President of Operations
Abudawood

Sunny Jain
Vice President Core Consumables
Amazon

Xiao An Ji
Chairman
Beijing Hua Lian Group

Chris Johnson
Executive Vice President Nestlé Business
Excellence
Nestlé S.A.

Atsushi Kaneko ****
President
AEON Integrated Business Service

Philippe Lambotte
Senior Vice President Global Supply Chain
Mattel Inc.

Miguel A. Lopera
President & Chief Executive Officer
GS1 AISBL

Meinrad Lugan
Member of the Board of Management
B. Braun Melsungen AG

Gary Lynch
Chief Executive Officer
GS1 UK

Ravi Mathur
Chief Executive Officer
GS1 India

Amit Menipaz
Vice President of Structured Data
eBay

Daniel Myers
Executive Vice President,
Global Integrated Supply Chain
Mondelēz International

Hidenori Osano *
Vice President, Executive Officer,
Senior Chief Officer of IT Innovation
AEON Co., Ltd

Maria Palazzolo
Executive Director &
Chief Executive Officer
GS1 Australia

Joseph Phi
President
LF Logistics

Jörg Pretzel
Chief Executive Officer
GS1 Germany

Christopher P. Resweber
Senior Vice President, Government &
Industry Affairs
The J.M. Smucker Company

Timo Salzsieder *
CSO & CIO, METRO AG
Member of the Metro Cash &
Carry Operating Boards

Steve Schuckenbrock
Chief Executive Officer
CROSSMARK

N. Arthur Smith
Chief Executive Officer
GS1 Canada

Eric Tholomé ***
Product Management Director
Google

Mark Wagner
President, Business Operations
Walgreens

Lin Wan
Vice President
Cainiao (Alibaba Group)

Chenghai Zhang
Chief Executive Officer
GS1 China

Appointed 17 May 2017
*** Resigned 30 September 2017*
**** Resigned 13 July 2017*
***** Resigned May 2017*

Data Excellence Board

Members of the Board of Directors of GS1 Data Excellence, Inc.:

Jean-Marc Klopfenstein	NBE Master Data **Chairperson, Data Excellence Inc. Board of Directors**	Nestlé
Steve Capel	Director Global CRM Process Excellence **Vice Chairperson, Data Excellence Inc. Board of Directors**	Medtronic
Malcolm Bowden	President, Global Solutions **President, GS1 Data Excellence Inc.**	GS1
Lori Bigler	Director, Industry Initiatives & Standards	The J.M. Smucker Company
Bob Carpenter	President & Chief Executive Officer	GS1 US
Vincent De Hertogh	Manager Supply Chain Strategy	Delhaize Group
Yolande Diaz	GDS Domain Manager	Carrefour Groupe
Rafael Florez	Chief Executive Officer	GS1 Colombia
CoryAnn Holst	Director, Mondelez Business Services, Global Master Data Tower	Mondelez International
Raphael Leiteritz	Group Product Manager	Google Shopping
Pieter Maarleveld	Chief Executive Officer	GS1 Netherlands
Kirby McBride	President & Chief Executive Officer	FSE Inc./FSEnet+ GDSN Data Pool
Maria Palazzolo	Chief Executive Officer	GS1 Australia
John S. Phillips	Senior Vice President, Customer Supply Chain & Go-To-Market	PepsiCo Global Operations
Jörg Pretzel	Chief Executive Officer	GS1 Germany
Dave Ralph	President & Chief Executive Officer	Commport Communications International Inc.
Laurent Seroux	Global Master Data Business Process Expert – Global Business Services	Procter & Gamble
N. Arthur Smith	Chief Executive Officer	GS1 Canada
Jan Somers	Chief Executive Officer	GS1 Belgium/Luxembourg
Markus Tkotz	Managing Director	Markant Handels-und Industriewaren- Vermittlungs AG
Christian Zaeske	Director Master Data Management	METRO AG

GS1 Innovation Board

Members of the Board of Governors of EPCglobal, Inc.:

Sanjay Sarma

Professor, Vice President for Open Learning

Massachusetts Institute of Technology

Chairperson, GS1 Innovation Board

Eric Ballot

Full Professor, Mines ParisTech

Management Science Lab, Deputy Director

Dale Christensen

Vice President Walmart Technology Strategy

Walmart Stores, Inc.

