

GS1 Korea Annual Report 2019







CONTENTS

CEO Message	04
I. About GS1 Korea	05
II. Services & Solutions	08
III. Industry Engagement	17
IV. Education & Training	25
V. International Cooperation	28
VI. Retail Research & Seminars	31
(Ref.) Retail Statistics	34

CEO Message

The global recession that persisted throughout 2019 had a major impact on the economy of Korea that is heavily reliant on exports, which ultimately led to lower economic growth. High unemployment among young generations and rapidly aging population have also undermined consumption, which in turn placed a downward pressure on the retail industry.

Despite such predicaments, GS1 Korea undertook initiatives and activities aimed at broader adoption of standards to garner over 2,600 new members that year, a record high ever. As a result, its total membership jumped 7.4 percent year on year to exceed 37,000.

Two major sectors contributed to such a growth : the consumer packaged goods (CPG) sector - GS1 Korea's long-standing major source of members - that has seen persistent growth in users of GS1 Standards; and the healthcare sector that has witnessed broader adoption of GS1 Standards.

The healthcare sector, in particular, reported an increase of 53 percent in its members from a year ago following the legalization of UDI use in December 2018 after years of hard work, and the mandatory adoption of GTIN for Class 4 medical devices beginning in July 2019. The scheme will make a huge contribution to increasing GS1 Korea's membership as it is expanded in phases by 2022.

In contrast to the staggering traditional retail sector, its online counterpart drew much of our effort to proliferate GS1 Standards among the players in the sector. We work with Naver, the largest portal in Korea, and Coupang, an emerging online superpower in the country, to offer service that allows users to retrieve product information based on GTINs. The training for Amazon sellers on how to use GS1 Standards is now offered on a larger scale.

Collaboration with the government also goes on. The Unsafe Product Screening System (UPSS) that was adopted in 2009 in association with the Korean Agency for Technology and Standards (KATS), the Ministry of Food and Drug Safety (K-FDA) and other government bodies saw an increase of 43 percent in participating stores from a year earlier thanks to enhanced marketing efforts. GS1 Korea also supported the Smart City project which is implemented by the Korea Advanced Institute of Science and Technology (KAIST, which also serves as Auto-ID Labs Korea) under the sponsorship of the Ministry of Land, Infrastructure and Transport (MOLIT) and the project will provide a good opportunity to broaden the user base of GS1 Standards into the urban infrastructure sector including transport, energy and environment.

Another important initiative worth mentioning is to build a knowledge bank in association with the Ministry of Trade, Industry and Energy (MOTIE) that focuses on making GS1 Korea's e-catalog 'KorEANnet' more sophisticated.

We tried to improve our member services. Our activities to help members better understand GS1 Standards and implement SCM in different sectors include issuing 'GS1 Information' series, developing online training (e-Learning) programs and offering 'GS1 Korea Academy' (offline training program). By organizing two annual events ('Retail & Logistics IT Conference' and 'GS1 Korea Healthcare Conference') we also shared the latest development in those industries and best practices implementing GS1 Standards.

Proactive exchange with local and international industry circles was also another focus in 2019. The Retail Committee and the Logistics Committee were convened four and three times, respectively, throughout the year to facilitate sharing of latest industry developments and provide a networking opportunity for executives. In June, a delegation from the Malaysian retail industry had an opportunity to meet with their Korean counterparts under the auspices of GS1 Korea for exchange. In September, we organized a delegation of representatives from the retail industry to the 19th Asia-Pacific Retailers Convention & Exhibition (APRCE) in Chongqing, China.

Our participation in the GS1 community also expanded. We are currently members of the GS1 Asia-Pacific Steering Committee, Smart City Work Group (WG) and the Unauthorized Barcodes WG. Our experiences in the successful adoption of GS1 Standards were shared with the global healthcare community. We also participated in GS1 Asia-Pacific MOs' initiatives including the promotion of GS1 in international events such as the 'Global Trade Development Week' in Shanghai, China in June.

We will keep expanding our frontiers in 2020. I thank all of you who have helped us advance, and your support will provide valuable fuel for our continued growth.



Deogho Seo
President & CEO GS1 Korea

I. About GS1 Korea

Overview

Ever since becoming a Member Organization of GS1 in 1988, GS1 Korea has been actively promoting the adoption of global standards and solutions to help improve supply chain management in Korea.

Our Activities

Our main activity is to manage global standards including product identification codes and barcodes and provide a variety of services for broader adoption of global standards. In an effort to enhance public awareness of the usefulness of GS1 System, GS1 Korea

organizes seminars and conferences on various issues and offers online/face-to-face training, consulting service for its member and a wide range of publications. We also work with the government and fellow local and international standard making bodies on many initiatives designed for the better utilization of GS1 Standards. Other important activities we do include surveying local and international retail and logistics markets and relevant industry sectors to help them advance and carrying out a research into key current issues to provide our members with a practical and useful insight into the latest development in the retail and logistics sectors.

History

Year	Events
1988	Korea joined EAN International Country Code 880 was assigned
1992	Development of EDI standard messages for the retail sector started
1994	GS1-128 (formerly EAN-128) bar code was introduced
1995	POS Data Service system was set up
1996	Sixteen EDI standard messages were developed
1999	The number of GS1 Korea's members exceeded 10,000
2001	KorEANnet catalogue was launched
2003	GTIN & GDAS (Global Data Alignment System) were recognized as Korean Standards The 6th ECR Asia Conference was hosted by GS1 Korea
2004	EPCglobal Korea was formed
2005	The number of GS1 Korea's members exceeded 20,000
2006	GS1 Korea named as KKR Code Management Agency
2007	The 2007 GS1 General Assembly was hosted by GS1 Korea
2009	The Unsafe Products Screening System (UPSS) was launched
2010	The Unsafe Products Screening System (UPSS) S/W for SMEs was launched
2011	The BARo SCAN service was launched GS1 DataBar was introduced for fresh foods
2012	The Onestop Barcode Manager (OBM) system was launched The SHOWCASE service was launched
2014	GS1 Korea held the 25th GS1 Healthcare conference
2016	The number of GS1 Korea's members exceeded 30,000
2018	The 4th GS1 AP Training was held by GS1 Korea

Leadership

GS1 Korea is led by Board of Governors composed of key leaders from a variety of industries including retail, distribution, logistics, food manufacturing and academia. The Board deliberates, and makes decisions, on the budget, accounting and businesses of GS1 Korea. Under the leadership of the Board, GS1 Korea is actively promoting the adoption of GS1 standards to help industries improve their efficiency in a collaborative manner.



Chairman

Yongmaan PARK	Chairman	Korea Chamber of Commerce & Industry / GS1 Korea
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Members

Kwangyun BYUN	CEO	eBay Korea
Yoonsung CHO	CEO	GS Retail
Gyubok CHOI	CEO	Yuhan Kimberly
Daeyoung KIM	Professor	Auto ID Lab, KAIST
Saejo OH	Professor	Business Dept. of Yonsei University
Jinsun PARK	CEO	Sempio Foods
Namju PARK	CEO	Pulmuone Foods
Byungryun SEO	CEO	Korea Pallet Pool
Deogho SEO	President & CEO	GS1 Korea
Taehee WOO	Executive Vice Chairman	Korea Chamber of Commerce & Industry
Doson YOON	SCM Unit CEO	CJ Logistics

