



The Global Language of Business

Annual Report 2015-2016





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

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Letter from the Chairman



Once again, the teams at GS1 have achieved incredible work in the past twelve months. GS1 is successfully adapting to our rapidly changing world.

Just a few short years ago, the work of this organisation was almost exclusively about the traditional supply chain: the movement of goods from manufacturers to retailers. Of course, the supply chain is still important for all of us. Indeed, for my own company Target, supply chain efficiency is a key priority.

However, today, the work of GS1 increasingly focuses on digital. It's a new world where networks are vital and where data quality is paramount – and not just for the efficient movement of goods, but indeed for the very sale of goods. And that changes everything for GS1.

I'm very encouraged to see the great progress that the organisation has made on three major strategic initiatives:

Accurate data

As the Chief Information Officer of a major retailer, I can tell you that fast access to accurate data has become an expectation of our customers – and not just our online customers, but in fact all of our customers. This is because mobile and data are increasingly becoming a part of every shopping trip, both online and offline. The recent major release of GDSN is instrumental to progress in this area and has the potential to become a cornerstone for the future of commerce.

Product identification

The second major strategic objective of the past year is the effort to extend product identification, the core business of GS1, into the world of digital and omni-channel. This project has been going on for years, but has recently taken on a more clear direction following the tremendous engagement of industry stakeholders, both retailers and manufacturers.

GS1's accomplishments have been very encouraging, and industry needs GS1 to continue to progress.

Healthcare

The third priority is healthcare. GS1 has done tremendous work over the last 10 years ensuring that manufacturers of medical devices and medicines adopt GS1 standards and use them on their products. However, the majority of hospitals around the world today still do not use GS1 standards. GS1's extended healthcare strategy aims to see the adoption of GS1 standards at hospitals everywhere. If we're successful, then thanks to GS1, hospitals will be able to improve their process efficiency, reduce their costs, and most importantly, improve patient safety.

On behalf of the industries which you serve and which I represent, I want to thank all of the men and women of GS1 who make our life safer and our work easier. Congratulations for a terrific year behind you, and I look forward to an equally successful year to come.

A handwritten signature in black ink, appearing to read "Mike McNamara". The signature is fluid and cursive.

Mike McNamara

Chief Information Officer, Target
Chairman, GS1

Letter from the Chairman Emeritus



Whenever I am at a gathering of GS1 employees, I am always impressed by the passion of the people who are present. No matter where I am, no matter what GS1 Member Organisation office I am visiting, it is quite clear that everyone is energised by the power of GS1 to transform the way that we work and live.

Nevertheless, our personal and work lives are filled with visible and unseen challenges that we all must face. How can we make the right choices for ourselves and for everyone our lives touch? I have three suggestions that I hope will guide you.

Keep things simple

Leonardo da Vinci is reputed to have said that simplicity is the ultimate sophistication. That is why I encourage you to keep things simple. Treat everyone you encounter as you would like to be treated: with compassion, attention and mindfulness. In our increasingly complex world of technology and interconnected systems, goods and services, simplicity is more important than ever.

Stay grounded

Simplicity put into action means staying grounded, by maintaining your composure and your calm in the midst of the storm. At GS1, our strategy keeps us grounded by telling us what to focus on. It guides our daily decisions, it channels our allocation of resources and it establishes our identity. Whenever you are in doubt about what to do, consider our GS1 strategy.

Stay with what inspires you

Finally, you need a tool to assist you in keeping things simple and in staying grounded, and that tool is to stay with what inspires you. When we are confronted with challenges that test our integrity, it helps to remind ourselves what really does inspire us the most.

What's so important about inspiration is how it can turn our thoughts to a more productive and positive direction so we can find solutions. Quality thoughts help us provide quality work. The values of GS1 inspire us all: leadership, passion for delivering the best results, trust, integrity, teamwork and collaboration - all of these are foundational for the progress that we have made.

Guideposts for your travels

These three ideas—keep things simple, stay grounded, stay with what inspires you—may seem simple at first glance, but they are in fact extremely powerful. I know that having them in your mind as guideposts will help you travel more smoothly through our increasingly complex world. As things seem to speed up around us, you can slow down your thoughts by remembering that you have permission to do the right thing.

Never forget that we are a community that exists for the greater good of the industries and people we serve. We are neutral and not-for-profit. We are user-driven and governed. We are global and local. We are inclusive and collaborative. Thank you all for continuing to See One Vision, Speak with One Voice and Act as One Organisation.

A handwritten signature in blue ink, appearing to read 'Tim Smucker'.

Timothy P. Smucker

Chairman Emeritus, The J.M. Smucker Company
Vice-Chairman & Chairman Emeritus, GS1

Letter from the President and Chief Executive Officer



There is no doubt that the past year was a significant one for our organisation.

After adopting a six-point global strategy in 2014, in 2015-2016 we converted these ideas into actions. So much was accomplished and so many goals were reached.

For example, thanks to the focus and engagement of the entire GS1 community, we have successfully deployed a significant update to our Global Data Synchronisation Network known as Major Release 3. We have made great progress on our UniqueID program dedicated to making it easier to efficiently manage GS1 Global Trade Item Numbers. We have launched Project Imagine to more effectively engage with hospitals and retail pharmacies where GS1 standards can help to enable safer and more efficient patient care.

Many key advantages

GS1 has many key advantages, including our global penetration and reach, and our dedicated user community. Our number one priority will always be to continue driving the adoption of GS1 standards in our core sectors. But we know that we must grow and we must change. Our users expect strong leadership from us. They demand that we work at the speed of business. And of course, they expect GS1 to act as one global and interconnected organisation.

Key priorities for the year ahead

We have identified six key priorities for GS1 in the year ahead:

The first and most foundational is to continue to be a **best-in-class standards development** organisation by continuously improving our Global Standards Management Process.

We will also boost our work in ensuring the availability of **high-quality data**, which provides consumers the transparency and trust they demand. Our GS1 Data Strategy includes work on data quality certification, and our GS1 Key Authentication project will also play a key role here.

A third key priority concerns **omni-channel retail**. Our ongoing work on UniqueID and GS1 SmartSearch are amongst the biggest projects we have ever undertaken.

Our extended **healthcare** strategy, designed to significantly increase the use of GS1 standards in hospitals, will be visible in the launch of Project Imagine and in our continued work on Unique Device Identification.

The **financial services** sector will return to the forefront, as we pursue work on helping to identify parties engaged in certain financial transactions in collaboration with the Global Legal Entity Identifier Foundation (GLEIF).

And finally, we will also continue our efforts to be a highly interconnected federation, because only by being completely **interdependent** will we succeed in today's global marketplace.

To conclude, thank you all for your passion, your dedication and your knowledge. You make GS1 so special and unique. I am proud to be part of this organisation.

Miguel A. Lopera

President and Chief Executive Officer, GS1



Sectors

The communities that represent our core sectors drive our strategy and our priorities. GS1 standards ensure a strong foundation to sustain the industries we serve.



Marianne Timmons
President, GS1 Industry Engagement.

Retail

Today's consumers want to seamlessly research, purchase and interact with products, no matter where they shop, and GS1 can help



Every consumer journey is a blend of online and offline shopping experiences. Whether e-commerce or brick and mortar, the retail landscape is now 100% omni-channel. Commerce is no longer about a smartphone, a store or a website – it's about all of these things. Retailers and brand owners without an omni-channel outlook simply won't survive.

At GS1, we are certain that trading partners will succeed when they open the door to the supply chain efficiencies that standards bring. We believe that any omni-channel strategy must be built on a global language of business. GS1 standards help to identify, capture and share information about products across global supply chains, on the internet and around the world.

This year, we ratified and published the GS1 SmartSearch standard, which makes it easier to keep information about products visible in search engines across the web, within manufacturer and retailer websites, and via social media. To a consumer, a web page with GS1 SmartSearch looks no different from a page without.

But to a search engine, a web page that is GS1 SmartSearch-enabled contains structured data that it can easily add to its index.

Also in the past year, thanks to unprecedented industry participation, we made tremendous progress on our UniqueID program, a multi-year initiative dedicated to making it easier to efficiently manage GS1 Global Trade Item Numbers (GTINs).

With the ratification and release of the new GTIN Management Standard, we simplified and clarified the GTIN Management Rules to help industry better address the challenge of unique, persistent product identification.

The ultimate goal of our UniqueID program is to provide consumers with the right product information at the right time, thanks in part to more intuitive and easy-to-understand GS1 standards.

"We must take action to enable unique product identification and to drive the changes that are necessary to bring it to life."

Barron Witherspoon

Vice President, Industry Affairs
Procter & Gamble



Did you know?

Making it easier for consumers to find information about products on the web is vital.

Perception Research data from 2016 showed that **53%** of smartphone owners use their devices to compare prices, **49%** to read customer reviews, **48%** to search for product information and **37%** to get product information from a manufacturer's site.

A 2016 Bazaarvoice report found that in 2015, **76%** of consumers say they are using

smartphones to enhance their shopping experiences. The study also concluded that as many as **30%** of consumers have changed their mind in the shopping aisle as a result of information gathered on their smartphone.

In 2016, a GS1 SmartSearch pilot was completed with a retail coupon website which resulted in a 14% increase in page ranking for pages that included the GS1 SmartSearch markup when compared to a control group.