Ahmed El Kalla

Chief Executive Officer

GS1 Egypt

Christian Floerkemeier

Chief Technology Officer & Co-Founder

Scandit

Bernie Hogan

Senior Vice President Emerging Capabilities & Industries

GS1 US

Marina Kotsianas

Chief Executive Officer

Atria Strategies (University of Southern California)

Christian Lovis

Professor & Chairman Division of Medical Information Systems

University Hospitals of Geneva (HUG)

University of Geneva (UNIGE)

Jörg Pretzel

Chief Executive Officer

GS1 Germany

Rob Rekrutiak

Senior Product Manager

Google

Christopher P. Resweber

Senior Vice President, Government & Industry Affairs

The J. M. Smucker Company

Milan Turk, Jr.

Managing Director, Global Customer Business Development, Market Strategy & Planning Innovation

Procter & Gamble

GS1 Leadership

The GS1 Global Office Leadership Team is composed of the following people:

Miguel A. Lopera, President and Chief Executive Officer

Malcolm Bowden, President, Global Solutions and Data Excellence, Inc.

Alain Jonis, Chief Marketing Officer

Marianne Timmons, President, Industry Engagement

Philippe Wéry, Chief Financial and Administration Officer

Left to right:
Malcolm Bowden, Miguel Lopera, Philippe Wéry, Marianne Timmons, Alain Jonis

Photo taken at the Blue Tower in Brussels, Belgium

GS1 Member Organisations

The following information
was correct when we went to press.

For the most up-to-date information,
please visit www.gs1.org/contact

GS1 Albania
Tirana
+ 355 4 232073
info@gs1al.org
www.gs1al.org

GS1 Algeria
Algiers
+ 213 21 34 10 46
info@gs1.dz
www.gs1.dz

GS1 Argentina
Buenos Aires
+ 54 11 4556 4700
info@gs1.org.ar
www.gs1.org.ar

GS1 Armenia
Yerevan
+ 374 10 272 622
info@gs1am.org
www.gs1am.org

GS1 Australia
Melbourne
+ 61 3 95589559
gs1aust@gs1au.org
www.gs1au.org

GS1 Austria
Vienna
+ 43 1 505 86 01
office@gs1.at
www.gs1.at

GS1 Azerbaijan
Baku
+ 994 12 4987405
sorgu@gs1az.org
www.gs1az.org

GS1 Bahrain
Manama
+ 973 17 456330
info@gs1bh.org
www.gs1bh.org

GS1 Belarus
Minsk
+ 375 17 298 09 13
info@gs1by.by
www.gs1by.by

GS1 Belgium&Luxembourg
Brussels
+ 32 2 229 18 80
info@gs1belu.org
www.gs1belu.org

GS1 Bolivia
Santa Cruz de la Sierra
+ 591 3 3383361
gs1@gs1.org.bo
www.gs1.org.bo

GS1 Bosnia - Herzegovina
Sarajevo
+ 387 33 25 86 45
info@gs1bih.org
www.gs1bih.org