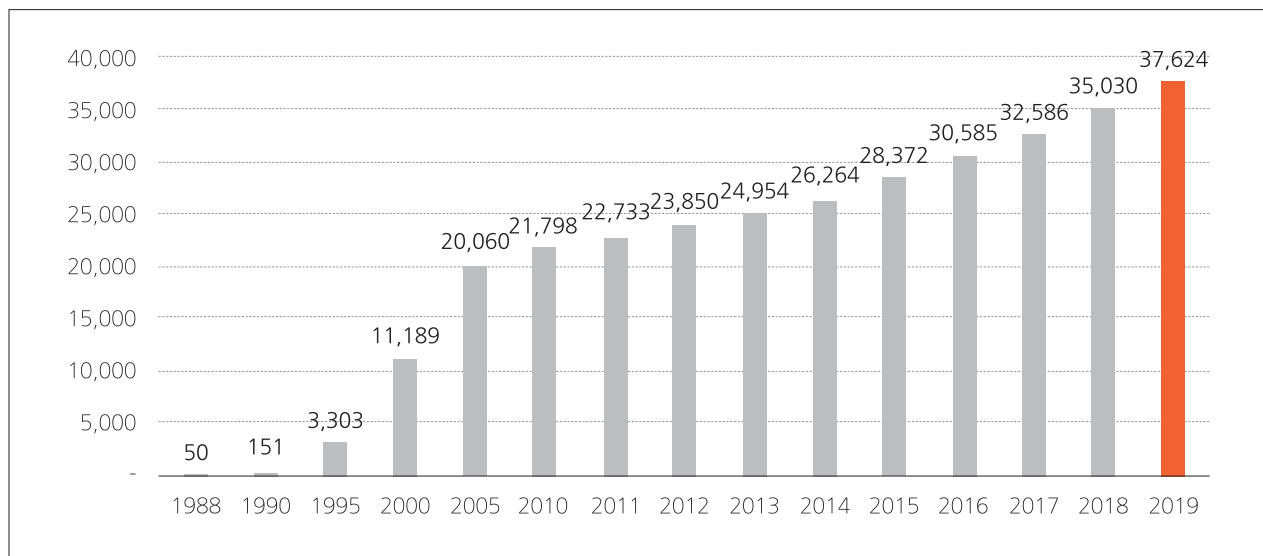
Membership

Membership of GS1 Korea has dramatically increased since 1988 and exceeded 37,000 in 2019. Over the last two years of the exponential growth of online marketplace, in particular, the number of GS1 Korea members has increased by 2,500 per year. The largest gainers were the livingware/houseware and consumer

durable goods categories, with 1,034 and 873 new members, respectively.

Our membership includes manufacturers, distributors and retailers from a wide range of industry sectors including foods, apparel, cosmetics, pharmaceuticals and automotives.

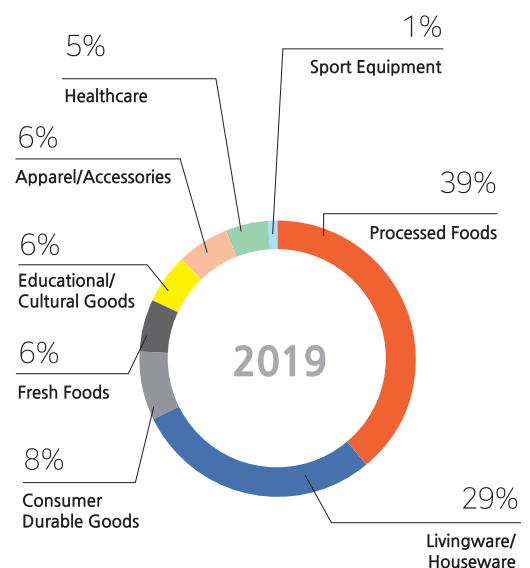
| Membership by Year |



| Membership by Industry Sector |

Industry Sector	No. of Companies		Change
	2018	2019	
Processed Foods	13,882	14,540	658
Fresh Foods	2,102	2,418	316
Livingware/Houseware	10,001	11,035	1,034
Healthcare	1,545	1,756	211
Educational/Cultural Goods	2,286	2,288	2
Consumer Durable Goods	2,093	2,966	873
Apparel/Accessories	2,176	2,195	19
Sport Equipment	279	365	86
Others	666	61	-605
Total	35,030	37,624	2,594

| Share of Membership by Industry Sector |





II. Services & Solutions

II. Services & Solutions

Product Information Service

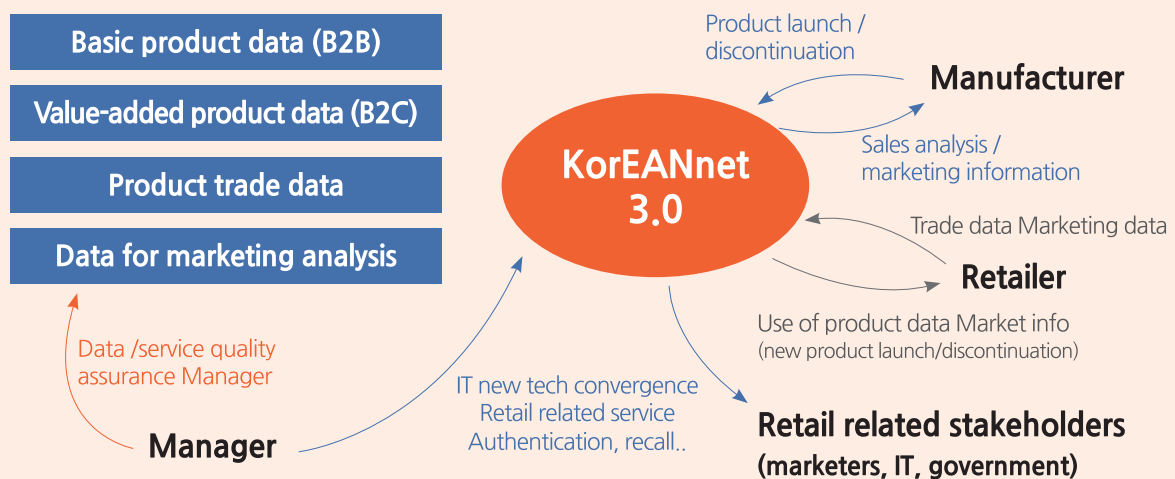
1) KorEANnet

What is KorEANnet?

KorEANnet is GS1 Korea's product data catalog service launched in 2001. It is a GTIN based product information portal where information on products bearing valid GTINs is uploaded to a database of

standardized structure. GTIN users (manufacturers, retailers etc.) can access the product information in real-time via the Internet (API).