Key initiatives 2015/2016

- Ratified and published the GS1 SmartSearch standard, designed to help keep product information visible across the web
- Simplified and streamlined the rules that govern GTIN management
- Developed a clear, concise set of business principles for GTIN management that are authored from a business perspective and that allow industry to make more consistent decisions
- Pursued work with industry partners to develop a best practice guideline for variant data sharing
- Significantly improved the communication and collateral around newly-released standards
- Stay up to date about our work at www.gs1.org/retail as well as www.gs1.org/omni-channel



Consumer packaged goods and fresh foods

GS1 standards enable retailers to serve today's consumers more efficiently by improving processes that drive the shopping experience



By leveraging GS1 standards and deploying best practices, enterprises can steadily improve supply chain performance

Since the very first “beep” of a barcode in 1974, GS1 has been at the service of the consumer packaged goods and fresh food industries.

Today, these business sectors are experiencing significant disruption and change. A December 2015 report from McKinsey identified five trends that are affecting the consumer industry: the changing face of the consumer, evolving geopolitical dynamics, new patterns of personal consumption, technological advancements and structural industry shifts. The impact of online commerce and the resulting need for retailers to have an omni-channel strategy are present across all of these trends.

In short, retail shops must make extra efforts to win the loyalty of today's shoppers. GS1 believes that an efficient supply chain powered by global standards can simplify complex operations, enable businesses to do more with fewer resources and, as a result, enhance competitiveness.

GS1 standards bring unique advantages to the fresh foods industry in particular. There is significant interest for item-level labelling of individual pieces of fruit and vegetables, as well as for automatic markdowns of packaged fresh food approaching its sell-by date. Standards like GS1-128 barcodes and GS1 DataBar make this possible.

Much of our success in these sectors is built upon the excellent work being done in local and regional GS1 user groups. These groups facilitate discussion of real business challenges and regulatory concerns, and then work collaboratively to identify and implement standards-based solutions. They also ensure that specific local and regional requirements are taken into account when global standards are being developed in GS1.

For case studies, user group information and more, visit www.gs1.org/fresh-foods and www.gs1.org/cpggrocery

Apparel, fashion & footwear

GS1 standards bring many benefits to this complex and truly global supply chain that connects raw material providers, manufacturers and retailers

Today's fashion brands and manufacturers must be able to keep a range of sizes and colors in stock, bring new products to shelves quickly and efficiently, and source materials from a worldwide network of suppliers - all while meeting the demands of consumers who expect a seamless and consistent experience every time they shop, even when they switch between in-store purchases and e-commerce.

GS1 standards can help boost speed-to-market, streamline sourcing and improve inventory management and accuracy.

The increased adoption and use of RFID technology, powered by GS1 standards, has helped pave the way toward serialised item-level product identification in the apparel sector. For several years, GS1 has been helping industry to uniquely identify and track individual items from the point of manufacture across the global supply chain, instead of simply identifying batches of items.

GS1 is currently working with industry to create a guideline devoted to serialisation in footwear and a global Tagged Item Performance Protocol (TIPP) working group is now striving to develop a grading system for EPC-enabled RFID tags. This will make it easier for both retailers and suppliers to identify the best tag to choose for each product and use case.

We are also identifying best practices that we hope will increase the adoption of GS1 EDI by apparel-sector trading partners and ensure that information made available about retail items is complete, correct and up to date.

As trading partners in this sector increase their focus on sustainable sourcing, GS1 also stands ready to provide traceability solutions.

Learn more about our work in the apparel sector and stay up to date on our progress in this area at www.gs1.org/apparel

Today's apparel shoppers use multiple channels and devices to research styles, prices, options and availability



Healthcare

Safer, more efficient care starts with a simple scan



GS1 Healthcare works toward successful implementation of global standards in the healthcare sector by bringing together experts to enhance patient safety and supply chain efficiencies.

With increasing adoption by regulatory bodies and manufacturers, GS1 needs to more effectively engage with hospitals and retail pharmacies where GS1 standards can help to enable safer and more efficient patient care.

GS1 Healthcare's recently launched Project Imagine aims to support GS1 Member Organisations to help healthcare providers understand and implement our standards. We want to do more to help hospitals and retail pharmacies manage healthcare costs, reduce the risk of error and increase efficiency.

Related to Project Imagine, we have formed strategic partnerships.

We have signed a Memorandum of Understanding (MoU) with the International Society for Quality in Health Care (ISQua) and we will explore the link between hospital accreditation and GS1 standards.

We continue to work to support interoperability in health informatics and collaboration with other standards development organisations. For example, we signed an updated agreement and determined a new work program with the International Health Terminology Standards Development Organisation (IHTSDO).

These new relationships come in addition to our ongoing cooperation with the International Hospital Federation and the European Association of Hospital Pharmacists.

Many hospitals and retail pharmacies already use GS1 standards. With the active support of GS1 Member Organisations around the world, leveraging the materials and methodologies of Project Imagine, we look forward to usage increasing exponentially.

"I would encourage other doctors around the world to get involved and support the adoption of GS1 standards. Knowing that we can make our hospitals better and safer is compelling enough to make standards part of everyone's job."

Dr. Erik van Ark

Executive Director of Medical Staff, Chairman of Operating Rooms
Bernhoven Hospital, Netherlands



Did you know?

Dôvera Health Insurance in Slovakia streamlined its prescription fulfillment process for healthcare providers, pharmacies and patients by deploying a system that relies on GS1 standards to uniquely identify each prescription.

Dôvera's previous process was primarily based on doctors manually completing a paper form with only a signature or stamp as verification—a method that could easily be falsified.

Dôvera now sees significantly fewer errors, including **22% decrease in interactions** with major consequences. Since Dôvera processes more than five million prescriptions each year, this translates into significant time and cost savings.

Read many more examples of successful implementations of GS1 standards, mainly in hospital settings, in the 8th edition of the GS1 Healthcare Reference book, downloadable at www.gs1.org/healthcare

Key initiatives 2015/2016

- Launched "EDI in Healthcare Implementation Kit" to support the work done to harmonise the use of EDI in healthcare (see pages 40-41)
- Continuously shared information in real time within the GS1 Healthcare Public Policy work team and provided strategic advice on the use of GS1 standards for harmonised implementation of regulatory requirements around the world
- Working globally to interact with regulatory bodies and key stakeholders regarding the development of local requirements
- Published 2D / Matrix Data Carrier position paper confirming recommendation that GS1 Data Matrix be the preferred symbology for healthcare
- Published "The Value of Trusted Product Data" explaining how registering trusted product data in the GS1 GDSN (see pages 22-23) can result in greater efficiencies, lower costs and improved patient outcomes, as well as meet regulatory requirements such as populating the FDA UDI database
- Witnessed a more than 50% year-over-year increase in the quantity of medical device and pharmaceutical GTINs in the GDSN
- Held successful Global GS1 Healthcare Conferences, one in Budapest and another in Dubai (our first based in the MEMA region), with approximately 300 attendees from more than 40 countries present at each
- Stay up to date about GS1 Healthcare at www.gs1.org/healthcare

Transport & Logistics

GS1 standards provide accurate, up-to-date information about where shipments are, where they have come from, and when and where they are due to arrive



Transport & Logistics services are the backbone of global supply chains. On behalf of manufacturers and retailers, T&L service providers manage the movement, inventory, warehousing, handling, packaging and security of goods between the point of origin and the final recipient. When a land or sea border is part of that flow, unique challenges—as well as growing security concerns—are added.

For years, we have been strengthening our core activities and promoting the use of GS1 standards in T&L operations. In many industry sectors, meeting current business requirements means fully integrating all business processes including T&L. We have been helping our users boost interoperability between systems and processes, improve visibility, and enhance efficiency and security in areas like “Last Mile” and in transport modes like rail and maritime.

After our successful work to enable rail stakeholders to have complete visibility of rolling stock in real-time, the focus in rail now is on increasing the reliability and safe operation of networks and vehicles by improving maintenance, repair and overhaul (MRO) processes. GS1 standards facilitate comprehensive and reliable information sharing and collaboration, enabling predictive and condition-based maintenance.

There are T&L and border procedure matters shared by all business sectors – but there are also challenges exclusive to particular industries or precise processes. That is why our teams have been diving deeper into the potential of GS1 standards to serve very specific needs and sectors. We have held fruitful work sessions with GS1 user communities who focus on healthcare, humanitarian logistics or traceability, to find more ways to support their endeavours with our knowledge and experience.

“The consumer is the next frontier in optimising supply chain logistics. GS1 open standards help to enable this transformation by providing scalability and interoperability.”

Eric Ballot

Full Professor, Mines ParisTech
Management Science Lab, Deputy Director MINES-ParisTech



Did you know?

Results of PwC’s 2016 Total Retail Survey revealed that **54%** of consumers globally buy products online weekly or monthly. In this omni-channel marketplace, T&L expenses are becoming an important part of the cost to serve. Amazon SEC filings show that their gross shipping costs are **rising more rapidly** than their shipping revenues, directly impacting their margins.

Maritime transport moves **90%** of all cargoes and commodities according to the International Maritime Organization.

A 2011-2014 European Union study found that **1 in 5** trucks drive around completely empty and on average all trucks are only half full, which amounts to between **€100 billion to €300 billion** in waste expenditures per year. GS1 standards can help avoid or minimise wasteful activities and inefficiencies, and contribute to optimising end-to-end logistics operations.