GS1 Brazil
São Paulo
+ 55 11 3068 6207
atendimento@gs1br.org
www.gs1br.org

GS1 Brunei Darussalam
Tutong
+ 673 424 0069
info@gs1bn.org
www.gs1bn.org

GS1 Bulgaria
Sofia
+ 359 2 8117 567
gs1bulgaria@gs1bg.org
www.gs1bg.org

GS1 Cambodia
Phnom Penh
+ 855 2388 2576
info@gs1cambodia.org
www.gs1cambodia.org

GS1 Canada
Toronto
+ 1 416 510 8039
info@gs1ca.org
www.gs1ca.org

GS1 Chile
Santiago de Chile
+ 56 2 2 365 4200
info@gs1chile.org
www.gs1chile.org

GS1 Member Organisations

GS1 China
Beijing
+ 86 40 0700 0690
info@ancc.org.cn
www.gs1cn.org

GS1 Chinese Taipei
Taipei
+ 886 2 2393 9145
eantwn@gs1tw.org
www.gs1tw.org

GS1 Colombia
Bogota
+ 57 1 425 4704
web@gs1co.org
www.gs1co.org

GS1 Costa Rica
San José
+ 506 2507 8000
informacion@gs1cr.org
www.gs1cr.org

GS1 Croatia
Zagreb
+ 385 1 48 95 000
info@gs1hr.org
www.gs1hr.org

GS1 Cuba
Havana
+ 537 8353122
gs1cuba@camara.com.cu
www.gs1cu.org

GS1 Cyprus
Nicosia
+ 357 22 889860
andreas.andreou@gs1cy.org
www.gs1cy.org

GS1 Czech Republic
Prague
+ 420 2270 31261
info@gs1cz.org
www.gs1cz.org

GS1 Denmark
Copenhagen
+ 45 39 27 85 27
info@gs1.dk
www.gs1.dk

GS1 Dominican Republic
Santo Domingo
+ 1 809 683 4727
info@gs1rd.org.do
www.gs1rd.org.do

GS1 Ecuador
Quito
+ 593 2 2507 580
ecop@gs1ec.org
www.gs1ec.org

GS1 Egypt
Cairo
+ 20 822 135
info@gs1eg.org
www.gs1eg.org

GS1 El Salvador
San Salvador
+ 503 2205 1000
info@gs1sv.org
www.gs1sv.org

GS1 Estonia
Tallinn
+ 37 2 660 5535
info@gs1.ee
www.gs1.ee

GS1 Finland
Helsinki
+ 358 7 5756 3500
asiakaspalvelu@gs1.fi
www.gs1.fi

GS1 France
Paris
+ 33 1 40 22 17 00
serviceclient@gs1fr.org
www.gs1.fr

GS1 Georgia
Tbilisi
+ 995 32 2 96 10 19
info@gs1ge.org
www.gs1ge.org

GS1 Germany
Cologne
+ 49 221 947 14 - 0
info@gs1-germany.de
www.gs1-germany.de

GS1 Ghana
Tema
+ 233 302 816 260
info@gs1gh.com
www.gs1gh.com

GS1 Association Greece
Argiroupoli
+ 30 210 9904260
info@gs1greece.org
www.gs1greece.org

GS1 Guatemala
Guatemala City
+ 502 2245 9595
gs1guatemala@gs1gt.org
www.gs1gt.org

GS1 Honduras
Tegucigalpa
+ 504 2270 7247
info@gs1hn.org
www.gs1hn.org

GS1 Hong Kong, China
Hong Kong
+ 852 2861 2819
info@gs1hk.org
www.gs1hk.org

GS1 Hungary
Budapest
+ 36 1 412 3940
info@gs1hu.org
www.gs1hu.org

GS1 Member Organisations

GS1 Iceland
Reykjavik
☎ + 354 511 3011
✉ info@gs1.is
🖥 www.gs1.is

GS1 India
New Delhi
☎ + 91 11 2616 8720
✉ info@gs1india.org
🖥 www.gs1india.org

GS1 Indonesia
South Jakarta
☎ + 62 21 319 25 800
✉ info@gs1id.org
🖥 www.gs1id.org