| How KorEANnet Works |

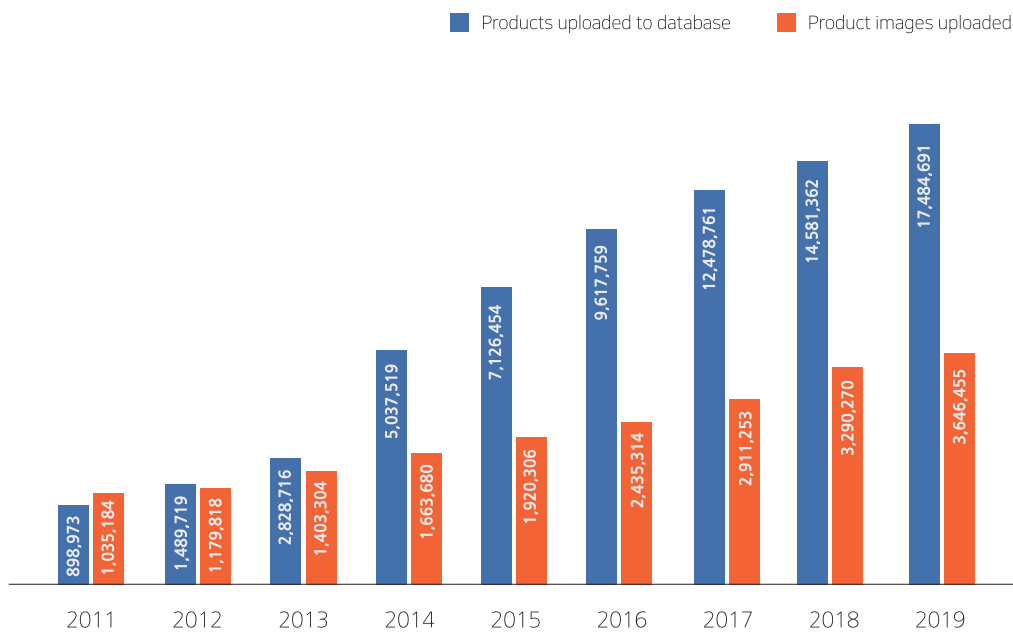


Operation

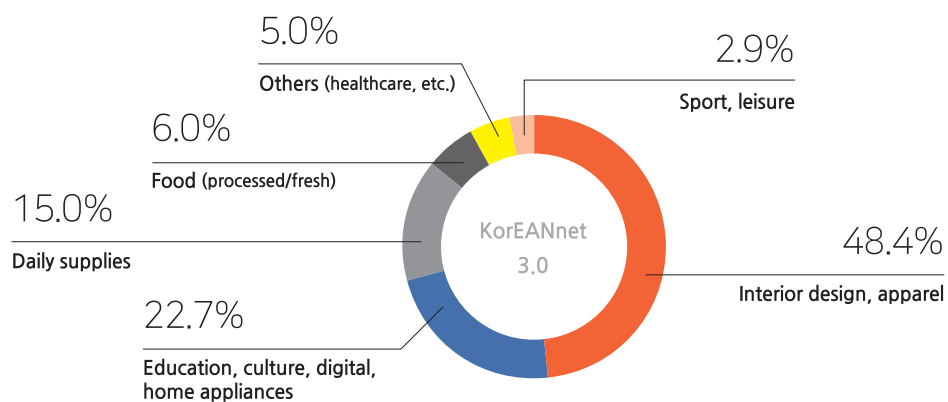
As of November 2019, over 17.5 million units of product information are available from KorEANnet. Local mid-to-large retailers including hypermarkets, department

stores, supermarkets and convenience stores and over 40,000 manufacturers are using KorEANnet.

| Volume of Product Data Available from KorEANnet Over Time |



| Shares of Product Categories in KorEANnet 3.0 |



Services Available with KorEANnet

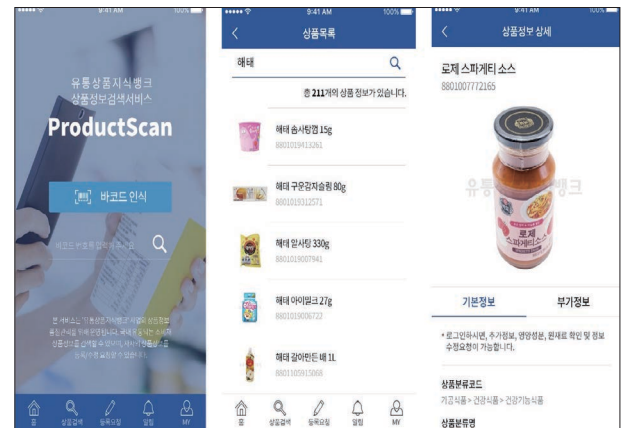
KorEANnet offers extensive services that allow GTIN users to both create barcode symbols and manage their product information and provides access to product information for users, particularly retailers. It also delivers new product information from manufacturers

to retailers. Currently, Korea's top four retailers - E-Mart, Lotte Mart, Homeplus and Nonghyup Hanaro Mart - use the service. GS1 Korea is working on to expand this service to online retailers by upgrading the database.

| A view of KorEANnet 3.0 page for retrieving product data |



| A view of the KorEANnet 3.0 mobile app |

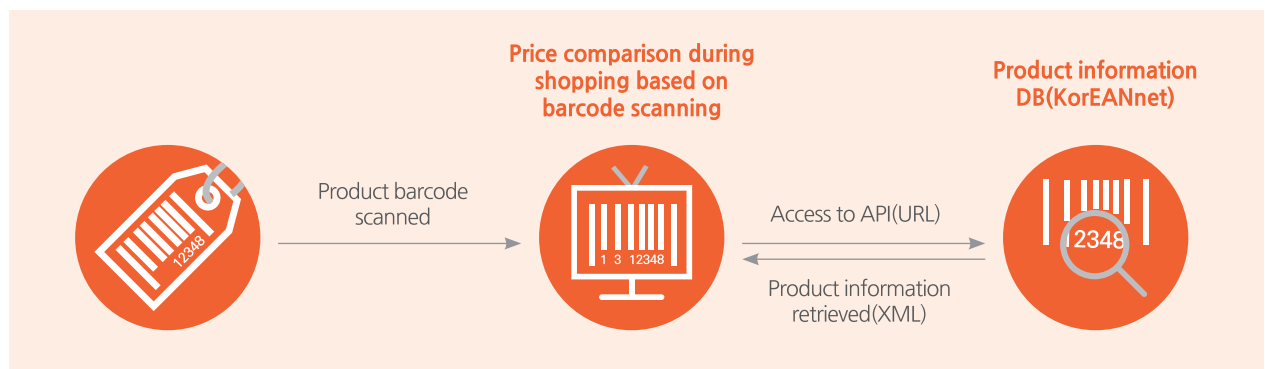


2) Business Support Service

GS1 Korea supports retail service providers (i.e. internet portals, mobile app developers) to develop 'product information lookup solution' based on GTINs. When a user scans a barcode and inquires about a GTIN, the service provider accesses product information DB

(KorEANnet) through a web service method (API), and GS1 Korea provides associated information for the solution provider. Naver, Korea's number one Internet portal, uses this service to allow users to compare product prices.

| How the Business Support Service Works |



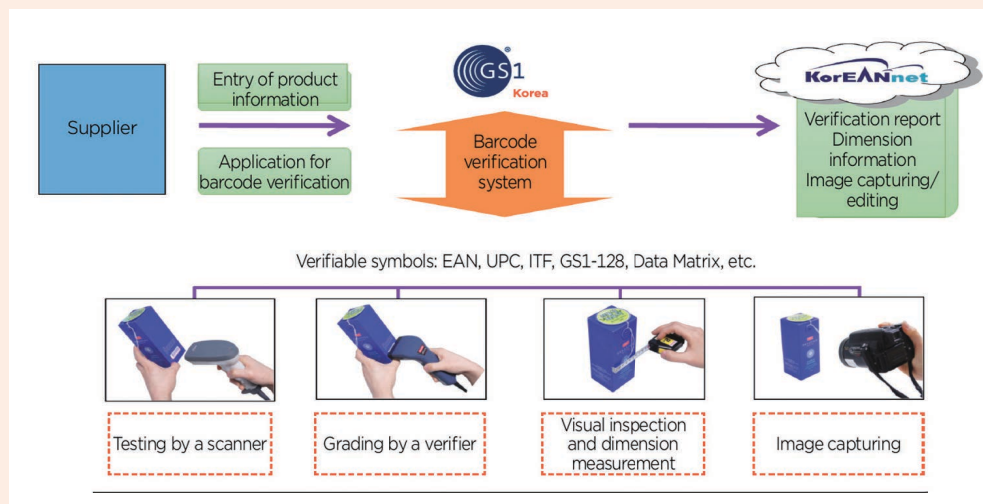
Barcode Verification Service

If any of the machines at a retailer's checkout counter becomes unable to read product bar codes, customers might have to wait longer, which as a result will adversely affect the revenue and reputation of the retailer. In addition, its manufacturers may experience waste of time as well as an economic loss because they have to collect and repackage their products.

The barcode symbol verification service is inherently designed to prevent such a loss by verifying the readability of a barcode before the vendor ships the product.