Key initiatives 2015/2016

- Engaged with maritime consortia Pronto and Mona Lisa to develop and implement port call optimisation and sea traffic management solutions based on GS1 standards, and in particular GS1 Global Location Numbers
- Developed “Last Mile” discovery paper detailing challenges, potential solutions and implementation strategies in consumer-facing logistics
- Continued strong engagement with the Asia-Pacific Economic Cooperation (APEC) and the APEC Business Advisory Council (ABAC) to support the development and implementation of pilot projects measuring cost benefit of using GS1 standards in international supply chains
- Presented at numerous World Customs Organization meetings, including Asia-Pacific and Americas & Caribbean Regional Fora of Directors-General for Customs; Asia-Pacific Workshop on Counterfeiting & Piracy; and WCO Global IT Conference and WCO Council.
- Developed and released an MO Engagement Kit sharing best practices for using GS1 standards to enhance Border Procedure Management
- Pursued efforts to raise awareness of our standards among key industry associations
- Stay up to date at www.gs1.org/transport-and-logistics

Foodservice

GS1 standards help drive efficiency and enable traceability in the complex, dynamic and fiercely competitive foodservice supply chain



Foodservice companies are hungry for trustworthy product information, enhanced visibility and increased efficiency

Foodservice—any business, institution or company responsible for preparing and serving food outside of the home—is an extensive global market that is currently facing many challenges. The difficult economic situation in many parts of the world today is putting pressure on prices and margins, creating a need for optimised productivity. This, in turn, is leading manufacturers, distributors and operators to work more closely together to improve business processes, increase visibility and automate the exchange of business information.

GS1 standards can help increase efficiency in a wide range of key business processes for the foodservice sector, including product identification, location identification, data quality and exchange, food safety and more.

In the past year, GS1 has helped our user communities become compliant with food-focused regulations such as the European Union Food Information Regulation 1169/2001 and the U.S. Food and Drug Administration's Food Safety Modernization Act.

We are also continuing to work with industry to raise awareness about the value of standards – for example the value of using GS1 Global Trade Item Numbers (GTINs) and of using GS1 barcodes at all levels of packaging hierarchy to enable data sharing and traceability.

We expect the industry survey we launched in 2016 to yield important insights about foodservice business challenges and opportunities for future topics that can be addressed with GS1 standards.

Read more information about our work on traceability and safety on pages 28-29 of this document. Stay up to date on our efforts to ensure that foodservice trading partners speak a common language of business and can share trusted information across the supply chain and with the consumer by visiting our website at www.gs1.org/foodservice

Humanitarian initiatives

Procurement and transport comprise over 60% of the costs of providing aid, so improving this sector's supply chain efficiency is an imperative

Humanitarian aid — the efforts designed to save lives, alleviate suffering and maintain and protect human dignity during and after man-made crises and natural disasters — is a global undertaking with a supply chain that has many of the same fundamental needs for procurement, transport and logistics as the commercial sector. 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.

GS1 is specialised in optimising supply chains, which is why, in December 2015, our Board of Directors officially decided to support the humanitarian logistics sector. Though GS1 standards are not widely used in this sector, their many benefits have been proven in similar contexts in the private sector. We are working to support humanitarian organisations in the adoption of open, global standards to identify, capture and share information about their supply chains.

Among many potential benefits, GS1 standards can improve product traceability, enhance warehouse management, and help shipments move across borders more rapidly.

We have already begun working. We are collaborating with the United Nations High Commissioner for Refugees (UNHCR) and the United Nations Humanitarian Response Depot (UNHRD). We are participating in a multi-stakeholder public-private initiative on pandemic supply chain preparedness and response. We have joined the United Nations Emergency Supplies Prepositioning Strategies Working Group, which aims to improve collaboration and efficiency in the prepositioning of humanitarian goods. And we attended the first-ever World Humanitarian Summit in May 2016, a global call to action by United Nations Secretary-General Ban Ki-moon.

Watch for updates on www.gs1.org/humanitarian-logistics

Visibility and traceability from supplier to beneficiary can become a reality with the use of GS1 standards







Services

Application providers, end users and regulators are increasingly accessing GS1-powered services and solutions. 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.

GS1 Global Data Synchronisation Network

Fast, efficient and flexible, GDSN Major Release 3 is setting the foundation for the future of commerce



The Global Data Synchronisation Network (GDSN) is a product data sharing system that enables users at over 40,000 organisations worldwide to exchange product information with their partners in an automatic and efficient way that ensures brand integrity. It currently contains GS1 Global Trade Item Numbers (GTINs) and other information for more than 20 million products that use GS1 standards.

The network has been greatly improved by the successful deployment of a significant update known as Major Release 3. With enhancements like richer product information sharing, industry-specific functionality and better regulatory compliance features, Major Release 3 empowers organisations to respond to the marketplace at the “speed of business”.

Information exchanged via the GDSN among trading partners is always accurate because any change made to one company’s database is immediately shared with all other partners.

Major Release 3 takes this process to the next level with support for new product attributes and the consistent sharing of imagery that corresponds with those products.

Among the many benefits of this update, network data recipients and brand owners can provide consumers with the most up-to-date information to deliver a better shopping experience; healthcare stakeholders can simplify implementations and lower costs of system changes; and logistics teams can better track products globally.

GDSN Major Release 3 was developed in response to requirements from industry, business trading partners and regulatory agencies. Its successful launch was the result of collaboration and dynamic planning across our community of users.

GS1 continues to engage, communicate and collaborate with the GDSN community to ensure that GDSN responds to marketplace needs and demands.

“The new Major Release is helping us set up our projects much more quickly. As a result, we should be able to implement GDSN for non-food items much faster in the countries where it isn’t deployed yet.”

Yolande Diaz

GDS Domain Manager
Carrefour



Did you know?

GDSN Major Release 3, which was successfully launched in May 2016, included over **1500** changes to the existing GDSN standard.

For example, **156** specific business requirements detailed by our community of users via **140** change requests made through GS1 Global Standards Management Process were incorporated into the update.

The new standard offers companies entering product information into GDSN the ability

to describe their trade items using over **300** new attributes.

It has over **1000** new code values and more than **250** new validations.

The result of all these user requirements and updates is a significantly improved GDSN network, enabling users to get much more out of their business processes, and making it quicker and easier to add and support new sectors.

Key initiatives 2015/2016

- Developed, tested and and deployed a significant update to the Global Data Synchronisation Network
- Brought specific enhancements and added value to users in the healthcare community and in the foodservice sector
- Communicated frequently and clearly with our Member Organisations and our tens of thousands of users across the entire world to ensure that all were ready for this migration: newsletters, e-mailing, leaflets, outreach campaigns, a dedicated website and more
- Launched a new GDSN website for easier and better user experience
- Stay up to date about GDSN at www.gs1.org/gdsn



GEPiR

One hundred per cent of GS1 Member Organisations around the world participate in GEPiR, and all are now running the most recent version



GEPiR 4.0 allows users to search on all GS1 ID Keys; prior versions only supported search by GTIN, GLN and SSCC

In 1999, GEPiR®, the GS1 Global Electronic Party Information Registry, was born with the simple objective of sharing basic contact information of the companies that are members of GS1. Over time, the GEPiR network evolved, adding more features and increasing its global presence.

In the past year, a new milestone was reached: our teams have successfully deployed GEPiR 4.0, an upgrade which takes GEPiR to a completely new level and allows GS1 Member Organisations (MOs) around the world to serve their users better.

GEPiR today is a powerful and yet freely accessible internet-based service that allows users to find contact details for any company or organisation that has licensed any GS1 Identification Key.

For users, GEPiR 4.0 provides increased functionality and a friendlier interface.

For GS1 Member Organisations, GEPiR 4.0 provides a new information management

interface that is both better and faster to use, and allows data to be maintained more easily and more reliably.

GEPiR 4.0 is compliant with the GS1 Global Data Dictionary, compatible with all GS1 standards and overall more secure.

For consistency and quality of service, there is now only one single version of GEPiR. About 40 GS1 MOs have built and are operating a local GEPiR node connected to the global service; the others are using a locally hosted version of the global service. We will be completely phasing out all previous versions of GEPiR in the fourth quarter of 2016.

Try GEPiR at <http://gepir.gs1.org> - but remember, GEPiR only gives information about the company that owns the barcode number and the brand under which a product is sold. This company may manufacture that product anywhere in the world.

GLN Service

This global index provides a single point of access to all GS1 GLN data, including addresses, via an interconnected network of local registries

The GS1 Global Location Number (GLN) is a GS1 Identification Key. GLNs are used to uniquely identify physical locations, such as a store, a warehouse or a berth in a port. They can also be used to uniquely identify a legal entity, such as a whole company or a subsidiary, or a functional entity, such as a purchasing department. Each GLN contains information about the location in question, including the address.

In recent years, our user community expressed a need to be able to search and share GLN information. Being able to verify the address for a supply chain location helps ensure that a delivery will arrive at the right place, reducing delays and eliminating fines. GLN Service is our response to this demand.

GLN Service is a registry of all GS1 GLNs. It connect local registries via a central global index. Our GS1 Member Organisations can build a locally operated GLN registry and connect it to the global service, or they can use a version of the service hosted by the GS1 Global Office.

GLN Service went into production availability in late 2014. As of mid-2016, there are already eight GS1 Member Organisations who have fully deployed the service, seven testing in anticipation of going live and a further nine preparing for implementation.

Our important recent work with the International Trade Centre (ITC) on a Sustainability Network Initiative and Global Farm Registry Service (see pages 30-31) relies on this registry: location information about farms and agribusinesses around the world is made available thanks to GLN Service.