GS1 Iran
Tehran
☎ + 98 21 88935095
✉ b.emrani@gs1ir.org
🖥 www.gs1ir.org

GS1 Ireland
Dublin
☎ + 353 1 208 0660
✉ info@gs1ie.org
🖥 www.gs1ie.org

GS1 Israel
Tel Aviv
☎ + 972 3 519 87 14
✉ info@gs1il.org
🖥 www.gs1il.org

GS1 Italy
Milan
☎ + 39 02 777 2121
✉ info@gs1it.org
🖥 www.gs1it.org

GS1 Ivory Coast
Abidjan
☎ + 225 08 48 90 59
✉ info@gs1ci.org
🖥 www.gs1ci.org

GS1 Japan
Tokyo
☎ + 81 3 5414 8520
✉ jan@dsri.jp
🖥 www.gs1jp.org

GS1 Jordan
Amman
☎ + 962 6 56 200 38
✉ info@gs1jo.org.jo
🖥 www.gs1jo.org.jo

GS1 Kazakhstan
Almaty
☎ + 7 727 394 88 53
✉ info@gs1.kz
🖥 www.gs1.kz

GS1 Kenya
Nairobi
☎ + 254 20 238 5270
✉ info@gs1kenya.org
🖥 www.gs1kenya.org

GS1 Korea
Seoul
☎ + 82 2 6050 1501
✉ admin@gs1kr.org
🖥 www.gs1kr.org

GS1 Korea (DPR)
Pyongyang
☎ + 850 2 18111 (ext.3818989)
✉ pdk0301@163.com
🖥 www.gs1.org

GS1 Kuwait
Kuwait City
☎ + 965 22212023
✉ info@gs1kw.org
🖥 www.gs1kw.org

GS1 Kyrgyzstan
Bishkek
☎ + 996 312 900 521
✉ info@gs1kg.org
🖥 www.gs1kg.org

GS1 Latvia
Riga
☎ + 371 67830 822
✉ gs1@gs1lv.org
🖥 www.gs1lv.org

GS1 Lebanon
Beirut
☎ + 961 1 744 161
✉ info@gs1lb.org
🖥 www.gs1lb.org

GS1 Libya
Tripoli
☎ + 218 21 444 4545
✉ info@gs1ly.org
🖥 www.gs1ly.org

GS1 Lithuania
Vilnius
☎ + 370 5 2614532
✉ gs1@gs1lt.org
🖥 www.gs1lt.org

GS1 Macau, China
Andar
☎ + 853 2878 2385
✉ gs1macau@cpttm.org.mo
🖥 www.gs1mo.org

GS1 Macedonia
Skopje
☎ + 389 2 32 54 250
✉ gs1mk@gs1mk.org.mk
🖥 www.gs1mk.org

GS1 Malaysia
Kuala Lumpur
☎ + 603 6286 7200
✉ gs1malaysia@gs1my.org
🖥 www.gs1my.org

GS1 Malta
Pieta
☎ + 356 21 337 228
✉ info@gs1mt.org
🖥 www.gs1mt.org

GS1 Member Organisations

GS1 Mauritius
Port Louis
📞 + 230 203 4830
✉ mcci@mcci.org
🖥 www.gs1mu.org

GS1 Mexico
Mexico City
📞 + 52 55 5249 5249
✉ info@gs1mexico.org
🖥 www.gs1mexico.org

GS1 Moldova
Chisinau
📞 + 373 22 21 16 69
✉ info@gs1md.org
🖥 www.gs1md.org

GS1 Mongolia
Ulaanbaatar
📞 + 976 11 313 411
✉ tsevelsaikhan@gs1mn.org
🖥 www.gs1mn.org

GS1 Montenegro
Podgorica
📞 + 382 20 658 692
✉ office@gs1.me
🖥 www.gs1.me

GS1 Morocco
Casablanca
📞 + 212 522 39 19 13
✉ info@gs1ma.org
🖥 www.gs1ma.org

GS1 Netherlands
Amsterdam
📞 + 31 20 511 3888
✉ info@gs1.nl
🖥 www.gs1.nl

GS1 New Zealand
Wellington
📞 + 64 4 494 1050
✉ info@gs1nz.org
🖥 www.gs1nz.org

GS1 Nicaragua
Managua
📞 + 505 2266 9810
✉ gs1ni@gs1ni.org
🖥 www.gs1ni.org

GS1 Nigeria
Lagos
📞 + 234 80 99 999 333
✉ enquiries@gs1-nigeria.org
🖥 www.gs1-nigeria.org