GS1 Korea has verified more than 779,000 product barcodes so far, with more than 49,000 product barcodes verified in 2019 alone.

| Barcode verification process |



The barcode verification service will be further expanded in the future to help businesses prevent any economic

loss stemming from barcode reading errors and ensure quality product information for users.

Improving Consumer Safety with the Unsafe Products Screening System (UPSS)

The Unsafe Products Screening System (UPSS) is designed to ensure consumer safety by screening any

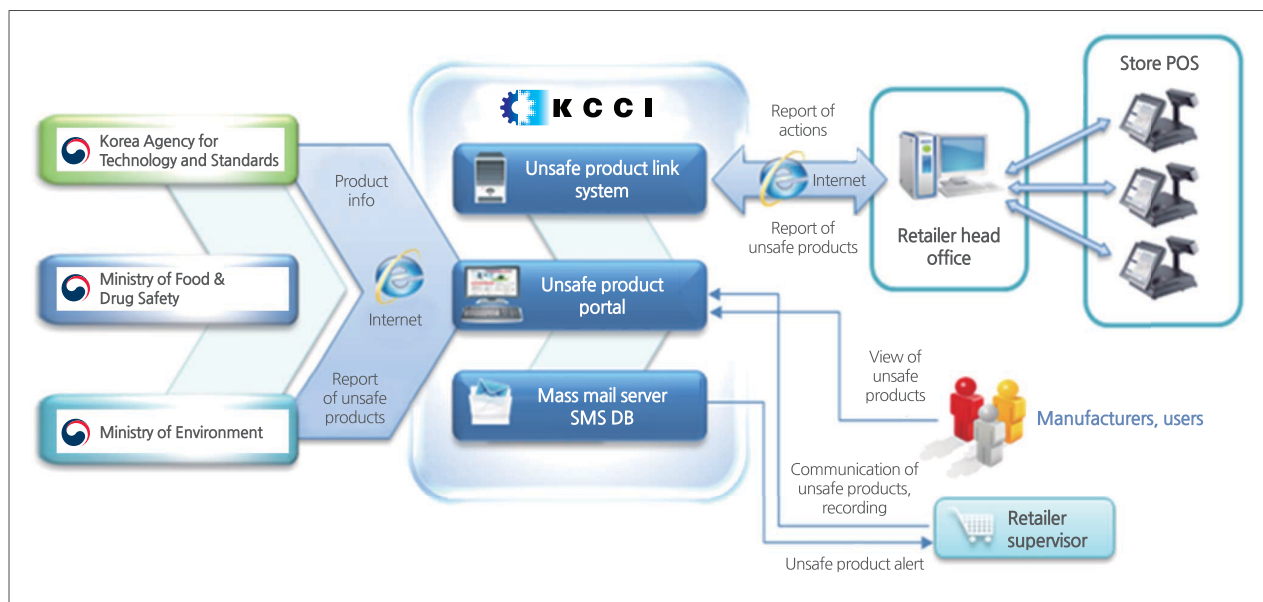
unsafe product out of the supply chain before it reaches consumers.

How the System works

The government's competent inspection authority transmits information on any product it deems to be unsafe to GS1 Korea through the system in real-time, which then instantly conveys such information to retailers across the system for an automatic ban

on that product from being sold at their respective points of sale. The key enabler of identifying unsafe products is GTINs. Information associated with the GTIN of an unsafe product identified is communicated to stakeholders through the system's website.

| System Diagram |



Benefits of the system

Retailers linked to this screening system can get information on unsafe products in real time from their own systems. By reducing the time to check unsafe products on the websites of, or press releases from, inspection authorities, the system can enhance retailers'

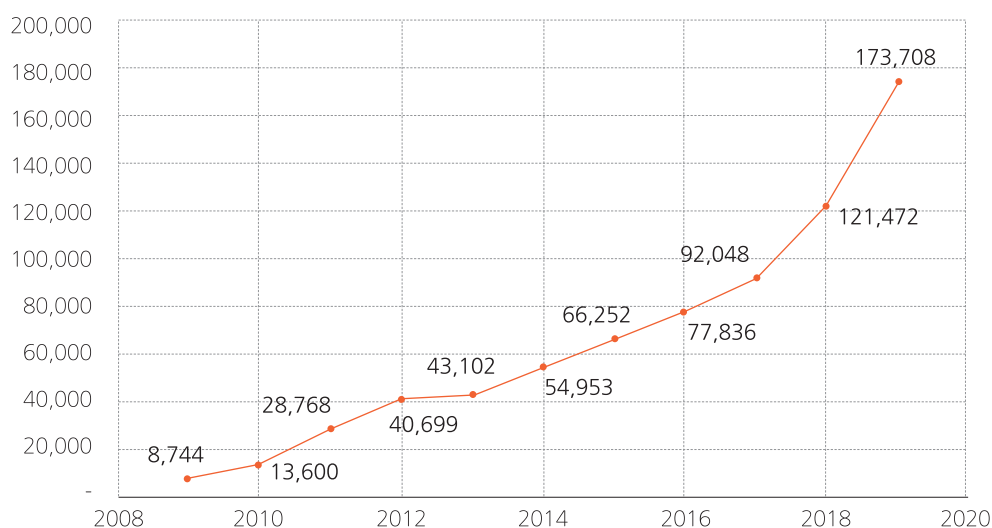
effectiveness of operation. In addition, the use of GTINs can help retailers identify, recover and withdraw any unsafe product from the market with greater ease. This way the system can work to protect public health.

Operation

Currently a total of 173,708 stores use the UPSS across the country, ranging from large scale retailers including hypermarkets and department stores to small to medium sized businesses such as supermarkets and convenience stores as well as many other retail channels

including groceries and online malls. Last year alone, more than 50,000 stores have joined the system, which is up 43% from a year earlier thanks to pro-active promotional activities.

| No. of UPSS introduction store |



* cumulative

The system covers a wide range of products including foods, living supplies, toys, apparel, electrical appliances, cosmetics, chemicals, sanitary aid and even medical devices. In 2019, more than 1,200 unsafe products have been notified to related distributors.

Retail Type	No. of stores	%
Hyper markets	630	0.4
Department stores	51	0.0
Super markets	3,724	2.1
CVS	39,000	22.5
Online Mall	21	0.0
Food material distributors	99,789	57.4
Small retailer	22,538	13.0
Electronics store	462	0.3
others	7,493	4.3
Total	173,708	100.0

GS1 Activities

Meetings are held quarterly with relevant government departments and active distributors to identify and address difficulties in the operation of the system.

As consumers shift from face-to-face buying to online purchase, GS1 Korea holds a series of seminars for online retailers including home shopping channels and internet shopping malls and introduces the system using diverse promotional activities.