There are about 450,000 GLNs in the Service today and the number continues to grow



Data quality

Consistent, complete, accurate, standards-based, time-stamped data lowers the cost of operations and speeds up time to market



Using trusted data leads to greater efficiencies, lower costs and improved outcomes with both shoppers and patients

The ability of manufacturers and retailers to meet the demands of today's omni-channel shopper depends upon accurate and complete data. In fact, the quality of the data about a product is increasingly considered to be as important as the quality of the product itself.

Similarly in the healthcare sector, inconsistent, incomplete or incorrect data reduces patient safety and increases the costs of providing healthcare services for all involved.

GS1 has been working for years on data quality enhancement programmes. Today, however, accurate data is more valuable than ever. New laws and regulations, changing patient and consumer expectations, and a sharp increase in the sheer quantity of product attributes have created a pressing need for a harmonised, interoperable, global system for uniquely identifying trade items. This system must be timely, accurate and consistent; and it must have a uniform approach to master data management, governance and information lifecycle management.

It is within this context that the GS1 Management Board, supported by the GS1 Data Excellence Board, instructed GS1 to develop a certification programme for master data services and brand owners.

This initiative will establish a standardised set of requirements designed to improve the quality of information and images at the source, thereby improving the trust in and use of the information as it travels downstream to the ultimate data recipient, whether a retailer, hospital, regulator, consumer or patient.

The expected benefits are significant. Trusted data leads to better outcomes for patients and shoppers, improves processes like seamless order to cash and warehouse management, enhances collaboration between trading partners and lowers costs.

Stay informed of our progress by visiting www.gs1.org/data-quality

GS1 Source

Authentic product data, relevant to consumers and provided by the brand owners, made available to internet and mobile application developers

Today's consumers are demanding more information about the products they use. Before making a purchasing decision, many people compare ingredients, prices, environmental impact and more.

These consumers increasingly use computers, smartphones or tablets as a part of their shopping experience. As a result, products need to be accessible through many digital channels, and furthermore, information about them must be more detailed to meet the increasing expectations of consumers.

This demand for more visibility is also growing substantially due to new regulatory requirements and the efforts of transparency advocacy groups around the world.

Unfortunately, much of the product information now accessible on the internet arrives through a multi-tiered path of web scraping and crowdsourcing performed by content providers, search engines, application providers and online retailers.

Too frequently, this information is incomplete, inconsistent, out of date or even outright incorrect.

GS1 Source® addresses this problem today and is being substantially reinforced and expanded in upcoming versions to meet this unprecedented increase in demand for accurate and more comprehensive product information.

The GS1 Source framework will increasingly allow brands and manufacturers to securely share trusted product information for use in consumer-facing digital channels.

GS1 Source will continue on its mission to make it easier for manufacturers to get authentic product data to a much larger group of recipients and catalyse the ecosystem of mobile and internet application developers to bring high quality and up-to-date product information to consumers.

GS1 is uniquely positioned and capable of making trusted information available for use in consumer-facing digital channels



Traceability & consumer safety

GS1 is helping stakeholders get the traceability and transparency they need across the entire supply chain to ensure product safety and consumer trust



At the GS1 General Assembly in May 2014, our leadership adopted a strategy to increase awareness of GS1 by safety stakeholders in retail and consumer packaged goods, in great part because GS1 can help industry meet both increasing regulatory requirements and consumer expectations.

A little over two years later, our efforts have paid off: GS1's contribution to enhancing consumer safety is today clearly recognised by key players in industry and government around the world.

However there is still much work to do. In particular, safety stakeholders agree that traceability is foundational for ensuring product and food safety across the supply chain and that transparency must be improved between trading partners and with consumers to maintain trust and brand integrity.

GS1 can help. Unlike isolated internal systems that address only one specific customer or one part of the value chain and are not compatible

with each other, traceability solutions built upon GS1 standards can be used by all actors, of all sizes, from all countries. GS1 standards act as a common language, uniquely identifying products, sites, growers, manufacturers, retailers, certificates and more, and seamlessly connecting tools.

Solutions that use GS1 standards can enable recalls, ensure compliance with regulatory requirements and certification schemes, prevent the sale of expired food, authenticate a product's origin and help meet consumers' desire to know more about what they buy.

In the year to come, we will pursue our efforts to enable traceability, transparency and visibility. Among many tasks, our teams are identifying ways for the industry to record key data elements at critical tracking events and secure access to product-related information from anywhere across the supply chain.

“Consumers are demanding more transparency. They want to know where ingredients come from. We have to organise ourselves as an industry and work hand in hand, including with GS1, to tackle this challenge.”

Anita Scholte op Reimer

Senior Director Quality Assurance & Product Sustainability, Albert Heijn
GFSI Board Vice-Chair



Did you know?

The benefits of an integrated traceability process based on supply chain visibility could represent approximately **US\$3 billion (€2.7 billion)** in savings to the fresh foods industry as a whole, according to GS1 US estimates.

According to a 2016 report from research and insights firm IRI, food supply chain transparency is more important than ever to consumers, and retailers that embrace transparency have the opportunity to grow sales up to **25%** faster than the average pace.

According to the Food Quality & Safety Survey conducted by Sparta Systems in February 2016, **60%** of the managers and directors at food and beverage manufacturers want better supply chain visibility to help improve food quality and safety at their organisations.

Key initiatives 2015/2016

- Ratified and released the new GS1 Global Traceability Compliance Criteria for Food Application Standard
- Provided numerous tools and support to GS1 Member Organisations to help them engage with safety authorities and quality & safety managers in their countries and explain existing industry best practices
- Increased collaboration with the Consumer Goods Forum when Diane Taillard, GS1 Global Office Director of Consumer Safety & Traceability, was named Vice-Chair of the Global Food Safety Initiative (GFSI) Regional Outreach Group and contributed to build the industry vision for Traceability & Transparency
- Welcomed Anita Scholte Op Reimer, Senior Director Quality Assurance & Product Sustainability at Ahold Europe and Vice-Chair of GFSI, as a speaker at the GS1 Global Forum 2016 plenary on Consumer Trust
- Read more about our work in Traceability at www.gs1.org/traceability



Sustainability

GS1 is collaborating with farmers to help enable them to share information about their sustainable practices with brands and retailers



Today, brand owners and retailers have little or no visibility into the source of the agricultural products they buy—and the 400 sustainability certifications and labels currently available around the world don't really help.

However, the desire for economically, socially and environmentally sustainable agriculture is strong. Leaders of the G7 countries have called for better traceability in supply chains. Companies are voluntarily setting goals for responsible sourcing. Consumers are demanding to know exactly what is in their food.

GS1 can play a vital role in making upstream traceability a reality. In 2015, we announced our collaboration with the International Trade Centre (ITC) on a Sustainability Network Initiative and Global Farm Registry Service.

Using GS1 Global Location Numbers (GLNs), the Registry provides one single identifier to each farm, no matter how big or how small.

It also maps and stores a farm's sustainability certifications and labels. Once in the Registry, farmers can connect with trading partners and share their sustainability achievements. The Registry resembles a professional social network—a "LinkedIn for agriculture".

More importantly, the Network and Registry create a common language to allow farmers and businesses to communicate with one another up and down the supply chain. This is particularly important to smaller farmers in developing countries. If they can be reliably recognised for sustainable practices, then potential markets will open up, allowing them to become more active in the global food supply chain.

There is still work to be done to ensure that the initiative lives up to its potential after its launch in the final quarter of 2016. GS1 is committed to its success and will continue engaging with the ITC and other partners in the year ahead.

“The conscious consumer has emerged as a powerful force in the marketplace. This is creating a greater demand for sustainably-produced commodities.”

Arancha González
Executive Director
International Trade Centre (ITC)



Did you know?

The Sustainability Consortium (TSC) is a global non-profit organisation working collaboratively with leading manufacturers, retailers, corporations and NGOs to define, develop and deliver more sustainable products through a science-based, metrics-driven approach.

A 2016 TSC analysis of over 2,500 surveys from 1,700 suppliers revealed that the **majority** of manufacturers lack visibility into the sustainability performance of their own supply chains.

A full **54%** of questions addressing environmental or social issues in the supply chain were given the response “Unable to determine”, with **27%** indicating partial supply chain visibility. Only **19%** of responses indicated full supply chain transparency.

This lack of visibility prevents consumer goods manufacturers from engaging with supply chain partners to make improvements in sustainability.

Key initiatives 2015/2016

- Launched Sustainability Network Initiative at United Nations General Assembly in September 2015
- Shared ways that technology and big data can be used by both public and private sectors to collaborate and promote sustainable farming practices, thanks to speech by GS1 President and CEO Miguel Lopera at United Nations Sustainable Development Goals Summit in New York in September 2015
- Presented at Global Forum for Innovations in Agriculture (GFIA) in Abu Dhabi in February 2016 about how Sustainability Network Initiative, Global Farm Registry Service and open source criteria will scale up the adoption of safe and sustainable farming
- Welcomed Arancha Gonzalez, Executive Director of the International Trade Centre (ITC), a joint agency of the World Trade Organization and the United Nations, to speak at GS1 Global Forum 2016
- Read more about the Sustainability Network Initiative and all our work enabling sustainability at www.gs1.org/sustainability







Standards

Maintaining a neutral, best-in-class environment for standards development is critical to GS1's success. Our standards empower industry to identify, capture and share data across the value chain.