GS1 Norway
Oslo
📞 + 47 22 97 13 20
✉ firmapost@gs1.no
🖥 www.gs1.no

GS1 Pakistan
Karachi
📞 + 92 21 32215844
✉ info@gs1pk.org
🖥 www.gs1pk.org

GS1 Panama
Panama City
📞 + 507 236 7907
✉ info@gs1pa.org
🖥 www.gs1pa.org

GS1 Paraguay
Asunción
📞 + 595 21 202 518
✉ info@gs1py.org
🖥 www.gs1py.org

GS1 Peru
Lima
📞 + 51 1 203 6100
✉ gs1pe@gs1pe.org.pe
🖥 www.gs1pe.org

GS1 Philippines
Pasig City
📞 + 63 2 6370897
✉ info@gs1ph.org
🖥 www.gs1ph.org

GS1 Poland
Poznan
📞 + 48 61 85 1 7754
✉ bivro@gs1pl.org
🖥 www.gs1pl.org

GS1 Portugal
Lisbon
📞 + 35 1 21 752 07 40
✉ info@gs1pt.org
🖥 www.gs1pt.org

GS1 Romania
Bucharest
📞 + 40 21 3178031
✉ office@gs1.ro
🖥 www.gs1.ro

GS1 Russia
Moscow
📞 + 7 495 989 26 88
✉ mail@gs1ru.org
🖥 www.gs1ru.org

GS1 Saudi Arabia
Riyadh
📞 + 966 11 218 24 20
✉ gs1@csc.org.sa
🖥 www.gs1.org.sa

GS1 Senegal
Dakar
📞 + 221 33 820 99 82
✉ gs1sn@gs1senegal.org
🖥 www.gs1senegal.org

GS1 Serbia
New Belgrade
📞 + 381 11 3132 312
✉ office@gs1rs.org
🖥 www.gs1yu.org

GS1 Singapore
Singapore
📞 + 65 6826 3077
✉ contact@gs1.org.sg
🖥 www.gs1.org.sg

GS1 Member Organisations

GS1 Slovakia
Zilina
- + 421 41 565 11 85
- info@gs1sk.org
- www.gs1sk.org

GS1 Slovenia
Ljubljana
- + 386 1 5898320
- info@gs1si.org
- www.gs1si.org

GS1 South Africa
Johannesburg
- + 27 11 777 3300
- services@gs1za.org
- www.gs1za.org

GS1 Spain
Barcelona
- + 34 93 252 39 00
- info@gs1es.org
- www.gs1es.org

GS1 Sri Lanka
Colombo
- + 94 11 5588808
- info@gs1lanka.org
- www.gs1lanka.org

GS1 Sweden
Stockholm
- + 46 8 50 10 10 00
- support@gs1.se
- www.gs1.se

GS1 Switzerland
Bern
- + 41 58 800 70 00
- mail@gs1.ch
- www.gs1.ch

GS1 Syria
Damascus
- + 963 11 54 27 909
- info@gs1sy.org
- www.gs1sy.org

GS1 Tajikistan
Dushanbe
- + 992 37 234 7485
- gs1taj@gmail.com
- www.gs1tj.org

GS1 Tanzania
Dar es Salaam
- + 255 22 2664310
- info@gs1tz.org
- www.gs1tz.org

GS1 Thailand
Bangkok
- + 66 2 345 1200
- info@gs1thailand.org
- www.gs1thailand.org

GS1 Tunisia
Tunis
- + 216 71 948 660
- info@gs1tn.org
- www.gs1tn.org

GS1 Turkey
Ankara
- + 90 312 494 95 59
- info@gs1tr.org
- www.gs1tr.org

GS1 Turkmenistan
Ashgabat
- +993 12 46 80 25
- info@gs1tm.org
- www.gs1tm.org

GS1 Ukraine
Kiev
- + 380 44 569 32 81
- gs1@gs1ua.org
- www.gs1ua.org

GS1 United Arab Emirates
Dubai
- + 971 4 557 0988
- info@gs1ae.org
- www.gs1ae.org