A certification mark is issued by GS1 in association with the relevant authority to each store that builds a system for participation in this initiative. In addition, a promotional animation, which can be viewed from GS1 Korea's website, is also used to raise awareness of the initiative.

| Logo (meaning "UPSS in place") for Stores |



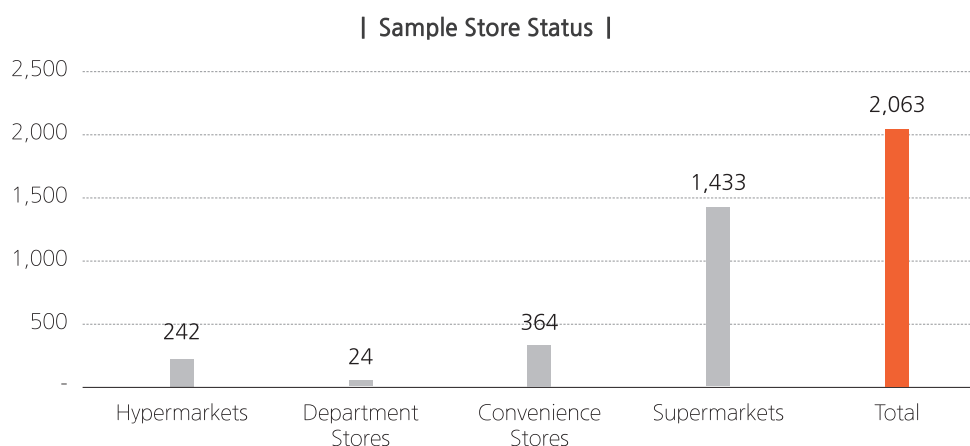
| A UPSS promoting animation |



POS Data Service

GS1 Korea's POS Data Service (PDS) is intended to provide an insight into major trends or developments in the retail sector based on point of sale (POS) data collected from retailers. Users of the service have increased consistently over the years since its launch in 1996 to now reach 2,063 stores of 24 local

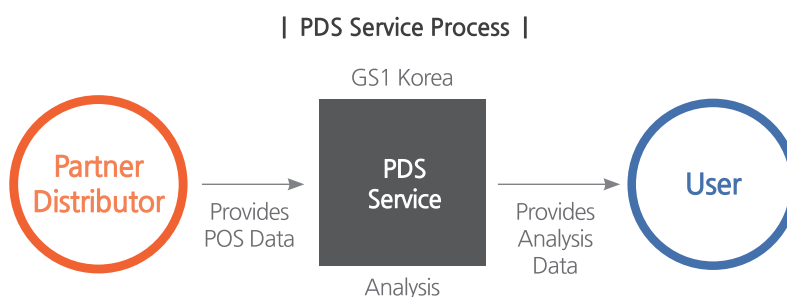
retailers, including department stores, hypermarkets, supermarkets and convenience stores. Market analysis using POS data covers over 80 categories of processed foods and 33 categories of household items where GS1 barcodes are used most extensively. The analysis is conducted in the first to second week of each month.



Service Process

Analyzing POS data for the PDS is based on weekly per-store sales data, received from retailers running their own POS systems or contractors that manage POS systems for independent stores. The collected sales data is transmitted to GS1 Korea's PDS analysis system for initial processing, and basic data derived from the processing is transmitted to DBS vendors (market

information providers) to produce insights into how the market is changing. During the analysis, the DBS vendors take into account a wide range of factors, including weather, geographic/demographic data and real estate information, as well as data from other external sources such as Internet portals (e.g. Naver, Daum).



Key analyses include:

- Ranking of popular products by category of distribution (monthly publication)
- List of new products by category of distribution (monthly)
- Product list by category of distribution (monthly publication)
- Price trend by product (time period on request)



III. Industry Engagement

III. Industry Engagement

Healthcare

1) Medical Devices

History

In 2013, the Ministry of Food and Drug Safety of Korea (MFDS) launched a system to track and trace medical implants for patient safety. In December 2016, it announced an amendment to the Medical Devices Act to provide legal grounds for the adoption of Unique Device Identification (UDI). Under the amendment,

medical products are required to have global standards based UDI labels to support accurate identification and faster tracking in the event of emergencies necessitating a product recall. UDI labelers are also required to submit key device information to MFDS's UDI database, where the public can access information on medical devices.

| UDI labeling & data submission compliance dates |

Classification	Class 4	Class 3	Class 2	Class 1
Level of risk	High	High	Medium-high	Low-medium
Compliance date	July 1, 2019	July 1, 2020	July 1, 2021	July 1, 2022

In December 2018, MFDS issued directives on the labeling and management of UDI for medical devices. Under the directives, manufacturers or importers of medical devices are required to allocate GS1 Standards-based UDIs to their products licensed or certified by, or declared with, the government at the lowest salable unit

or packaging level. They also must register the UDIs and their product information in the UDI database. Starting with class 4 medical devices, it is applied sequentially according to the class of medical devices and will expand to all medical devices by 2022.

National UDI Database

The Korean government set up the UDI Database in June 2019. Due to a delay in UDI database deployment, it postponed application of UDI data submission requirements to class 4 devices for three months. The specifics of the database and the guideline for users are published by the MFDS.

GS1 Korea's activities

GS1 Korea has been involved and worked together since the beginning of the government's UDI project. In 2019, we held four UDI education events in collaboration with the MFDS and six UDI training seminars for member companies.

In December 2019, GS1 Korea signed a trademark agreement with GS1 US and published the Korean version of the GS1 US's Healthcare UDI implementation guidelines. We provided the guidelines on US FDA UDI Rules to 150 members exporting medical devices to the US market.

2) Pharmaceuticals

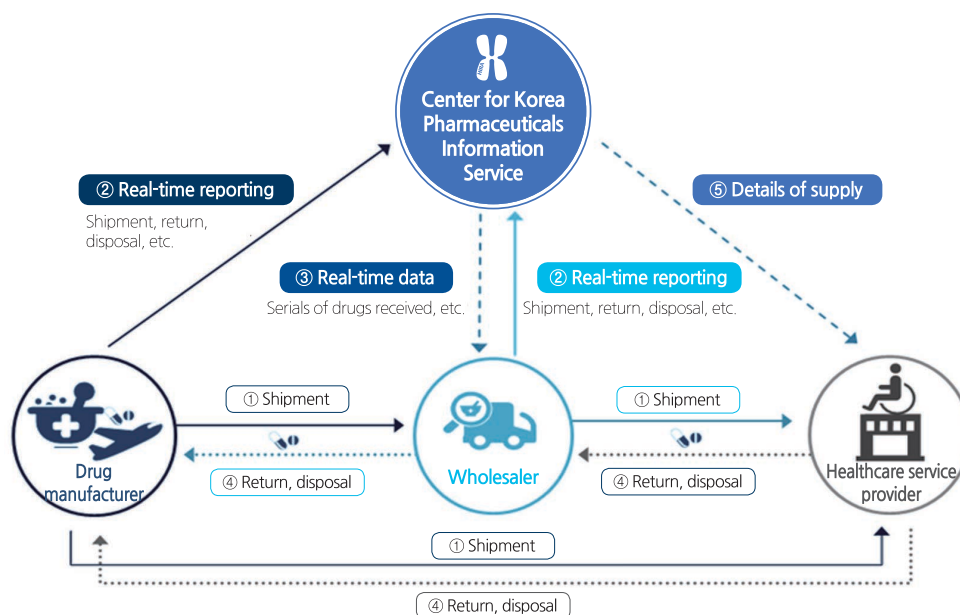
History

The Ministry of Health and Welfare (MOHW) adopted a serialization system to track and trace pharmaceutical products in 2015. Under the system, pharmaceutical manufacturers and importers are required to report transaction information of serialized drug products to the Center for Pharmaceuticals Information Service (KPIS) on a daily basis. Such reporting must be made upon shipment if the product supplied is a prescription drug, or no later than the end of the month immediately following the month of supply if the product is an over-the-counter drug.

Milestones for adoption of GS1 Standards and mandate of serialization in the pharmaceutical sector.

- ▶ An Amendment to the Guidelines on How to Apply and Manage Bar-codes for Pharmaceutical Products (Jan. 15, 2008)
 - Requires a recall of non-compliant drugs based on batch/lot numbers
 - Recommends more efficient inventory management practice, including first-in first-out, based on expiry dates
- ▶ An Amendment to the Pharmaceutical Affairs Act in Apr. 2000 to require mandate use of GTINs and GS1 bar-code symbols on drugs
- ▶ A format of GTIN + expiry date + production number required, starting from 2012 for designated drugs and 2013 for prescription drugs
- ▶ Serialization required, starting from 2015

| How MOHW's serialization system works for pharmaceuticals |



Benefits of National Serialization System

Every year, based on data submitted by manufacturers and importers, the government issues a publication containing statistics on pharmaceutical products distributed or sold in Korea and provides information for healthcare stakeholders such as the Korean National

Assembly and the Health Insurance Corporation. With an ability to identify illegally marketed drugs based on serialization, the MOHW's system contributes to better patient safety.