Steve Bratt

Chief Technology Officer and President, Standards Development and EPCglobal Inc

Best-in-class standards development

The GS1 Global Standards Management Process pairs efficiency with consensus-building to develop standards that address real business challenges



The GS1 Global Standards Management Process (GSMP) is a collaborative forum for creating standards, guidelines and other materials to serve our global users. Through the GSMP, businesses facing similar problems work together to develop standards-based solutions.

As a neutral party, GS1 facilitates dialogue between participants from nearly 60 countries who work in sectors including retail, consumer goods, fresh foods, healthcare, transport & logistics and government.

In July 2015, we launched a new GSMP manual that has allowed us to put best-in-class improvements into practice around our principles of relevance, efficiency and participation. Among other changes, an Industry Engagement Steering Committee was formed in January 2016, and quickly began ensuring that any work entering the GSMP is truly relevant to the GS1 community. Our Board Committee for Standards has continued to provide strong guidance.

Our focus has been on holding more face-to-face meetings to help improve participation and move at “the speed of business”. We also tested new working group facilitation techniques and confirmed that they were effective at collecting community feedback and reaching consensus quicker than before. As we learn from this approach, we will make improvements across the GSMP.

The commitment between GS1 Global Office industry engagement and standards development teams, GS1 Member Organisations and industry stakeholders is stronger than ever before. We are working together more seamlessly across all steps of the standards development process. As a result, our community can better observe the evolution of our standards in industries around the world, influence the development of new standards that best meet their business requirements and share experiences of implementing standards.

“The new Industry Engagement Steering Committee plays a vital role in the GSMP by ensuring that work entering development is more clearly defined so that GS1 can deliver standards faster. Now we must all work to deploy them faster, too.”

Jean-Marc Klopfenstein

NBE - Master Data
Nestlé



Did you know?

Twice a year, we hold gatherings of global business leaders and trading partners who wish to work together to find solutions to common business challenges and to simplify and streamline today’s complex global supply chain. At these events, GS1 standards are developed by industry, for industry.

In October 2015, **279** people from **31** countries—including **67** newcomers—gathered in Warsaw, Poland for our GS1 Industry & Standards Event for a successful

week of workshops and lively discussions around the future of standards.

In April 2016, more than **200** attendees from **25** countries came together at our GS1 Standards Event in Jersey City, New Jersey, USA, to accelerate standards development and network with industry peers at an event that received a **96%** overall satisfaction rating.

Learn about our next event and plan to attend at www.gs1.org/standards-development

Key initiatives 2015/2016

- Implemented new processes to improve relevance, efficiency and participation in standards development, including new entrance criteria for work requests
- Achieved more efficient management of our working groups by bringing in the right experts (both business and technical) at the right time
- Accelerated the process of gathering participant feedback in working groups by using new facilitation methods and more face-to-face meetings
- Appointed and launched the Industry Engagement Steering Committee (IESC), a new governance committee, which verifies that business challenges are clearly understood and ensures industry participation and commitment before work requests enter standards development
- Processed 384 work requests in 2015—71% more than in 2014—and at a 95% on-time rate for maintenance
- Demonstrated excellent progress in three new working groups: UniqueID-GTIN Management, High Speed Barcode Printing, and Application Standard for Maintenance, Repair and Overhaul (MRO) Objects in Rail
- Learn more about GS1 global standards development and get involved at www.gs1.org/standards-development



Identify: GS1 standards for identification

GS1 Identification Keys enable organisations to assign identifiers to products, places, services, assets, shipments, services and more



The 11 different GS1 Identification (ID) Keys give companies and organisations a globally unique way to identify all the things that together form the supply chain. Once identified, information about these items can then be captured and shared amongst trading partners to boost efficiency, speed and visibility.

GS1's most well-known ID Key, the GS1 Global Trade Item Number (GTIN), was at the heart of one of our biggest accomplishments in the past year: the ratification and publication of the GTIN Management Standard. Read more about our UniquelD project on pages 10-11.

GTINs were at the core of another important project, a survey of a representative sample of our GS1 Member Organisations (MOs) to learn if there is any risk of running out of GTINs. The results were clear: only 13% of the total available GTIN capacity has been used, so we won't lack capacity any time soon.

We are proactively researching options to expand GTIN capacity, establishing a monitoring system to regularly check on the key capacity status for all GS1 keys, and exploring possible changes to existing GS1 policies and procedures.

We also released a new GS1 Application Identifier (AI) for paperless coupons. Retailers and brands in North America can now have a transaction record at the point of sale (POS), and since POS systems feed directly into accounting systems, retail trading partners will also have a log of the paperless transaction. This is particularly useful for cash-till reconciliation processes or in the event of an audit.

The GS1 identification system is constantly evolving. GS1 is ready to meet demands for increasingly granular identification and anticipates an expanded use of ID Keys across even more business processes.

“Without GTIN, Google shopping would not exist as it is today. We would love the GTIN to be prevalent, everywhere, in more industries. It is a key enabler for a good user experience.”

Raphael Leiteritz

Director Product Management
Google Shopping



Did you know?

In order to deepen our knowledge and educate our community, GS1 supports AIDC initiatives at six prestigious universities around the world. Some recent examples:

The AIDC Test Lab at the University of Pittsburgh (USA) tests GS1 barcodes, studies new scanning technologies and provides neutral advice to the GS1 community. See the test lab in action at youtu.be/rfjmFLJ1d88

GS1 sponsored the May 2016 Automatic Identification Teacher’s Institute (AITI) held at the AutoID Lab at the University of Memphis (USA), which welcomed **28** participants from **5** different countries. Dr. Kevin Berisso, who runs AITI, recently accepted the 2016 Organisation of the Year Award from the Association for Automatic Identification & Mobility (AIM) North America.

Key initiatives 2015/2016

- Ratified and published GTIN Management Standard
- Ratified and published a new GS1 Application Identifier for paperless coupons
- Undertook survey to determine remaining GTIN capacity
- See the full list of all GS1 Identification Keys at www.gs1.org/id-keys
- Learn more about the new GTIN Management Standard at www.gs1.org/gtinrules



Capture: GS1 standards for barcodes & EPC/RFID

GS1 ID Keys and attributes can be encoded into data carriers affixed to objects, enabling the information to be automatically scanned or read



With increasing frequency, consumers around the world are scanning barcodes with their smartphones to find more information about products. Is this food suitable for vegans? Were the raw materials in this article of clothing responsibly sourced? Are there allergens to worry about?

Meanwhile, in office buildings and at trade shows, businesspeople are using their mobile devices to scan barcodes to get information about products, events and partners.

With on-the-go scanning becoming ubiquitous, the quality of barcodes is important: in addition to ensuring that barcodes are readable at the checkout, manufacturers and retailers must now worry about smart devices too. This is one reason why GS1 continues to work in both laboratory and real-world environments to ensure barcode conformance. In the past year, more than 30% of our GS1 Member Organisations were active in conformance testing projects.

Meanwhile, adoption of EPC-enabled RFID continues to gain momentum, particularly in the apparel and footwear sector. Read more about this on page 13.

To support barcode/EPC interoperability, GS1 has published the GCP Length Table, a machine-readable file that can be used to determine the length of the GS1 Company Prefix (GCP). GCP length is required for the encoding of GS1 identifiers in EPC-enabled RFID tags and their representation in EPCIS event data. For example, in healthcare, pharmaceutical manufacturers and repackagers are increasingly serialising and barcoding their products using GS1 DataMatrix. The new GCP Length Table makes it easier to share this information using GS1 EPCIS, which in turn enables more efficient inventory management and a more secure chain of custody.

“Each and every day, consumers are in stores with their smartphones and their tablets, scanning barcodes or QR codes to find out more information about the products and brands that they love.”

John S. Philips

SVP Customer Supply Chain & Global Go-To-Market
PepsiCo Global Operations



Did you know?

Members of the GS1 Global Barcode Conformance Group leverage their barcode testing experience to enhance GS1 standards and improve our testing policies and procedures.

It is vitally important that barcode quality meets the expectations of industry. That is why GS1 Switzerland contacted one of their user companies, Lindt & Sprüngli, a global leader in premium chocolate.

Lindt & Sprüngli are convinced by our focus on **quality** and **harmonisation**. They readily agreed to support our Group’s testing by providing trade units from their manufacturing facilities, each bearing a GS1-128 barcode encoded with a GS1 Global Trade Item Number, a batch number and a “best-before” date. These “real world” trade units contain chocolate bars carrying GS1 EAN-13 barcodes that will be included in the tests.

Key initiatives 2015/2016

- **Barcodes:** Redesigned and updated our “10 Steps” guide explaining to new users how to obtain a barcode
- **Barcodes:** Launched a mission-specific working group to consider adding a new barcode symbol which can be generated at very high production speeds
- **Barcodes:** Learn more about GS1 barcodes at www.gs1.org/barcodes
- **EPC/RFID:** Saw continued momentum in deployment of EPC/RFID for inventory management in apparel and other sectors
- **EPC/RFID:** Published GS1 Company Prefix (GCP) Length Table, used to determine the length of the GS1 GCP for correct encoding of GS1 identifiers in EPC-enabled RFID tags and in EPCIS events
- **EPC/RFID:** Learn more about GS1 EPC/RFID at www.gs1.org/epc-rfid



Share: GS1 standards for data exchange

Beyond identifying and capturing information, organisations need to be able to share data between applications and with trading partners



GS1 standards for information sharing include standards for master data such as GDSN (see pages 22-23) and Global Product Classification (GPC); standards for business transactions such as GS1 Electronic Data Interchange (EDI); and standards enabling or enhancing physical visibility, such as EPCIS.