GS1 UK
London
- + 44 20 7092 3500
- support@gs1uk.org
- www.gs1uk.org

GS1 Uruguay
Montevideo
- + 598 2 606 2134
- info@gs1uy.org
- www.gs1uy.org

GS1 US
Lawrenceville, New Jersey
- + 1 609 620 0200
- info@gs1us.org
- www.gs1us.org

GS1 Uzbekistan
Tashkent
- + 99871 2526604
- info@gs1uz.org
- www.gs1uz.org

GS1 Venezuela
Caracas
- + 58 212 237 87 77
- info@gs1ve.org
- www.gs1ve.org

GS1 Vietnam
Hanoi
- + 84 4 3836 1463
- info@gs1vn.org.vn
- www.gs1vn.org.vn

Sources of facts and figures cited in this document

Page 11

"Alibaba Group, GS1 & GS1 China GDSN Project Joint Announcement." 19 September 2016.
"Amazon's New UPC Policy." WebRetailer. 27 June 2016.
"eBay Requirements for Product Identifiers." eBay Seller Center. June 2016.
"Important Update: GTIN requirements are expanding soon." Google Merchant Center. February 2016.

Page 12

"Cracking the Code: Product Content Drives Conversion (Second Annual Consumer Study)." Salsify. April 2017.

Page 15

Downs, Kevin. "Derby Teaching Hospitals use GS1 standards to make a real difference for patient safety."
GS1 Healthcare Reference Book 2016-2017.
Carlsson, Sine. "GS1 barcodes on medical devices reduces stock and enhances patient safety."
GS1 Healthcare Reference Book 2016-2017.
Sheehan, Mark. "Galway Clinic transforms the patient journey with GS1 standards and EPC-enabled RFID."
GS1 Healthcare Reference Book 2016-2017.
Loureiro, Nuno. "North Lisbon Hospital Centre optimises logistics for quality of care."
GS1 Healthcare Reference Book 2016-2017.

Page 17

"Building sustainable logistics through trusted collaborative networks across the entire supply chain: NEXTRUST Report Summary."
NEXTRUST. March 2017.
"The future economic and environmental costs of gridlock in 2030."
Centre for Economics and Business Research (Cebr). August 2014.
Burton, Matthew. "To deliver to the new consumer, must your old rivals become your best friends?"
The Consumer Goods Forum and EY. 2016.

Page 18

Data provided to GS1, 2016-2017.

Page 21

Schaeffler Group data, 2016-2017.

Pages 28- 29

GS1 Global Data Synchronisation Network data, 2016-2017.

Page 33

Asia-Pacific Economic Cooperation (APEC) data, 2015-2017.

Page 39

GS1 Global Standards Management Process data, 2016-2017.

Page 41

Indian National Accreditation Board for Testing and Calibration Laboratories data, 2017.

Page 43

"Kurt Salmon RFID in Retail Study 2016." Kurt Salmon. October 2016.

Page 47

Sandberg, Sheryl. "Building Community through Creativity on Mobile."
The 64th Cannes Lions International Festival of Creativity. 21 June 2017.
"Digital Assistants to Reach More Than 4 Billion Devices in 2017 as Google Set to Take a Lead." IHS Markit. June 2017.
"Forecast: Internet of Things – Endpoints and Associated Services, Worldwide, 2016." Gartner. February 2017.

Page 50

Schaeffler Group data. 2016-2017.

Page 51

Greek Army Medical Supplies Centre data, 2016-2017.

Page 52

Moods of Norway data, 2015-2017.

Page 53

DCH Logistics data, 2016-2017.

GS1 Global Office

Blue Tower,
Avenue Louise 326, bte 10,
Brussels B-1050, Belgium
T +32 2 788 78 00

www.gs1.org

9 507000 009039 >