GS1 Korea's activities

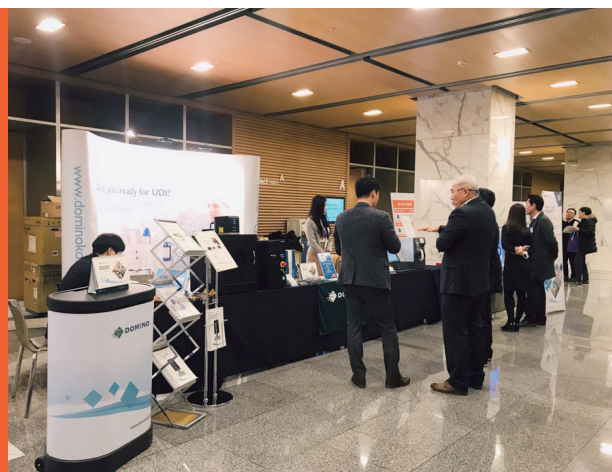
GS1 Korea has been working closely with regulators in its pursuit of making the drug supply chain more efficiently managed and providing more visibility. As a member of the government-driven work group for Traceability & Serialization for Pharmaceutical Products, GS1 Korea is helping pharmaceutical industry adopt GS1 standards. The work group consists of representatives from the government, drug industry (manufacturers, importers and wholesalers) and associations. We also organize a delegation for GS1

Global Healthcare Conference that consists of regulators and other key industry stakeholders. With the support from GS1 Global Office, GS1 Korea shared the GS1 healthcare standards at Clinical Trial Supply East Asia 2019 Seoul event in December, where 300 local and global healthcare experts gathered. Those activities help ensure consistency between local regulatory framework on pharmaceuticals and those of the GS1 healthcare community.

3) GS1 Korea Healthcare Conference

The 4th annual GS1 Korea Healthcare Conference was held to deliver insights into how to adopt GS1 Standards in the medical device industry and share use cases. Over 300 people from the government, universities and

businesses attended our event, where they learned ideas and experiences from 15 presentations in 3 different sessions that covered traceability/hospital, UDI and GS1 Healthcare Standards.



Online Retail



With online retail emerging in parallel with the growth of mobile and internet shopping, barcode numbers are increasingly used as a means of product search on online shopping sites. GS1 Korea has expanded its efforts for the broader adoption of GS1 Standards in this rapidly growing market. In cooperation with Naver, the country's largest Internet portal, and Coupang, a leader in online distribution, GS1 Korea provides GTIN-based product information retrieval services and expands training on GS1 Standards for Amazon merchants, which began in 2018.

Conferences

Amazon uses GTINs for product management, requiring merchants to provide GTINs when they register their products on the Amazon platform. More new merchants for Amazon means more opportunities for us to convert non-users of GS1 Standards into actual users. For this reason, GS1 Korea has been assisting Amazon platform in expanding their respective vendor base.

This year, GS1 Korea held 'Cross-boarder e-Commerce Conference' in collaboration with Amazon. With 5 speakers for the plenary session and 8 speakers for two break sessions, over 300 people from businesses, retailers, government, universities attended the conference, shared ideas and opinions on retail trends & insights, opportunities from e-commerce, branding strategies, etc.



Amazon Intensive Entry Program

GS1 Korea runs 'Amazon Intensive Entry Program' in association with Amazon for those who wants to start their business in Amazon platform. Since Amazon platform is in English, and most of the Korean merchants are small & medium sized enterprises, they need support in doing their businesses. The three-week long training (one session per week, three sessions in total), which is designed to provide practical knowledge regarding product registration, delivery management and GS1 standards numbers, was offered four times this year (in March, April, July and October) and welcomed over 340 people from over 280 companies. Amazon anticipates over 200 new merchants this year, which has positive implications for GS1 Korea, including more new members. In fact, new inquiries about barcode use have doubled compared to last year.

Cooperation with Amazon will expand further next year. The cross-border e-commerce conference will be held by involving more global online platforms including Alibaba and eBay. In addition, GS1 Korea is having a discussion with Amazon about including GS1 bar-code instructions in the training material for its new merchants. The training material will also be made available from the website for Amazon merchants in Korea as well.



Smart City

Smart cities are emerging fast across the world as many governments see them as a plausible means to fundamentally address urban problems, better cope with the Fourth Industrial Revolution and garner new momentum for sustainable growth. By 2020 the global smart city market will be worth 1.57 trillion dollars. Each country has a unique blueprint for its smart cities that can best meet its nation-wide needs, taking into account its policy priorities and the unique features of its infrastructure and environment.

Korea is among the early adopters of smart cities as it initiated a project of building the U-City (ubiquitous city) in 2003. Most smart city projects in Korea are led by the government. At the heart of those projects is Smart City, a national strategy for creating smart cities sponsored by the Ministry of Land, Infrastructure and Transport and the Ministry of Science and ICT.

A National Strategic Project to Creating Smart Cities in gear

Smart City, a national strategic project to create smart cities, consists of developing common core technologies and conducting two demonstration projects. A total of 115.9 billion won (USD 1 billion) will be invested over five years from 2018 to 2022 to develop a Korea-specific smart city data hub model. This means an integrated system for urban data management that collects data from urban infrastructure installations and people for conversion into useful information.

GS1 Standards play a pivotal role in designing the data hub model, which will provide a foundation for the smart city. Round-the-clock management and the sharing of data from different areas is only possible when an identification system and a classification system based on global standards are fully available. GS1 Standards enable data sharing and a link between local smart cities and local governments as well as with international cities.

The Korea Advanced Institute of Science and Technology (KAIST), also working as Auto-ID Labs Korea, is one of the front runners seeking ways to use GS1 Standards in the smart city projects. During the projects, GS1 Korea and the KAIST will work to establish unique

identification and classification systems for all resources and services within the project cities based on GS1's counterparts and test the viability of the systems to link and share data in an efficient manner. In addition, they will launch a smart city service sharing system that allows users to add, search and share urban services across different cities, with a view to applying it to pilot cities to test its viability.



A representative from Auto-ID Labs Korea makes a speech at GS1 AP Forum 2019 on Oct 24, 2019 in Hong Kong

Making the GS1 Standards-based Address System more Sophisticated

Another important achievement in the area of Smart City in 2019 is success in making the GS1 Standards-based address system more sophisticated. The data-driven Fourth Industrial Revolution will bring with it a shift in the role of addresses from focus on sectors and identification to focus on geo spatial information for connected urban services as well as data index for smart city data hubs. Fully aware of an emerging wave, the KAIST (Auto-ID Labs Korea) in association with the Ministry of Public Administration and Security and GS1 Korea launched an initiative to making the current address system more sophisticated by allocating GS1 identification numbers to location data (addresses) with a view to enabling highly quality public services including autonomous parking and delivery by drones & droids through combination between GS1 ID numbers and IoT, big data and other emerging technologies.

The initiative produced guidelines on how to represent road name addresses, national point numbers, object addresses and addresses on street name signs using GS1 SGLN. It also created a system for sharing GS1 Standards-based services where the system uses the foregoing guidelines to find services associated with a specific object through ONS (object naming service).

In addition, GS1 Korea, as a member of GS1 Asia-Pacific Smart City Working Group, is active in sharing Korea's experiences with fellow members and identifying project opportunities in the region. In the future, we will continue to work with the KAIST for broader adoption of GS1 Standards in the Smart City project and share our success stories with the GS1 community.