GS1 EDI standards enable the automatic electronic transmission of agreed-upon business data between trading partners. GS1 EANCOM® standards are used by more than 100,000 companies and GS1 XML standards by more than 40,000 companies.

One major accomplishment of the EDI team in the past year is the ratification and publication of a guideline designed to harmonise EDI processes in the healthcare sector, such as order to cash and consignment. More consistent use of GS1 EDI standards by healthcare organisations will increase the accuracy of their business transactions and help improve the quality of patient care.

EPCIS and its companion Core Business Vocabulary (CBV) were developed by GS1 as event-based data sharing standards, complementing transactional EDI, to support the interoperable exchange of supply chain visibility information between trading partners and other stakeholders. This visibility can be leveraged to support business applications as diverse as tracking and tracing, chain-of-custody and inventory management, to improve operational efficiency and increase the safety of consumers and patients, while satisfying regulatory requirements. Both EPCIS and the CBV are multi-sector, open standards published by GS1 and ISO, and work in conjunction with all data carriers, including GS1 barcodes and EPC/RFID tags.

Within the past year, GS1 has published the “EPCIS and CBV Implementation Guideline” and drafted updates to both standards, to increase their versatility for users.

“GS1 is critical in facilitating the transfer of high-quality data from suppliers to retailers.”

Ram Rampalli

Global Head of Content Acquisition
Walmart



Did you know?

Ramsay Health Care is one of the top five private hospital operators in the world, with facilities across Australia, France, the UK, Indonesia and Malaysia.

Ramsay wanted to improve the efficiency of their supply chain processes all while respecting Australian national e-procurement recommendations.

The group has deployed a complete suite of GS1 standards, including GS1 XML EDI.

Ramsay is seeing a wide range of **benefits** thanks to their EDI deployment, and what's more, so is every vendor with whom they work.

The **speed** and **accuracy** of purchasing processes has increased and hospital operations are more **efficient**. Procure-to-pay processing costs have decreased by approximately **95%** per transactional document.

Perhaps most importantly, full-chain EDI is helping ensure the continuous delivery of **quality healthcare**.

Key initiatives 2015/2016

- **GPC:** Published and implemented a new version of the GPC standard: new bricks expand classification in fruits/vegetables, meat/poultry, alcoholic beverages, condiments, agriculture products and clothing
- **GPC:** Learn more and access the GPC standards at www.gs1.org/gpc
- **EDI:** Ratified and published “GS1 Model for Supply Chain Processes in Healthcare: EDI Guideline”
- **EDI:** Processed more than 100 work requests covering multiple industries, a sign of the high interest our community has in these standards
- **EDI:** Learn more and access our suite of EDI standards at www.gs1.org/edi
- **EPCIS:** Published the “EPCIS & CBV Implementation Guideline”
- **EPCIS:** Drafted updates to EPCIS and CBV, increasing functionality
- **EPCIS:** Learn more at www.gs1.org/epcis



GS1 Innovation Network

Seeking more efficient problem identification and solving, a stronger capability to connect and collaborate within an increasingly innovative culture



Launched in February 2015, the GS1 Innovation Network supports GS1's strategic, proactive planning and investment and helps us prepare for the future by developing our business and technology foresight.

Through the Innovation Network, we are working to explore opportunities and challenges that might fuel business investments in the future. We want to keep GS1 on the forefront of innovation in order to meet the needs of our customers five to ten years from now, and beyond.

In 2016, we defined three core tracks:

The first, **Problem Identification and Solving**, allows us to understand what matters and rapidly explore the most promising ideas for addressing the most pressing problems.

The other two tracks are designed to help us do this well:

Connecting and Collaborating, to accelerate sharing and discussion of ideas effectively.

Fostering Innovative Culture, to ensure that innovation becomes everyone's business, and that we are creative and skilled in translating ideas and hunches into actionable recommendations.

Additionally, we have built an "Ideas to Action" process for assessing opportunities in order to launch the projects that have the greatest potential to meet the needs of our customers. This process is built around an evaluation of the potential impact and feasibility of the increasing number of ideas being shared in the Innovation Network. We intend to keep our portfolio of incubator projects balanced between projects that innovate around GS1's current core business areas and technologies, and others that extend beyond the areas of GS1's focus today.

Be part of the GS1 Innovation Network! We need your experience, energy and insight. Contact us at innovation@gs1.org or join us on the InZone at gs1.brightidea.com

“GS1 has always helped link production, supply chain and consumers. With its new Innovation Network, GS1 is now bridging the gap between the world of things and the world of data, a vital mission in today’s fast-evolving digital age.”

Christian Lovis

Professor & Chairman Division of Medical Information Systems
University Hospitals of Geneva (HUG) – University of Geneva (UNIGE)



Did you know?

We host **webinars** delivered by our Innovation Board Members, Auto-ID Research Labs, and other interesting speakers. Visit the “Events” area of the InZone.

Want to **learn, contribute, and collaborate**? Visit these new sections of the InZone.

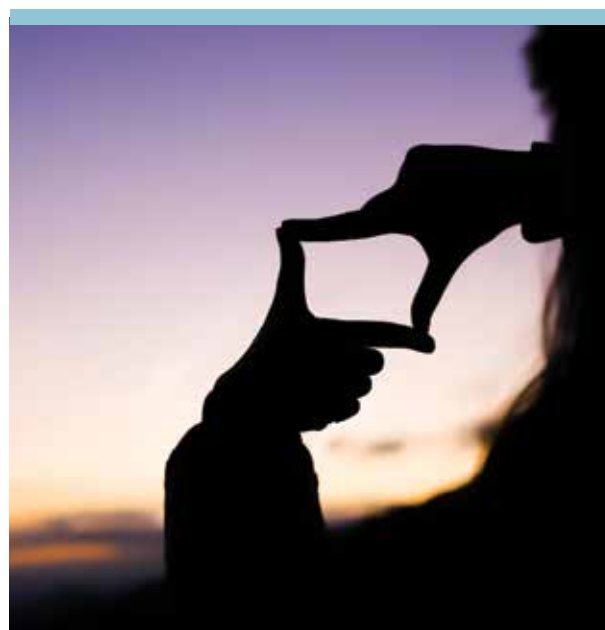
TechWatch is where we anticipate the future by systematically capturing, analysing, disseminating and discussing useful forward-looking processes and technologies.

Active discussions include blockchain, the Internet of Things, augmented and virtual reality, online marketplaces, mobile scanning, sensors and beacons.

The Auto-ID Lab section summarises the exciting research projects from leading laboratories at MIT, ETH Zurich, Cambridge University, Fudan University, KAIST and Keio. Get in touch with the scientists to learn more – their contact details are available in this section.

Key initiatives 2015/2016

- Completed research on “The Future of Automatic Identification and Data Capture”, “GS1 and the Internet of Things”, and “Image Recognition – Potential opportunities and challenges related to the GS1 system”
- Improved our “InZone” Innovation platform based on our users’ feedback
- Enhanced the relationship with Auto-ID Labs, with focus on visibility, collaboration and co-development
- Supported multiple GS1 Member Organisations to kick-start innovation by equipping them with innovative methodologies (e.g. Design Thinking and Creativity Techniques) and their own local InZone innovation platform
- Delivered webinars by our GS1 Innovation Board Members and on topics like “Design Thinking”







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 now.

GS1 MO Clusters: Working together to achieve more

Small groups of MOs are working to identify common growth opportunities, develop best practices and drive implementation



With a cluster approach, MOs that share common goals can save time and resources by working together for the benefit of all

Launched in June 2015, the GS1 Member Organisation (MO) Cluster Programme allows GS1 MOs to work together to find ways to better serve their user communities and grow their business.

GS1 MOs from Albania, Bosnia-Herzegovina, Bulgaria, Macedonia, Romania and Serbia were part of the initial pilot. Based on feedback from regional and global meetings as well as one-to-one meetings with the six MOs involved in the pilot, we captured a set of shared MO needs and opportunities, and identified and prioritised projects for further development.

Five MO Cluster initiatives were launched. They produced a paper devoted to increasing industry engagement; a guide with best practices for collecting membership fees; a guide for building solution provider partnerships; a shared regional service integrating several local GS1 Source data catalogues; and a Logistics Label tool.

This tool is an excellent example of the benefits of taking a cluster approach. The MOs involved in the pilot project unanimously identified the need to develop or endorse a single Logistics Label tool that could be made available for use by their members. Under the leadership of GS1 Bosnia-Herzegovina, this Cluster determined requirements and performed an analysis of the available options. At the end of their research phase, the Cluster selected “GS1 Print” from GS1 Austria. Ideal for MOs who are developing, GS1 Print is an easy-to-use software tool for efficiently generating Logistics Labels.

Several MOs from the Cluster have created a local version of the GS1 Print tool, and GS1 Austria has generously offered GS1 Print to MOs outside of the original group, demonstrating perfectly how a small group with a willingness to work together to solve shared problems can help our entire global network of MOs.

GS1 Brazil: Bringing standards to non-profits and NGOs

GS1 Brazil believes in sustainable development and has a programme devoted to using global standards to create value for society

The Sustentabilidade em Código (Sustainability in Code) programme was recently launched by GS1 Brazil. As one part of this initiative, GS1 Brazil established partnerships with local non-profit and non-governmental organisations, with the aim of helping them improve their performance and get the most out of GS1 standards. The work done through Sustainability in Code also supports several of the UN Sustainable Development Goals, such as the goals to end poverty and promote decent work.

Associação Saúde Criança is one Brazilian non-profit that has benefitted. Saúde Criança assists children who have been hospitalised and are living below the poverty line by helping their families become more economically and socially self-sufficient.

Saúde Criança receives donations from individuals and institutions, but generates 30% of its own funding by selling crafts at shopping centre retail booths in Rio de Janeiro and São Paulo. The goal is that the sale of goods will provide 50% of their annual income.

Thanks to their work with GS1 Brazil, handcrafted products sold by Saúde Criança are now all uniquely identified with a GS1 barcode and logged in GS1 Brazil's Cadastro Nacional de Produtos national product registry.

The largest automatic identification solution provider in Brazil is also helping Saúde Criança by providing the barcode scanning tools and solutions which are used at the points of sale as well as enabling inventory in the back office.

Saúde Criança carries about 4,000 products at each sales booth. By automating their inventory processes with GS1 standards, the staff saves time and significantly reduces the sorts of mistakes that were previously due to human error during manual data entry.

More about Saúde Criança: www.saudecrianca.org.br/en

More about GS1 Brazil: www.gs1br.org

“Never doubt that a small group of thoughtful committed citizens can change the world” - Margaret Mead



GS1 Colombia: Standards at the service of patient safety

To help ensure patient safety, Valle del Lili Foundation Hospital made inventory management and traceability a priority



The hospital has also improved its competitiveness in providing healthcare services

Located in Cali, Colombia, the 500-bed Valle del Lili Foundation provides healthcare solutions for 600,000 patients a year. As part of its mission to ensure patient safety by respecting the five rights of medication administration—the right patient, the right drug, the right dose, the right route and the right time—the hospital works continuously to reduce risks and errors.

With these goals in mind, Valle del Lili implemented an automated inventory management using GS1 standards to uniquely identify and manage single-dose medicines and medical devices across its value chain.

Despite having implemented a number of excellent quality and administrative systems, Valle del Lili was still using manual procedures that were prone to errors. Now, however, a GS1 Global Trade Item Number (GTIN) with batch number and expiry date encoded in a GS1 DataMatrix barcode uniquely identifies each medicine and medical device as it travels across the value chain, from receipt in the hospital's warehouses to use with patients.

Valle del Lili teams have seen a 50-75% reduction in obsolete inventory and a 15-30% reduction in inventory levels. Recall processes are more effective. Because all products stored in the warehouse are identified with GS1 standards, inventory procedures are easier and faster. It is also much more simple to provide batch and due-date records to regulatory agencies.

Valle del Lili will continue to work with GS1 Colombia's Collaborative Healthcare Group. Their hope is that all of their suppliers will someday soon have products labeled with GS1 standards at the single-dose level before arriving the hospital.

More about Valle del Lili: www.valledelili.org

More about GS1 Colombia: www.gs1co.org

More about GS1 Healthcare: www.gs1.org/healthcare

GS1 Germany: Leading the way in technical industries

Working to help industrial companies optimise processes, reduce the threat of counterfeiting and boost efficiencies

Business sectors such as defence, engineering, energy, mass transit and mining face many of the same challenges as the retail and healthcare sectors, including cost pressures, counterfeiting and the digitisation of their physical worlds.

These technical industries need transparent processes to optimise their supply chains. In particular, they must guard against the infiltration of forgeries; and as their plants evolve to “Industry 4.0” and mass customisation practices, they must also reduce end-to-end complexity.

GS1 standards can help technical industry companies attain true supply chain visibility, achieve leaps in operational productivity partly thanks to predictive maintenance, and introduce innovative business models.

GS1 Germany knows this firsthand. Their teams have been working for more than four years with companies such as ATE Continental (automobile brakes) and Schaeffler (automotive and industrial components), just to name two.

With a safety product like brakes, ATE cannot let low-quality forgeries tarnish their brand. That’s why every ATE part is now identified with a GS1 Global Trade Item Number (GTIN) and a randomised serial number encoded in a GS1 DataMatrix barcode. B2B customers can scan the barcode with ATE’s smartphone app to verify a part’s authenticity.

The Schaeffler Group also needed a solution to fight against counterfeiting and efficiently provide maintenance services. Their choice to use a serialised GTIN encoded in a GS1 DataMatrix barcode directly engraved on each bearing not only protects their brand, but also enables the traceability of each component for proactive planning and efficient maintenance services.

More about GS1 Germany: www.gs1-germany.de

More about our work in this sector, including other case studies: www.gs1.org/technical-industries

Significant benefits come from enabling unique identification and near real-time monitoring along the product lifecycle







Corporate & Financial Information

We are pleased to share here the results of our 2015-2016 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 year 2015 experienced another year of strong growth with an increase of the MO revenues of 7.3% to €376M, an increase of €25M. Excluding the impact of currency (i.e. at constant exchange rates), the increase amounts to 8.2%, compared to 8.6% the year before. All regions grew strongly in 2015 (without foreign exchange impact): Latin America at 10.2%, North America at 9.1%, Europe at 8.3%, MEMA at 7.4% and Asia Pacific at 5.8%.

GS1 Global Office: Fee evolution

In 2015-16, GS1 Global Office's revenues amounted to €30.8M, an increase of €2.4M or 8.5% versus the year before. The budget 2016-17 foresees a slight decrease in Global Office revenues of €0.1M to reach €30.7M. This slight decrease is due to the new funding model which was approved at the General Assembly in May 2016 and which foresees, among others, a reduction in fees for the MOs which operate a GDSN data pool. The impact of the new funding model could only be partly offset by the strong growth in global MO revenues.

Income statement and headcount

GS1 Global Office revenues amounted to €30.8M in 2015-16 while operating expenses amounted to €29.7M, leading to a positive result of €1.1M compared to a budgeted loss of €0.9M.

This €2.0 M positive variance is mainly due to lower expenses (€1.5 M) and higher revenues (€0.5 M).

The operating expenses increased by €1.6 M or 5.7% versus 2014-15, driven by (1) the increase in pay-roll expenses at €17.7 M due to the full-year impact of the 2014-15 recruitments and the new hires of 2015-16, (2) the slight increase in discretionary spending at €9.6 M (which includes travel, consulting, marketing and meetings/events), mainly due to higher attendance at global meetings, more meetings and more marketing expenses. Fixed expenses decreased at €2.4M, mostly due to a reduction of bad debt reserves.

Both the base business (managed from the GS1 Central Office) and Data Excellence Inc. had a positive result in 2015-16 and had better results than budgeted. 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 thirteen years, we have built accounting reserves of €17.1M.

In terms of types of expenses, our main investment remains our people, with 81 staff members at the end of June 2016. The budget 2016-17 foresees to increase the Global Office headcount to 88 full-time employees (FTEs).

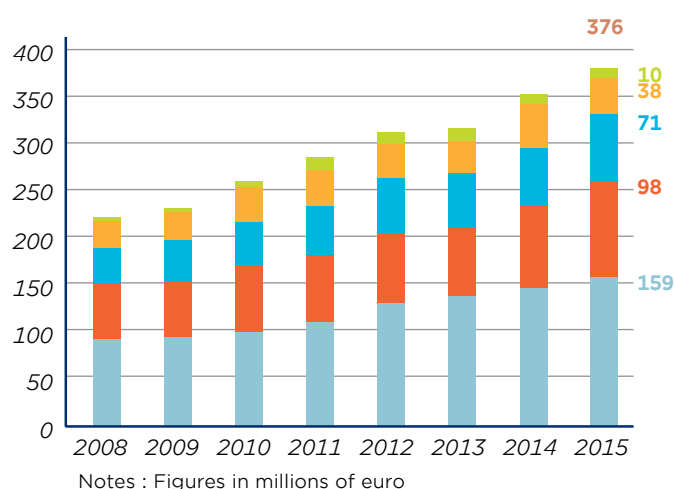


GS1 Member Organisation revenue: Growth by region

	Growth 2015/2014	
	%	w/o FX*
Middle East/ Mediterranean/Africa	0.9%	7.4%
Latin America	-7.9%	10.2%
Asia Pacific	9.9%	5.8%
North America	11.2%	9.1%
Europe	8.4%	8.3%
TOTAL	7.3%	8.2%

* Foreign exchange impact

GS1 Member Organisation revenue: Historical perspective



GS1 Global Office revenue: Historical perspective

Figures in millions of euro	08/09 Actuals	09/10 Actuals	10/11 Actuals	11/12 Actuals	12/13 Actuals	13/14 Actuals	14/15 Actuals	15/16 Actuals	16/17 Budget
GS1 Central Office	16.9	22.5	22.7	23.9	25.0	26.2	26.3	28.4	28.2
EPCglobal Inc.	6.2	-	-	-	-	-	-	-	-
GS1 Data Excellence Inc.	1.8	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.5
Total GS1 Global Office	24.9	24.5	24.7	25.9	27.0	28.2	28.4	30.8	30.7
Staff (FTEs)	82	74	72	77	80	80	81	81	88
Cumulative Reserves*	6.9	8.1	10.2	12.2	13.8	15.5	16.0	17.1	16.2

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

GS1 consolidated fiscal year 2015/16: Actuals

Figures in millions of euro	Consolidated	GS1 Central Office	GS1 Data Excellence Inc.
Revenue	30.8	28.4	2.4
Fixed/Recurring Expenses	2.4	2.1	0.3
Discretionary Expenses	9.6	8.4	1.2
Payroll Expenses	17.7	17.0	0.7
Operating Expenses	29.7	27.5	2.2
Operating Result	1.1	0.9	0.2
Other Revenue / (Expenses)	-	-	-
Result for the period	1.1	0.9	0.2