An example of how GS1 QR can be used to know where you are



IV. Education & Training

IV. Education & Training

As the sole provider of GS1 Standards in the country, GS1 Korea provides systematic and diverse educational services regarding the use of the standard as well as how to apply it industry-wide. The education & training can be classified into three categories: basic barcode training on how to use barcodes; GS1 Korea Academy offered for GS1 Korea members in need of advanced training; and e-Learning video for local members.

Basic Barcode Training

Basic barcode training, which provides new member companies with training on barcode creation / attachment, is offered on a face-to-face basis twice a month every other Wednesday. In addition, GS1 Korea runs an online training program for local members having difficulty in participating in face-to-face training and members who wish to attend at any time. As 75% of GS1 Korea members are local companies and 99.8% of them are SMEs, the use of online training is increasing. Due to the development of online training programs, the number of students participating in face-to-face training is decreasing, with around 30 people attending it.



GS1 Korea Academy

GS1 Korea runs GS1 Korea Academy to ensure that our members can fully understand what GS1 Standards is and how it can be best utilized through comprehensive and systematic training. Since its launch in 2015, the training, currently offered on a quarterly basis, has welcomed employees from around 200 members combined every year. In 2019, a survey was conducted among our members to identify which topics they would like to be covered in the training. Results from the survey (see below) were taken into account during the design of the curriculum, which eventually led to higher trainee satisfaction than ever.



- How to Better Manage Inventory in the Supply Chain Using GS1 Standards
- How to Improve Cold Chain Management Using GS1 Standards
- How to Control and Reduce Logistics Cost
- Introduction to Traceability Solutions for Food Industry

Next steps include greater segmentation of the training program and greater use of outside specialists to provide higher quality training.

E-Learning Video

Another focus area in our training activities is e-Learning for our members outside the capital area who find it geographically difficult to attend face-to-face training we offer and those in need of any-time access to training.

Among the e-Learning videos offered by GS1 Global Office, GS1 Korea selected two of the most asked-about topics. With Korean subtitles, the two e-Learning videos are now available on the GS1 Korea website. The e-Learning materials have proved to be effective as more and more members are showing interest on these topics:

- GTIN (Global Trade Item Number)
- Traceability Intermediate





V. International Cooperation

V. International Cooperation

Participation in GS1 Asia-Pacific Regional Projects

Cross-border trade and e-commerce have grown exponentially in recent years and so has inter-MO projects in the Asia Pacific region. Reflecting such a trend, GS1 Asia-Pacific was officially launched in 2019 for more effective implementation of GS1 joint initiatives in the region, with various forms of projects now implemented in a more systematic manner under the governance of the new body.

GS1 Asia-Pacific prioritized its regional joint projects based on its strategy for more effective implementation and formed working groups responsible for individual projects to speed up the process, including:

- GS1 Asia-Pacific Customs & Cross-Border Trade Project Working Group
- GS1 Asia-Pacific Smart City Working Group
- GS1 Asia-Pacific Unauthorised Barcodes Working Group, GS1 Korea participates in the last two groups proactively.

In addition to the seating in the working groups, GS1 Korea serves as a member of the Steering Committee of GS1 Asia-Pacific, the supreme decision making body of the organization, to play its part bestowed as a leading MO in the region. We will also provide full-fledged support for standard-related activities to identify new project opportunities in the region.



Korean Delegation to 19th APRCE

The 19th APRCE (Asia-Pacific Retailers Convention & Exhibition), the largest event in the distribution industry in the Asia-Pacific region, was held in Chongqing, China for three days from September 5 to 7. For the event, which would attract 4,000 entrepreneurs from 18 countries in the Asia-Pacific region, GS1 Korea organized a delegation consisting of 23 representatives from various stakeholders including industry organizations, distribution associations, distributors and logistics service providers and the government. Members of the delegation had an opportunity to meet their counterparts from local and international businesses in the industry to have a better understanding of what is going on in the industry and expand their networking.



Meeting with Malaysian Delegation for Retail Information Sharing

In June, a group of representative from Malaysian retail industry visited GS1 Korea office and had an opportunity to share information on what is happening

in each country's retail industry including issues and trends.





VI. Retail Research & Seminars

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Retail Research

GS1 Information Series

GS1 Korea localizes GS1's reports under the name of GS1 Information Series. This Series covers the latest development in standardization efforts within the GS1 community and examples of best practice of using GS1 Standards in different industries. GS1 Korea works to provide our members with a better insight into how the standards can be used in different applications.



Our recent publications include:

- GS1 Foundation for Fish Seafood Aquaculture Traceability Guidelines
- SSCC Guidelines for Transport Cargo
- GS1 Global Meat and Poultry Traceability Guidelines
- GS1 Medical Device Standards Guidelines
- GS1 Internet Resource Identifier Standard

Other Publications

GS1 Korea reinforces its research work on both national and global supply chain management to help the government formulate policies for affected industries. In addition, GS1 Korea conducts research and surveys on market and technology issues in the retail, distribution and logistics industries and issues publications to provide latest information for its members.



Our Research Publications include:

- Franchise Survey
- Retail and Logistics Industry Statistics
- Countermeasure Strategy of Retail Industry on Globalization
- Commercial Impact Statement Guidelines
- A Survey on Businesses' Logistics Fees
- A Study on the Spatial Scope of the Commercial Impact Statement

Seminar & Conferences



Retail and Logistics Industry Seminars and conferences were held to bring our members up to date on recent development in the retail and logistics sectors and provide them with an insight into how to improve their supply chain management.

Recent Seminar & Conferences include:

- Seminar in Chinese Online Distribution Market
- Franchise Win-Win Cooperation Workshop
- Franchise Convenience Store Win-Win Cooperation Workshop
- Conference on New Retail Trends and Future Growth Strategy
- Seminar on Retail Outlook



Other events hosted by GS1 Korea with the government in order to support and promote retail and logistics industry include:

- Korea Sale FESTA
- Retail Awards
- Logistics Day



The Retail and Logistics Committee, for which GS1 Korea serves as the secretariat, was held seven times in 2019 to discuss current issues in each field and actively promote exchange among members. In addition, key figures from the government and academic circles were invited to give lectures on government policy directions, legislative plans and market trends.



(Ref.) Retail Statistics

Retail Statistics

1. Distribution of GDP Across Economic Sectors

(Unit: KRW 1 Billion, %)

Industry Description	2016		2017		2018	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
Agriculture, Forestry and Fisheries	28,441.6	1.9	28,530.8	1.8	28,946.2	1.8
Mining	2,357.1	0.2	2,261.5	0.1	2,154.8	0.1
Manufacturing	428,611.8	28.4	447,262.7	28.7	463,267.2	29.0
Electricity, Gas and Water Supply	29,495.0	2.0	30,399.3	2.0	31,076.0	1.9
Construction	65,696.3	4.4	70,339.2	4.5	67,404.2	4.2
Retail and Wholesale Industries	125,045.4	8.3	127,191.1	8.2	129,975.9	8.1
Food Service and Accommodations	31,582.8	2.1	30,885.1	2.0	30,496.7	1.9
Transportation and Warehousing	50,616.8	3.4	51,765.3	3.3	52,761.1	3.3
Financial and Insurance Activities	90,844.7	6.0	94,249.9	6.1	98,811.1	6.2
Real Estate Activities, Renting and Leasing	99,559.1	6.6	100,496.5	6.5	102,651.8	6.4
Information and Communications	58,282.1	3.9	59,743.4	3.8	61,362.3	3.8
Business Services	97,986.2	6.5	99,948.1	6.4	101,890.5	6.4
Public Administration and Defense	90,625.4	6.0	93,008.8	6.0	96,277.5	6.0
Education	65,234.3	4.3	65,574.5	4.2	66,970.3	4.2
Human Health and Social Work Activities	63,157.9	4.2	67,738.3	4.4	72,806.4	4.6
Cultural and Other Services	33,682.9	2.2	33,803.2	2.2	34,281.9	2.1
Gross Value Added by Economic Activity (at Basic Prices)	1,360,370.9	90.1	1,401,679.0	90.1	1,437,771.5	90.0
Taxes Less Subsidies on Product	149,817.1	9.9	154,793.8	9.9	160,329.5	10.0
GDP (at Market Prices)	1,509,755.0	100.0	1,555,995.3	100.0	1,597,514.1	100.0