Notes: Consolidation based on budget rate (1.15 USD/EUR). Fiscal year 2015/16 ended 30 June 2016

GS1 Management Board

Members of the Management Board of GS1 AISBL:

Mike McNamara

Executive Vice President and Chief Information Officer

Target

Chairman, GS1 Management Board

Ed Steinike[†]

Senior Vice President & Chief Information Officer
The Coca-Cola Company

Vice Chairman, GS1 Management Board

Mark Alexander

President, Americas - Simple Meals & Beverages
Campbell Soup Company

Mark Batenic

President & Chief Executive Officer
IGA

Rakesh Biyani

Joint Managing Director
Future Retail

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

Nicolas Florin

Chief Executive Officer
GS1 Switzerland

Cameron Geiger *

Senior Vice President
Walmart Technology

John Gilbert

CEO DHL Supply Chain and Member of the Board of Management
Deutsche Post DHL Group

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

Atsushi Kaneko

President
AEON Integrated Business Service

Philippe Lambotte

Senior Vice President Global Supply Chain
Mattel

Peter Longo

President, Logistics and Operations
Macy's

Miguel A. Lopera

President and Chief Executive Officer
GS1

Meinrad Lugan

Member of the Board of Management
B. Braun Melsungen

Gary Lynch

Chief Executive Officer
GS1 UK

Silvester Macho

Chief Information Officer
METRO Group

Ravi Mathur

Chief Executive Officer
GS1 India

Amit Menipaz

Vice President Structured Data
eBay

Daniel Myers

Executive Vice President,
Global Integrated Supply Chain
Mondelez International

Julio Nemeth

President Global Business Services
Procter & Gamble

Maria Palazzolo

Chief Executive Officer
GS1 Australia

Joseph Phi

President
LF Logistics, A Li & Fung Company

Jörg Pretzel

Chief Executive Officer
GS1 Germany

Chris Resweber

Senior Vice President Corporate Communications & Public Affairs
The J.M. Smucker Company

Jørn Tolstrup Rohde

Senior Vice President Western Europe and Member of the Executive Committee
Carlsberg Group

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)

Kathryn Wengel *

Worldwide Vice President & Chief Supply Chain Officer, Management Committee Member
Johnson & Johnson

Chenghai Zhang *

Chief Executive Officer
GS1 China

**Appointed 18 May 2016*

The entire GS1 family was saddened to learn of Ed Steinike's death in July 2016. Ed had been our Vice Chairman since 2015 and an active member of our community for many years before that. His contributions to GS1 are immeasurable. He will be greatly missed.

Data Excellence Board

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

John S. Phillips	SVP Customer Supply Chain & Go-To-Market Chairman, Data Excellence Inc. Board of Directors	PepsiCo Global Operations
Malcolm Bowden	President, Global Solutions President, GS1 Data Excellence Inc.	GS1
Nihat Arkan	Chief Executive Officer	1WorldSync
Lori Bigler	Director, Industry Initiatives & Standards	The J.M. Smucker Company
Steve Capel	Director Global CRM Process Excellence	Medtronic
Robert (Bob) Carpenter	President & Chief Executive Officer	GS1 US
Mario de Agüero	Chief Executive Officer	GS1 Mexico
Vincent De Hertogh	Manager Supply Chain Strategy	Delhaize Group
Yolande Diaz	GDS Domain Manager	Carrefour Groupe
Rafael Florez	Chief Executive Officer	GS1 Colombia
Jean-Marc Klopfenstein	NBE Master Data	Nestlé
Raphael Leiteritz	Group Product Manager	Google Shopping
Kirby McBride	President & Chief Executive Officer	FSE Inc. / FSEnet+ GDSN Data Pool
Maria Palazzolo	Chief Executive Officer	GS1 Australia
Jörg Pretzel	Chief Executive Officer	GS1 Germany
Bo Raattamaa	Chief Executive Officer	GS1 Sweden
Budi Saputra	Global Business Services Go-To-Market Information Exchange Service Leader	Procter & Gamble
N. Arthur Smith	Chief Executive Officer	GS1 Canada
Jan Somers	Chief Executive Officer	GS1 Belgium/Luxembourg
Rob Tarrant	Chief Executive Officer	Brandbank
Markus Tkotz	Managing Director	Markant Handels- und Industriewaren-Vermittlungs AG
Greg White	Sr. Director Master Data Management and Customer Engagement Solutions	Walmart Stores Inc.
Christian Zaeske	Director Master Data Management	METRO AG

GS1 Innovation Board

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

Sanjay Sarma

Vice President for Open Learning & Professor of Mechanical Engineering

Massachusetts Institute of Technology

**Chairman,
GS1 Innovation Board**

Steve Bratt

Chief Technology Officer and President, Standards Development and EPCglobal, Inc.

**President,
GS1 Innovation Board**

Eric Ballot

Full Professor, Mines ParisTech Management Science Lab, Deputy Director

Ahmed El Kalla

Chief Executive Officer
GS1 Egypt

Christian Floerkemeier

Chief Technology Officer & Co-Founder

Scandit

Dale Christensen

Vice President Walmart Technology Strategy

Walmart Stores, Inc.

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 (Chris) Resweber

Senior Vice President, Corporate Communications & Public Affairs

The J. M. Smucker Company

Milan Turk, Jr.

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

Procter & Gamble

Miguel A. Lopera

President and Chief Executive Officer

GS1

Guest





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.

Steve Bratt, Chief Technology Officer & President, Standards Development and EPCglobal Inc.

Marianne Timmons, President, Industry Engagement

Alain Jonis, Chief Marketing Officer

Philippe Wéry, Chief Financial and Administration Officer

Left to right:

Philippe Wéry, Alain Jonis, Miguel Lopera, Marianne Timmons, Steve Bratt, Malcolm Bowden

Photo taken in 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

ean@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 3383362

gs1@gs1.org.bo

www.gs1.org.bo

GS1 Bosnia - Herzegovina

Sarajevo

+ 387 33 25 86 46

info@gs1bih.com

www.gs1bih.com

GS1 Brazil

São Paulo

+ 55 11 3068 6207

diretoria@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

gs1@ccc.org.kh

www.gs1.ccc.org.kh

GS1 Canada

Toronto

+ 1 416 510 8039

info@gs1ca.org

www.gs1ca.org

GS1 Chile

Santiago de Chile

+ 56 2 2 365 4070

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 1 427 0999
 ✉ 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
 ☎ + 537 830 4436
 ✉ gs1cuba@camara.com.cu
 🌐 www.gs1cu.org

GS1 Cyprus

Nicosia
 ☎ + 357 22 889800
 ✉ 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
 ✉ gs1rd@gs1rd.org.do
 🌐 www.gs1rd.org.do

GS1 Ecuador

Quito
 ☎ + 593 2 2507 580
 ✉ info@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
 ✉ assistance@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@gs1ghana.com
 🌐 www.gs1ghana.com

GS1 Association Greece

Argiroupoli
 ☎ + 30 210 9904260
 ✉ info@gs1greece.org
 🌐 www.gs1greece.org

GS1 Guatemala

Guatemala City
 ☎ + 502 2245 9595
 ✉ info@gs1gt.org
 🌐 www.gs1gt.org

GS1 Honduras

Tegucigalpa
 ☎ + 504 2270 7247
 ✉ diselco@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 1500
✉ 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@gs1.lv
🌐 www.gs1.lv

GS1 Lebanon

Beirut
☎ + 961 1 353 390
✉ 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

Gwardamangia
☎ + 356 21 337 228
✉ info@gs1mt.org
🌐 www.gs1mt.org

GS1 Member Organisations

GS1 Mauritius

Port Louis
 ☎ + 230 208 3301
 ✉ mcci@mcci.org
 🌐 www.gs1mu.org

GS1 Mexico

Mexico City
 ☎ + 52 55 5249 5200
 ✉ 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 20 658 277
 ✉ 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 2628213
 ✉ 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 85 049 71
 ✉ gs1pl@gs1pl.org
 🌐 www.gs1pl.org

GS1 Portugal

Lisbon
 ☎ + 35 1 21 752 07 40
 ✉ marketing@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
 ✉ info@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@gs1yu.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@cgcsa.co.za
🌐 www.gs1za.org

GS1 Spain

Barcelona
☎ + 34 93 252 39 00
✉ info@gs1es.org
🌐 www.gs1es.org

GS1 Sri Lanka

Colombo
☎ + 94 11 5588800
✉ gs1@chamber.lk
🌐 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
✉ gs1syria@mail.sy
🌐 www.gs1sy.org

GS1 Tajikistan

Dushanbe
☎ + 992 37 227 11 67
✉ gs1taj@gmail.com
🌐 www.gs1tj.org

GS1 Tanzania

Dar es Salaam
☎ + 255 22 2664310
✉ ceo@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
☎ + 90 312 218 20 00
✉ gs1turkey@tobb.org.tr
🌐 www.gs1tr.org

GS1 Turkmenistan

Ashgabat
☎ +993 12 46 80 21
✉ 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 4 221 40 10
✉ info@gs1ae.org
🌐 www.gs1ae.org

GS1 UK

London
☎ + 44 20 7092 3500
✉ info@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

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GS1 Global Office

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

www.gs1.org