* Source: Statistics Korea

2. Revenue Trend in Wholesale and Retail Industries

(Unit: KRW 1 Million)

By Industry		2013	2014	2015	2016	2017
Whole of Wholesale and Retail Industries		913,882,008	920,173,258	1,112,296,499	1,150,024,399	1,233,441,824
Description	Sale of Motor Vehicles and Parts	64,531,251	70,167,234	80,197,257	78,392,266	81,803,131
	Transportation and Warehousing	542,762,987	540,744,410	693,113,907	709,562,725	770,079,776
	Retail Industry (Excluding Motor Vehicles)	306,587,770	309,261,615	338,985,335	362,069,408	381,558,917

* Source: Statistics Korea

3. Retail Industry by Product Category

(As of 2017)

By Product Group	No. of Businesses (Unit: 1)	No. of Employees (Unit: 1)	Revenue (KRW 1 Million)	Operating Expenses (KRW 1 Million)	Cost of Sales (KRW 1 Million)
Whole of Retail Industry (Excluding Motor Vehicles)	672,216	1,773,340	381,558,917	362,626,500	256,629,634
General	114,882	468,441	129,248,704	124,090,258	89,387,648
Food, Beverage and Tobacco	104,617	195,631	24,002,140	22,133,786	17,790,649
Information and Communications Equipment	37,260	92,660	30,984,902	29,675,132	18,635,168
Textile, Apparel, Footwear and Leather Goods	157,445	304,849	36,664,603	33,980,922	18,426,736
Other Household Goods	55,328	101,593	13,417,850	12,300,789	9,185,847
Cultural, Entertainment and Recreation Goods	31,519	62,650	9,181,506	8,640,299	6,160,191
Fuel	19,588	69,831	52,109,750	50,767,644	45,409,247
Other Specialized Goods	125,460	264,321	42,915,372	39,383,306	28,029,858
Non-Store Retails	26,117	213,364	43,034,090	41,654,365	23,604,290

By Product Group	No. of Businesses (Unit: 1)	No. of Employees (Unit: 1)	Revenue (KRW 1 Million)	Operating Expenses (KRW 1 Million)	Cost of Sales (KRW 1 Million)
Whole of Retail Industry (Excluding Motor Vehicles)	105,996,865	22,894,937	12,007,828	71,094,100	19,182,920
General	34,702,609	8,462,388	4,805,433	21,434,789	7,004,012
Food, Beverage and Tobacco	4,343,137	1,242,888	560,898	2,539,351	1,082,475
Information and Communications Equipment	11,039,964	1,876,321	869,080	8,294,563	1,545,771
Textile, Apparel, Footwear and Leather Goods	15,554,186	2,621,688	2,203,509	10,728,988	2,188,714
Other Household Goods	3,114,942	722,024	401,921	1,990,997	628,155
Cultural, Entertainment and Recreation Goods	2,480,108	623,035	410,797	1,446,276	535,194
Fuel	5,358,397	1,445,181	504,660	3,408,556	1,233,540
Other Specialized Goods	11,353,448	3,010,958	1,696,988	6,645,502	2,547,989
Non-Store Retails	18,050,075	2,890,456	554,542	14,605,077	2,417,070

* Source: Statistics Korea

4. Annual Turnover Trend in Major Retail Industries

(Unit: KRW 1 Million)

By Industry Type	2016	2017	2018
Total	424,353,216	440,288,001	464,992,289
Department Store	29,911,411	29,324,217	29,985,445
Hypermarket	33,234,136	33,798,158	33,453,685
Duty Free Shop	12,275,712	14,465,845	18,960,172
Supermarket	44,368,228	45,592,914	46,463,342
Convenience Store	19,481,461	22,237,893	24,406,536
Motor Vehicles and Automotive Fuel Store	90,137,665	94,508,088	101,552,456
a specialist retailer	140,897,820	139,120,197	139,847,876
Non-Store Retails	54,046,789	61,240,692	70,322,778

* Source: Retail Sales Statistics (at Current Prices), Statistics Korea

* Specialty Store: Offline retail shop that caters to a specific retail market

* Non-Store Retails: Retail Sales based on internet shopping, home shopping, door-to-door sales and delivery operations

5. Number of Stores and Revenue of Top Retailers (as of 2018)

1) Hypermarket

(Unit: KRW 1 Million)

Description	Number of Stores	Revenue
E-Mart	142	13,148,336
Homeplus	139	6,410,100
Lotte Mart	118	10,217,788

* Source: Electronic Disclosure System, Financial Supervisory Service; KCCI Statistics

* Data excludes overseas stores

2) Department Store

(Unit: KRW 1 Million)

Description	Number of Stores	Revenue
Lotte	31	10,217,788
Shinsegye	15	1,376,063
Hyundai	12	1,739,326

* Source: Electronic Disclosure System, Financial Supervisory Service; Respective company websites

3) Supermarket

(Unit: KRW 1 Million)

Description	Number of Stores	Revenue
Hanaro Mart	32	3,128,399
Lotte Super	414	10,217,788
Homplus Express	681	6,410,100

* Source: Financial Supervisory Service; Respective company websites

* Data for Hanaro Mart was taken from NH Nonghyup Hanaro Mart's electronic data

4) Convenience Store

(Unit: KRW 1 Million)

Description	Number of Stores	Revenue
CU	13,169	5,775,862
GS25	13,107	8,354,476
7-Eleven	9,555	3,930,916

* Source: Financial Supervisory Service; Respective company websites

5) Online Shopping

(Unit: KRW 1 Million)

Description	Number of Stores	Revenue
e-Bay Korea	981,150	48,571
Interpark	439,531	6,158
Lotte.com	194,570	(2,083)

* Source: Financial Supervisory Service

* Lotte.com's data is based on 2017 figures

6. Online Shopping Transaction Status

1) Transaction Volume Status by Operation Type (2018)

(Unit: KRW 1 Million)

General merchandise Mall vs Speciality Mall		Pure online vs Click & Motar	
General merchandise Mall	75,678,256	Pure-Play	75,951,448
Speciality Mall	38,051,436	Click-and-Mortar	37,778,244
Total	113,729,692	Total	113,729,692

* Source : Online Shopping Trend Survey, Statistics Korea

* General Mall : Cyber shopping mall that enables the purchasing of different types of goods under various product group categories

* Specialized Mall : Cyber shopping mall that consists of a single category or only a particular kind of product group category.

* Pure-Play Online Mall : Shopping mall that sells products and services to end users only through computer and network-based(online) technologies.

* Clicks-and-Mortar : Shopping mall that sells products and services to end users through both online and conventional offline operations.

2) Quarterly Mobile Shopping Sales (Recent Figures)

(Unit: KRW 1 Million)

Description	2016 2Q	2016 3Q	2016 4Q	2017 1Q	2017 2Q
Total	8,135,932	9,106,298	10,405,027	11,931,882	12,511,994
2017 3Q	2017 4Q	2018 1Q	2018 2Q	2018 3Q	2018 4Q
13,524,332	14,941,143	15,750,740	16,528,517	17,291,129	19,524,581

* Source: Online Shopping Trend Survey, Statistics Korea



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